FINAL
DATA EVALUATION REPORT
OAK GROVE VILLAGE WELL SITE
OPERABLE UNIT 1
FRANKLIN COUNTY, MISSOURI

Prepared for:

U.S. Environmental Protection Agency Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

Architect and Engineering Services Contract EP-S7-05-05
Task Order: 0049

January 2020

HydroGeoLogic, Inc

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TABLE OF CONTENTS

Section **Page**

1.0 INTRODUCTION 1-1
1.1 PURPOSE AND OBJECTIVES 1-1
1.2 SCOPE 1-1

2.0 SITE DESCRIPTION, HISTORY, AND CURRENT USE 2-1
2.1 SITE DESCRIPTION AND CURRENT USE 2-1
2.2 GENERAL SITE HISTORY 2-2
2.3 REGULATORY HISTORY 2-3
2.4 AREA GROUNDWATER CONTAMINATION 2-5

3.0 SITE BACKGROUND AND SETTING 3-1
3.1 PHYSICAL SETTING AND LAND USE 3-1
3.2 REGIONAL CLIMATE 3-1
3.3 GEOLOGY 3-2
3.3.1 Regional Geology 3-2
3.3.2 Site-Specific Geology 3-3
3.4 HYDROGEOLOGY 3-4
3.4.1 Regional Hydrogeology 3-4
3.4.2 Site-Specific Hydrogeology 3-6
3.4.2.1 Shallow Groundwater–Roubidoux and Upper Gasconade Formations 3-8
3.4.2.2 Intermediate/Deep Groundwater–Lower Gasconade through Derby-Doerun Formations 3-9
3.4.2.3 Vertical Groundwater Movement 3-12
3.4.2.4 Dye Trace Studies 3-13

4.0 SITE INVESTIGATIONS AND REMEDIAL ACTIONS 4-1
4.1 DATABASE 4-1
4.2 PRE-REMEDIAL INVESTIGATIONS 4-2
4.3 MDNR REMEDIAL INVESTIGATIONS (JUNE 2001–JULY 2005) 4-4
4.3.1 Phase I Remedial Investigation (June 2001–December 2001) 4-5
4.3.1.1 Groundwater Sampling 4-5
4.3.1.2 Investigations of Potential Source Areas 4-6
4.3.1.3 Recommendations and Conclusions 4-6
4.3.2 Phase II Remedial Investigation (April 2002–July 2005) 4-7
4.3.2.1 Geophysical Investigations 4-7
4.3.2.2 Monitoring Well Installation and Sampling 4-8
4.3.2.3 Municipal Well, Private Well, and Spring Sampling 4-8
4.3.2.4 Groundwater Level Measurements 4-9
4.3.2.5 Surface Water and Sediment Investigations 4-10
4.3.2.6 Investigations of Potential Source Areas 4-10
4.3.2.7 La Jolla Spring Cave Complex Investigations 4-14
4.3.2.8 Fluorescence Spectroscopy 4-15
4.3.2.9 Ecological and Baseline Human Health Risk Assessments 4-15

Section **Page**

4.3.2.10 Recommendations and Conclusions 4-16
4.3.3 Post-Phase II Remedial Investigation (May 2005–June 2007) 4-16
4.3.3.1 Completion of Deep Monitoring Wells 4-16
4.3.3.2 Installation of Monitoring Wells 4-17
4.3.3.3 Groundwater Sampling Events 4-18
4.3.3.4 Private Well Investigations 4-18
4.3.3.5 Investigations of OGV01 and OGV02 4-19
4.3.3.6 Investigations of Potential Source Areas 4-20
4.3.3.7 Recommendations and Conclusions 4-23
4.4 INTERIM REMEDIAL ACTION (NOVEMBER 2008–MAY 2010) 4-23
4.4.1 Interim RA Groundwater Sampling 4-24
4.4.2 Well Abandonment 4-25
4.5 POST-INTERIM REMEDIAL ACTION INVESTIGATIONS 4-26
4.5.1 Groundwater Level Measurements 4-26
4.5.2 Installation of MW-6 4-26
4.5.3 Groundwater Sampling 4-27
4.5.4 Pumping Test at MW-3 4-29
4.5.5 Investigation of Additional Potential Source Areas 4-29
4.5.5.1 Area 1–Former Machine Shop 4-31
4.5.5.2 Area 2–Probable Soil Borrow Area 4-31
4.5.5.3 Area 3–Old Household Dump #1 4-31
4.5.5.4 Area 4–Sewer Junction Box/Disturbed Soil 4-32
4.5.5.5 Area 5–Old Household Dump #2 4-32
4.5.5.6 Area 6–Trucking Facility 4-32
4.5.5.7 Area 8–Railroad Derailment Area 4-33
4.5.6 Additional Tree Core Analyses 4-34
4.5.7 Compound Specific Isotope Analysis 4-35
4.5.7.1 VOC Results 4-35
4.5.7.2 CSIA Results 4-36
4.5.7.3 Conclusions 4-37
4.6 OU2 INVESTIGATIONS–CLOSED SULLIVAN LANDFILL 4-38
4.7 LA JOLLA SPRING CAVE COMPLEX 4-41
4.8 RCRA INVESTIGATIONS OF THE FORMER TRW/RAMSEY FACILITY 4-43
4.9 EXISTING SOURCE CONTROLS 4-46

5.0 NATURE AND EXTENT OF CONTAMINATION 5-1
5.1 CONTAMINATED SYSTEM 5-1
5.1.1 Stratigraphy 5-1
5.1.2 Groundwater Flow 5-1
5.1.2.1 Horizontal Groundwater Flow 5-2
5.1.2.2 Vertical Groundwater Movement 5-5
5.2 CONTAMINANT FATE AND TRANSPORT 5-6
5.2.1 General Factors Influencing Fate and Transport 5-6
5.2.1.1 Contaminant Chemical and Physical Properties 5-6

Section **Page**

5.2.1.2 VOCs 5-8
5.2.2 VOCs in the Unsaturated Zone 5-9
5.2.3 VOCs in the Saturated Zone 5-9
5.2.3.1 Horizontal Distribution 5-10
5.2.3.2 Vertical Distribution 5-14
5.2.3.3 Contaminant Data Trends 5-19
5.2.4 Public Water Supply 5-22

6.0 EVALUATION OF KNOWN AND POTENTIAL SOURCE AREAS 6-1
6.1 POTENTIAL SOURCE AREAS INVESTIGATED 6-1
6.1.1 OGV01/02 6-1
6.1.2 Highway AF Well Area 6-1
6.1.2.1 Soil and Tree Core Sampling 6-2
6.1.2.2 Former Residential Well PH062 6-2
6.1.2.3 Summary 6-3
6.1.3 Blanton, Sohn, and Wal-Mart Properties 6-3
6.1.4 Former Sullivan Sewage Lagoons 6-5
6.1.5 Closed OGV Sewage Lagoon 6-5
6.1.6 Abandoned Drum Disposal Site 6-6
6.1.7 Ditch Witch Facility 6-7
6.1.8 Winsel Creek Tributary near the Former TRW/Ramsey Facility 6-7
6.1.9 Area 1–Former Machine Shop 6-8
6.1.10 Area 2–Possible Soil Borrow Area 6-9
6.1.11 Area 3–Old Household Dump #1 6-10
6.1.12 Area 4–Sewer Junction Box/Disturbed Soil 6-10
6.1.13 Area 5–Old Household Dump #2 6-10
6.1.14 Area 6–Trucking Facility 6-11
6.1.15 Area 8–Railroad Derailment Area 6-11
6.2 KNOWN SOURCE AREAS 6-12
6.2.1 Closed Sullivan Landfill 6-12
6.2.2 Former TRW/Ramsey Facility 6-14

7.0 SUMMARY AND DATA GAPS 7-1
7.1 OVERVIEW OF SITE HYDROGEOLOGY AND GROUNDWATER FLOW 7-1
7.2 OVERALL CONTAMINANT TRENDS 7-3
7.3 ADDITIONAL INFORMATION/SAMPLING NEEDED TO ADDRESS DATA GAPS 7-4

8.0 REFERENCES 8-1

LIST OF TABLES

Table 2.1 Chronology of OGV Well Site OU1
Table 2.2 Summary of Investigations (Grouped by Investigation Phase/Type)

Table 3.1 Water Levels at Select Wells – May/June 2010
Table 3.2 Summary of Municipal Well Construction Details
Table 3.3 Summary of Monitoring Well Construction Details

Table 4.1 Summary of Soil Sample Analytical Results – Potential Source Areas (1994-2005)
Table 4.2 Summary of Tree Core Sample Analytical Results – Potential Source Areas (2004-2005)
Table 4.3 Summary of Air Sample Analytical Results – La Jolla Spring Cave Complex (2002-2005)
Table 4.4 Summary of OGV02 Analytical Results – Interim Remedial Action Quarterly Sampling (2008-2010)
Table 4.5 Summary of City of Sullivan Municipal Well Analytical Results – Interim Remedial Action Semiannual Sampling (2008-2010)
Table 4.6 Summary of Private Well Analytical Results – Interim Remedial Action Semiannual Sampling (2008-2010)
Table 4.7 Summary of TCE Results – MW-6
Table 4.8 Summary of Analytical Results – USGS Groundwater Investigations, 2010-2019
Table 4.9 Summary of USGS Tree Core Sample Analytical Results – Potential Source Areas (2010-2012)
Table 4.10 Summary of USGS Soil Sample Analytical Results – Potential Source Areas (2010-2011)
Table 4.11 Summary of USGS Tree Core Analytical Results – October 2013
Table 4.12 Summary of Analytical Results – Summary of Analytical Results – 2014 CSIA Investigation
Table 4.13 Summary of Soil Sample Analytical Results – Closed Sullivan Landfill (July 2005)
Table 4.14 Summary of Analytical Results in OU2 Groundwater Monitoring – 2010-2018
Table 4.15 Summary of TCE Detections – OU2 Monitoring Wells
Table 4.16 Summary of Air Sample Analytical Results – La Jolla Spring Cave Complex (2013-2015)
Table 4.17 Compliance Air Monitoring and Spring Water TCE Results – La Jolla Spring Cave Complex (2016-2019)
Table 4.18 Summary of TCE Detections in Spring Water– La Jolla Spring Cave Complex
Table 4.19 Summary of Soil Sample Analytical Results – Former TRW/Ramsey Facility (1991-1993)
Table 4.20 Summary of Analytical Results –Former TRW/Ramsey Facility Sampling (2010-2019)
Table 4.21 Summary of TCE Detections – Former TRW/Ramsey Facility

Table 5.1 Physical and Chemical Properties for Select Contaminants of Known and Potential Concern
Table 5.2 Summary of TCE Detections in OU1 Wells

LIST OF FIGURES

Figure 1.1 Site Location
Figure 1.2 Oak Grove Village Well Site OU1

Figure 3.1 Generalized Hydrostratigraphic Column of the OGV/Sullivan Area
Figure 3.2 Municipal Wells OGV01 and OGV02 Hydrostratigraphy
Figure 3.3 Cross Section Location Map
Figure 3.4 Geologic Cross Section A-A'
Figure 3.5 Geologic Cross Section B-B'
Figure 3.6 Potentiometric Surface Upper Ozark Aquifer March 2005
Figure 3.7 Potentiometric Surface Upper Ozark Aquifer June 2010
Figure 3.8 Dye Tracing Studies - 1992

Figure 4.1 Known and Potential Source Areas Historical Investigations
Figure 4.2 Sample Locations
Figure 4.3 Summary of TCE Detections May 2010
Figure 4.4 Summary of TCE Detections in Groundwater USGS Investigations 2010-2019
Figure 4.5 Potential Source Areas Investigated by USGS in 2010-2012
Figure 4.6 USGS Sample Locations Area 1 Former Machine Shop
Figure 4.7 USGS Sample Locations Area 2 Probable Soil Borrow Area
Figure 4.8 USGS Sample Locations Area 3 Old Household Dump #1
Figure 4.9 USGS Sample Locations Area 4 Sewer Junction Box/Disturbed Soil Area
Figure 4.10 USGS Sample Locations Area 5 Old Household Dump #2
Figure 4.11 USGS Sample Locations Area 6 Trucking Facility
Figure 4.12 USGS Sample Locations Area 8 Train Derailment
Figure 4.13 USGS Tree Core Sample Locations Near OGV02 - October 2013
Figure 4.14 USGS Tree Core Sample Locations North of Closed Sullivan Landfill – October 2013
Figure 4.15 Summary of TCE Detections 2014 CSIA Investigation
Figure 4.16 Comparison of TCE Concentrations Measured in CSIA Study to Historical TCE Concentrations
Figure 4.17 Plot of $\delta^{13}C$ and $\delta^{37}Cl$ Ratios from 2-D CSIA in Groundwater Samples and Published Values for Manufactured TCE and TCE in Consumer Products
Figure 4.18 Plot of $\delta^{13}C$ and $\delta^{2}H$ Ratios from 3-D CSIA in Groundwater Samples and Published Values for Manufactured TCE and TCE in Consumer Products
Figure 4.19 Plots of $\delta^{13}C$ and $\delta^{2}H$ and $\delta^{13}C$ and $\delta^{37}Cl$ Ratios in Groundwater Samples from the Oak Grove Village Well site
Figure 4.20a TCE Class Distribution based on 2-D CSIA
Figure 4.20b TCE Group Distribution based on 3-D CSIA
Figure 4.21 Summary of TCE Detections Closed Sullivan Landfill 2010-2019
Figure 4.22 Summary of TCE Detections Former TRW/Ramsey Facility 2010-2019

Figure 5.1 Influence of Sullivan Municipal Well Pumping on Municipal Well COS02
Figure 5.2 Conceptual Site Model for Fate and Transport of VOCs
Figure 5.3 Biodegradation and Reaction Pathway of TCE
Figure 5.4 Areal Extent of TCE Contamination – 2010-2019
Figure 5.5 TCE Contamination Along Cross Section A-A'

LIST OF FIGURES (continued)

Figure 5.6 TCE Contamination Along Cross Section B-B'
Figure 5.7 TCE Trends in OU1 Private Wells with Detections Exceeding the RAO
Figure 5.8 TCE Trends in Private Wells with Detections Not Exceeding the RAO

Figure 5.9 TCE Trends in Municipal Wells
Figure 5.10 TCE Trends in Select Shallow Monitoring Wells at Former TRW/Ramsey Facility
Figure 5.11 TCE Trends in Select Shallow/Intermediate Monitoring Wells at Former TRW/Ramsey Facility
Figure 5.12 TCE Trends in Select Deep Monitoring Wells at Former TRW/Ramsey Facility

LIST OF APPENDICES

Appendix A Geologic Maps (from Smith et al., 2004a; and Smith and Bachle, 2004b)
Appendix B Historical Boring Logs and Well Construction Information
Appendix C Historical Potentiometric Maps
Appendix D OU1 Database (on CD)
Appendix E Select Tables and Figures from the Expanded Site Inspection Report and the Phase I RI
Appendix F Select Tables and Figures from the Phase II RI
Appendix G Select Tables and Figures from the Post-Phase II RI
Appendix H USGS Letter Reports and Analytical Results
Appendix I Compound Specific Isotope Analysis
Appendix J Select Tables and Figures from Landfill Investigations
Appendix K La Jolla Spring Cave Complex Investigations
Appendix L Select Tables and Figures from the Former TRW/Ramsey Facility Investigations

LIST OF ACRONYMS AND ABBREVIATIONS

ABB-ES	ABB Environmental Services, Inc.
AES	Architect and Engineering Services
amsl	above mean sea level
AOC	area of concern
ASA	Additional Site Assessment
atm-m^3/mole	atmospheres cubic meters per mole
Benham	Benham Companies, LLC
bgs	below ground surface
BNSF	Burlington Northern-Santa Fe Railroad
btoc	below top of casing
COC	contaminant of concern
COPC	contaminants of potential concern
CSIA	compound specific isotope analysis
CSM	conceptual site model
cfs	cubic feet per second
DCE	dichloroethene
DGLS	Division of Geology and Land Survey
DNAPL	dense non-aqueous phase liquid
EI	Environmental Indicator
EPA	U.S. Environmental Protection Agency
ERM	Environmental Resources Management
ESA	Environmental Site Assessment
ESI	Expanded Site Inspection
°F	degrees Fahrenheit
FS	Feasibility Study
ft/day	feet per day
GC	gas chromatograph
GETS	groundwater extraction and treatment system
gpm	gallons per minute
gpm/ft	gallons per minute per foot
GSRAD	Geological Survey and Resource Assessment Division
HGL	HydroGeoLogic, Inc.
HHRA	Human Health Risk Assessment
IC	institutional control
I-44	Interstate 44
Jacobs	Jacobs Engineering Group

K_{oc}	organic carbon partitioning coefficient
K_{ow}	octanol-water partitioning coefficient
LJSCC	La Jolla Spring Cave Complex
MCL	maximum contaminant level
MDHSS	Missouri Department of Health and Senior Services
MDNR	Missouri Department of Natural Resources
MIP	membrane interface probe
MWQS	Missouri Water Quality Standard
mg/L	milligrams per liter
mg/kg	milligrams per kilogram
mi^2	square mile
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OGV	Oak Grove Village
OGV01	Oak Grove Village Municipal Well #1
OGV02	Oak Grove Village Municipal Well #2
OGV03	Oak Grove Village Municipal Well #3
OU	operable unit
‰	parts per thousand
PA	Preliminary Assessment
PCE	tetrachloroethene
POTW	publicly owned treatment works
ppt	parts per trillion
ppbV	parts per billion volume
QC	quality control
RA	Remedial Action
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
ROD	Record of Decision
RSL	Regional Screening Level

SI	Site Investigation
SOW	scope of work
SWMU	solid waste management unit
TCE	trichloroethene
TEP	toxic extraction procedure
USGS	U.S. Geological Survey
VOC	volatile organic compound

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1.0 INTRODUCTION

This report details the site history, previous investigations, and conceptual site model (CSM) for Operable Unit (OU)1 of the Oak Grove Village (OGV) Well Site located in Franklin County, Missouri, 70 miles southwest of St. Louis, Missouri (Figure 1.1). This report is a component of the overall scope of work (SOW) being conducted by HydroGeoLogic, Inc. (HGL) under Region 7 U.S. Environmental Protection Agency (EPA) Architect and Engineering Services (AES) contract EP-S7-05-05, Task Order (TO) 0049.

Although this report focuses on OU1, data collected from OGV Well Site OU2 (the closed Sullivan Landfill) and the former TRW/Ramsey facility is included as needed to provide a comprehensive presentation of available data and assessment of the CSM. The former TRW/Ramsey facility has historically been excluded from OU1 because it has been under a Resource Conservation and Recovery Act (RCRA) 3008(h) Consent Order since April 1993.

1.1 PURPOSE AND OBJECTIVES

The objectives and purpose of this Data Evaluation Report are to:

- Present existing data for the site.
- Describe the nature and extent of contamination in affected media at the site that exceed established applicable and or relevant and appropriate Federal or State limits.
- Describe the physical characteristics of the site to inform the discussion of contaminant migration.
- Develop a CSM based on the known site data that includes physical and chemical information.
- Present a summary of data gaps based on the known site data.

1.2 SCOPE

The scope of the Data Evaluation Report includes the following data evaluation and collection tasks for meeting the objectives outlined in Section 1.1:

- Compile relevant background and historical information for the site.
- Compile and present unreported data for the site obtained by the U.S. Geological Survey (USGS).

- Compile a database of all relevant analytical groundwater data collected for the site.
- Evaluate and summarize the existing chemical and physical groundwater data available for the site.
- Evaluate and summarize the nature and extent of contaminated groundwater on site.
- Present contaminant fate and transport, and exposure pathway data.
- Identify and summarize data gaps.

2.0 SITE DESCRIPTION, HISTORY, AND CURRENT USE

2.1 SITE DESCRIPTION AND CURRENT USE

The OGV Well Site is located in Franklin County, Missouri, and covers a portion of two communities, OGV and Sullivan, as well as surrounding rural areas (Figure 1.1).

OGV is a small rural community covering an area of approximately 0.53 square miles (mi^2), with a year 2010 population of 509 (U.S. Census, 2010). OGV is adjacent to and northeast of the city of Sullivan, Missouri. Sullivan has a population of 7,081 and covers an area of approximately 7.67 mi^2 (U.S. Census, 2010). Both communities are located southwest of St. Louis, Missouri, off Interstate 44 (I-44).

According to the Interim Record of Decision (ROD) for the site, the contaminant of concern (COC) for the site is trichloroethene (TCE), which is a volatile organic compound (VOC). The EPA drinking water Maximum Contaminant Level (MCL) and the Missouri Water Quality Standard (MWQS) for TCE are both 5 micrograms per liter (µg/L).

TCE concentrations above the MCL have been found in two of OGV municipal wells, OGV municipal well #1 (OGV01) and OGV municipal well #2 (OGV02). OGV01 has not been used as a source of drinking water since 1994 and was abandoned in accordance with Missouri Department of Natural Resources (MDNR) specifications in February 2009 under an interim Remedial Action (RA). OGV02 was put into service in April 2005 and served as the primary water source for OGV from 2005 until August 2019. It currently supplies water to homes and businesses in the area on an as-needed basis. It operates in conjunction with an air stripper to remove the TCE before distribution to residents. OGV municipal well #3 (OGV03) became operational in August 2019 and currently serves as the primary source of drinking water for OGV. Groundwater samples collected during installation of the well and in September and October 2019 after the well became operational were nondetect for TCE and all other chlorinated solvents. If OGV03 water, which will be tested regularly, is subsequently found to be contaminated with TCE, OGV has contingency plans to operate an air stripper to treat the TCE before distribution.

In addition to the OGV municipal wells, TCE concentrations above the MCL have been found in two Sullivan municipal wells (COS02 and COS08) and in four private residential wells in OU1 along Highway AF. Of these two municipal wells, only COS02 is active. COS02 also operates in conjunction with an air stripper to remove TCE. Under an agreement between TRW and the city of Sullivan dated April 28, 2004, the City is responsible for maintaining a minimum output flow rate from well COS02 to ensure hydraulic containment of contamination from the former TRW/Ramsey facility.

Measures have been taken to ensure a clean water supply to the residents of Sullivan and OGV; municipal wells operate in conjunction with an air stripper to remove the TCE, and private wells impacted by TCE contamination are monitored to ensure that TCE levels remain below the MCL.

Figure 1.2 illustrates the boundaries of OU1. OU1 incorporates an area including the OGV municipal wells, private residential wells along Highway AF, and the area west and south of the OGV municipal wells. The area immediately surrounding the former TRW/Ramsey facility has

historically been excluded from OU1, as shown on Figure 1.2. The former TRW/Ramsey facility has been under a RCRA 3008(h) Consent Order since April 1993. OU2, which is not shown on Figure 1.2, consists of the closed Sullivan Landfill and wherever contamination from the landfill has come to be located. The La Jolla Spring Cave Complex (LJSCC), located approximately 3 miles northeast of OGV, is currently included in both OU1 and OU2.

2.2 GENERAL SITE HISTORY

Contamination at the OGV site was first detected on June 10, 1986, during routine sampling conducted by the MDNR Public Drinking Water Program. TCE, a known carcinogen, was detected at 6 µg/L in OGV01. OGV01 was located inside the former City Hall building at 260 James Street but was abandoned in February 2009 under an interim RA. The location of former OGV01 is shown on Figure 1.2.

OGV02 was drilled in December 2002 near OGV01 (Figure 1.2). However, after it was installed, the well also was found to be contaminated with TCE. An air stripper was subsequently installed and OGV02, with its operating air stripper in place, began supplying drinking water to the village in April 2005. OGV02 served as the primary source of drinking water for OGV from April 2005 to August 2019 and since August 2019 is used on as-needed basis. OGV03 became operational in August 2019 and is currently used as the primary source of drinking water for OGV. To date, no TCE has been detected in OGV03.

Investigations were conducted by MDNR to determine the location and extent of the TCE contamination impacting area wells. The analytical data indicated that in addition to OGV01, private residential and commercial/industrial wells, municipal wells, and a spring in the OGV area were impacted. The contaminants of potential concern (COPCs) impacting the area groundwater were identified as VOCs, particularly TCE; the degradation products of TCE; tetrachloroethene (PCE); and chlorofluorocarbons (Freon compounds).

The OGV Well site has since been defined as regional contaminant plumes in groundwater that have contaminated the OGV wells and the surrounding area. The location and amount of contamination at the OGV Well site varies depending on the movement and behavior of the contaminant plumes, which are influenced by municipal well pumping, karst geology and climate, especially wet and dry conditions. Because the contamination is widespread and impacts area wells and springs, the site includes contamination in groundwater, surface water, and air within caves located in the communities of OGV, Sullivan, and Stanton; and the unincorporated areas in the vicinity of these communities. It should be noted that groundwater sampling in Stanton has not detected any TCE contamination within the community.

The extent of contamination and the fact that contaminant concentrations exceeded drinking water standards prompted the EPA to propose the OGV Well Site for the National Priorities List (NPL). On September 5, 2002, the NPL listing became final. EPA and MDNR decided to divide the site into two OUs, and in September 2007, MDNR signed a ROD for an interim action for OGV Well Site, OU1 (MDNR, 2007b). OU1 consists of the OGV wells, the Highway AF well area, LJSCC, and the area west of the OGV wells, which includes the city of Sullivan and its municipal wells. Figure 1.2 illustrates the boundaries of OU1 and the locations of municipal wells, the closed Sullivan Landfill, and the LJSCC.

Despite numerous investigations, only two sources have been found to date to be impacting the groundwater in the OGV and Sullivan area: the former TRW/Ramsey Facility and the closed Sullivan Landfill. The former TRW/Ramsey facility is located at 300 Ramsey Street in Sullivan. TRW manufactured automobile pistons at this location from 1950 until 1983 and used various organic solvents and petroleum-based products in its chrome plating process. Prior to 1964, process wastewater was discharged directly to an intermittent drainage swale, Winsel Creek Tributary, located on the west side of the facility. After 1964, wastewater was treated in surface impoundments. In 1987 the facility was sold to Sullivan Warehousing and Sister Property, Inc., and manufacturing operations (metal stamping and tool manufacturing) continue at the facility (EPA, 2007).

These two TCE source areas historically have not been included in OU1 because the former TRW/Ramsey facility is currently working with MDNR to complete a RCRA Corrective Action to address the TCE contamination originating from its property. The closed Sullivan Landfill is being investigated under OU2. OU2 includes the closed Sullivan Landfill and wherever contamination from the landfill has come to be located.

2.3 REGULATORY HISTORY

As noted above, TCE was first discovered in OGV01 in June 1986 during routine sampling. The chronology of subsequent regulatory actions at the site is summarized below:

- December 1990 – MDNR issued OGV a Notice of Violation (NOV) for drinking water violations. OGV took OGV01 out of service in July 1991 and began purchasing water from the City of Sullivan.
- September 1992 – OGV reopened OGV01 and resumed water distribution to the village. MDNR reinstated sampling of OGV01. TCE levels remained above the MCL.
- January 1994 – MDNR issued a second Notice of Order to Abate Violations. In response to the 1994 notice, OGV took OGV01 out of operation in February 1994 and again purchased water from the City of Sullivan.
- October 1999 through March 2002 – Phase I Remedial Investigation (RI) conducted by MDNR (contractor, Jacobs Engineering Group [Jacobs]).
- September 2001 – EPA, with state concurrence, proposed the OGV site for the NPL.
- April 2002 through August 2005 – Phase II RI conducted by MDNR (contractor, Benham Companies, LLC [Benham]).
- September 2002 – the NPL listing becomes final.
- April 2005 – Distribution of water from OGV02 (equipped with air stripper) begins.
- September 2005 through June 2007 – Post-Phase II RI by MDNR.
- September 2007 – the ROD for Interim Action for OU1 is signed by MDNR.
- September 2008 – the Interim RA is initiated by EPA.
- March 2009 – Interim RA is complete, and the remedy is declared operational and functional.
- May 2010 to present – Post-Interim RA investigations are conducted by USGS for EPA.

Table 2.1 provides a detailed chronology of the site. Table 2.2 gives additional details of the past investigations that were evaluated for this report. The table is grouped by lead agency and phase or type of investigation and includes a summary of the activities undertaken during each of the investigations.

The selected remedy in the Interim ROD was designed to prevent unacceptable exposures to contamination in groundwater and consisted of the following elements:

- Conduct an extensive well survey within OU1 to update the current well inventory.
- Conduct groundwater sampling of wells, including residential, commercial/industrial, municipal and monitoring wells, to detect contamination in any well that may exceed the cleanup level.
- Monitor the air stripper at OGV02 to ensure that the air stripper continues to provide a clean water supply to OGV while remediating the groundwater within the cone-of-capture of OGV02.
- Provide alternate water supply to homes with residential wells and businesses with commercial/industrial wells that exhibit TCE contamination at levels that exceed the MCL, either by extending the public water distribution system (when feasible) or via wellhead treatment using individual point-of-use treatment systems.
- Plug and abandon OGV01 to prohibit exposure to contamination in groundwater. OGV01 was abandoned in February 2009. See Section 4.4.2 for details.
- Implement Informational Institutional Controls (ICs), which include the development and distribution of educational material to raise awareness about the site contamination, and placement of signs on wells that are replaced by a private wellhead treatment system, indicating the appropriate uses of the well.
- Conduct Five Year Reviews.

The primary remedial action objective (RAO) stated in the Interim ROD for groundwater at OU1 is to prevent exposure to TCE by providing, when necessary, residential and commercial/industrial well users with a water supply that, at a minimum, meets the cleanup level of 5 µg/L, which is the federal MCL and MWQS.

The secondary RAO for groundwater at OU1 is remediation of the actual contamination in groundwater. This RAO is considered secondary because it cannot be implemented in a time frame that will protect current and near-future users of groundwater. In addition to TCE, the Interim ROD specified 14 COPCs and their cleanup levels:

COPC	Cleanup Level (µg/L)
1,2,4-Trichlorobenzene	70
1,2-Dibromo-3-chloropropane	0.2
4-Methyl-2-pentanone	200
Acetone	2,000
Bromodichloromethane	80
Chloroform	80
cis-1,2-Dichloroethene	70
Methane	NE
n-Butylbenzene	20
Toluene	1,000
Total trihalomethanes	80
PCE	5
Freon 11	100
Vinyl Chloride	2

NE = not established

2.4 AREA GROUNDWATER CONTAMINATION

In addition to the contamination at OGV municipal wells, contamination has been found in Sullivan municipal wells and in private residential wells. There are currently two known sources of TCE contamination in the OGV/Sullivan area: the closed Sullivan Landfill and the former TRW/Ramsey facility.

The closed Sullivan Landfill is located approximately one mile northeast of the OGV municipal wells as shown on Figure 1.2. Investigations at the landfill are discussed in detail in Section 4.6. In general, the primary contaminants found at the closed landfill are Freon compounds, TCE, PCE, and degradation products of TCE and PCE. The highest concentration of TCE found in the groundwater at the former landfill is 6.9 µg/L, reported in 1995.

In 1989 the EPA initiated a RCRA Facility Assessment (RFA) for the former TRW/Ramsey facility, and in 1990 initiated groundwater investigations in relationship to its former facility. According to the RFA, data collected during a 1983 EPA compliance evaluation inspection indicated that TRW/Ramsey generated 8.3 metric tons of spent TCE per year (Metcalf & Eddy, 1992). This equates to more than 1,500 gallons of spent TCE generated per year.

Based on the findings of the RFA, MDNR and EPA entered into a RCRA 3008(h) consent order with TRW and the current property owners in April 1993. The consent order directed TRW to conduct an investigation and evaluate corrective measures to cleanup contaminant releases. Between 1993 and 1998, TRW performed corrective action activities in accordance with the consent order at the former TRW/Ramsey facility. As part of the RCRA Facility Investigation (RFI), TRW installed a groundwater monitoring network of 42 wells and performed groundwater sampling and analysis of these wells and nearby residential and municipal wells. The results of this investigation are discussed in Section 4.8. In general, the RFI detected a TCE plume in groundwater beneath the facility that had contaminated a residential well (PH062 in the Highway AF area) and three Sullivan municipal wells (COS02, COS08, and COS09). Since the time of the RFI, all active Sullivan municipal wells have had detections of TCE (COS02 and COS08 have had

TCE concentrations above the RAO). OGV01 was not included in the sampling performed for the RFI.

TCE concentrations in the groundwater beneath the facility range from nondetect to greater than 50,000 µg/L. According to the Estimating Potential for Occurrence of dense non-aqueous phase liquid (DNAPL) at Superfund Sites (EPA, 1992), the rule of thumb is that concentrations greater than 1 percent of the solubility of a VOC can indicate the probable presence of DNAPL. Because the solubility of TCE is 1,100 milligrams per liter (mg/L), concentrations of TCE exceeding 11 mg/L (or 11,000 µg/L) indicate the probable presence of DNAPL. Concentrations of TCE in groundwater beneath the former TRW/Ramsey facility are high enough to indicate that DNAPL is present.

More recent investigations at the facility have also found elevated levels of Freon compounds in the groundwater beneath the former TRW/Ramsey facility.

3.0 SITE BACKGROUND AND SETTING

Unless otherwise noted, the discussion below is derived from existing site documents from previous site investigations. Section 5.1 presents HGL's interpretation of the physical setting of the site area.

3.1 PHYSICAL SETTING AND LAND USE

The OU1 site is located in the Salem Plateau physiographic province which is characterized by steep and rolling hills, and karst features including caves, sinkholes, losing streams, and springs. Land surface elevations range from approximately 960 feet above mean sea level (amsl) within the city of Sullivan to approximately 580 feet amsl along the Bourbeuse River to the northwest and the Meramec River to the east. The OGV site lies along the upland ridge between the Meramec River and the Bourbeuse River drainage basins with OGV, the former TRW/Ramsey facility, and most of OU1 within the Bourbeuse River drainage basin. This is an area of mature karst terrain where groundwater basins may not coincide with surface water basins. The Bourbeuse River lies approximately eight miles to the north of the site and eventually flows into the Meramec River. The Meramec River is the largest river closest to the site. It is located approximately four miles east of the OGV Well Site (Figure 1.2). Winsel Creek, which also drains into the Meramec, flows to the north and northeast through the site.

The land use at the OU1 site is residential, commercial, and light industrial. The areas of commercial and light industrial development are located primarily along I-44 on the outer roads and near the new Sullivan Airport. Deciduous forest and agricultural land are found outside the city limits of OGV and Sullivan. Land use for these include tourism, hunting and fishing, boating and canoeing, forestry, pastureland, and row crop production.

3.2 REGIONAL CLIMATE

The climate in the OGV/Sullivan area is alternately influenced by air from the cold Arctic and the hot and humid Gulf of Mexico with no mountains or large bodies of water nearby to help moderate its temperature. Temperature extremes are not uncommon. Extreme climatic events are normal for the area and may include high-intensity rains, drought, heat/cold waves, ice storms, windstorms, and tornadoes. These climatic events may lead to other environmental disturbances such as floods and landslides (Missouri Climatic Center, 2015).

The rainfall average is about 100 days a year. Normal annual precipitation for the area averages approximately 41 inches per year with about 24 inches occurring during the spring and summer months. Thunderstorms are typical in the spring, summer, and early fall and are most frequent from April to July; however, they have been observed in winter months. Hail also occurs throughout the year, but it is much less likely in winter (Missouri Climate Center, 2015).

Temperatures rise to 90 degrees Fahrenheit (°F) or higher on an average of 55 to 60 days in the area in the summer. Temperatures over 100°F are rare but do occur. In winter the area averages about 110 days with temperatures below 32°F. Temperatures below zero are infrequent but have occurred. On the average there are 1 to 2 days a year with below zero temperatures (Missouri Climate Center, 2015).

3.3 GEOLOGY

The following discussion of the regional and site specific geology is primarily summarized from four reports: *Hydrogeologic Report for the Highway AF Wells Site* (MDNR, 1998b); *Bedrock Geology of Oak Grove Village-Sullivan Area* (Smith et al., 2004a); *3-D Analyst Addendum for Bedrock Geology of Oak Grove Village-Sullivan Area* (Smith and Bachle, 2004b); and *Geohydrology of the Ozark Plateaus Aquifer System in Parts of Missouri, Arkansas, Oklahoma, and Kansas* (Imes and Emmett, 1994). Appendix A consists of figures from the Bedrock Geology of Oak Grove Village-Sullivan area documents (Smith et al., 2004a; and Smith and Bachle, 2004b).

3.3.1 Regional Geology

The OU1 site is located in the Salem Plateau physiographic province, which is a subprovince of the Ozark Plateau. The Ozark Plateau is a geologic uplift rising above the surrounding lowlands. The Salem Plateau is a maturely dissected high plateau with dendritic and radial drainage patterns. It is characterized by steep and rolling hills. The area is known for karst features including caves, sinkholes, losing streams, and springs. Thick deposits of unconsolidated residual materials–residuum derived from the weathering of the Roubidoux Formation–overlie the bedrock in the upland regions. Away from the uplands, soils are typically thin.

Underlying the region is Ordovician and Cambrian-aged sedimentary bedrock generally consisting of dolomite and sandstone formations. Figure 3.1 provides a generalized hydrostratigraphic column for the site area. These formations, from the shallowest to the deepest, are the Jefferson City Dolomite, the Roubidoux Formation, the Gasconade Formation and Gunter Sandstone Member, the Eminence Formation, the Potosi Formation, the Derby-Doerun Formation, the Davis Formation, the Bonne-Terre Formation, and the Lamotte Sandstone. Plate 2 in Appendix A shows the bedrock geology map of the region.

The sedimentary strata are underlain by igneous Precambrian basement rock (Proterozoic-aged) of predominantly volcanic origin. A basement rock knob underlies the Proterozoic surface high west of Sullivan and appears to form a crescent-shaped ridge on the west side of Sullivan before falling away to the east and northeast. This knob is overlain with about 30 feet of Gasconade Formation residuum. The Proterozoic surface relief within the area has been estimated to be anywhere from 800 feet to 1,800 feet. Structural contour maps (Plates 3 through 7 included in Appendix A) show this Proterozoic ridge to the west of the site area that slopes east-northeastward beneath the site. This structure is expressed in the overlying Paleozoic-aged sedimentary rock, which has been interpreted to slope generally northeastward. Contour maps of the sedimentary units show the presence of an elongated, structural low extending from south of the former TRW/Ramsey facility northwest to I-44 and then trending northeast sub-parallel to I-44.

The thick residuum of the Roubidoux Formation tends to obscure fault traces; and therefore, the fault system in the OGV and Sullivan area is poorly understood. Faults have been identified in proximity to and in all directions from the site, although none have been mapped directly through the site. The known faults are shown on Plates 2 through 7 in Appendix A. The Pump Hollow Fault, which is a scissor fault, runs northeastward sub-parallel to I-44 approximately one mile southeast of the OGV municipal wells and the former TRW/Ramsey facility. Cress Spring Fault

is a southeast-northwest trending fault located approximately 2.4 miles south of OGV02. Stater Creek fault trends north-south and is located approximately 1.6 miles south of OGV02.

3.3.2 Site-Specific Geology

Figure 3.2 shows a site-specific hydrostratigraphic column based on the OGV01 well log (down to the Potosi Formation), and also illustrates the general construction information for wells OGV01 and OGV02. The OGV01 and OGV02 well logs are included in Appendix B. However, the lithology recorded on the OGV02 log is not consistent with nearby OGV01 or other well logs in the area. For this reason, it was not used to generate cross sections, nor was the lithology used as a reference for describing the site geology or hydrogeology.

Figure 3.3 shows the locations of cross sections generated from logs of monitoring wells and municipal wells. The well logs used to construct these cross sections are provided in Appendix B. Cross section A-A' (Figure 3.4) runs southwest-to-northeast across the site, roughly parallel to I-44. Cross section B-B' (Figure 3.5) runs east-west across the site. Both cross sections run through OGV01/OGV02.

According to the OGV01 well log, the depths below ground surface (bgs) at which the various formations were encountered are as follows (MDNR, 1987b):

- 0 to 40 feet bgs, surficial material, red gravelly clay residuum
- 40 to 150 feet bgs, Roubidoux Formation Residuum, highly weathered, consisting mostly of sand and chert
- 150 to 325 feet bgs, Gasconade Formation, dolomite, upper 50 feet contains 50 percent or more of chert
- 325 to 350 feet bgs, Gunter Member, primarily dolomite with a minor amount (less than 10 percent) of sand
- 350 to 505 feet bgs, Eminence Formation, dolomite
- 505 to 805 feet bgs, Potosi Formation, dolomite

The Jefferson City Formation, which is a regionally significant geologic unit, is locally present only in a structural low in the north part of Sullivan, and a few small outcrops on ridge top fault lines (Smith, et al, 2004a) The uppermost widespread geologic unit is Roubidoux Formation, which consists of dolomite, sandy dolomite, and sandstone and ranges from 105 to 130 feet in thickness (Smith et al, 2004a). There is general agreement between site investigators that Roubidoux Formation is highly weathered and is not considered competent bedrock (MDNR, 1988a; 1994; 1998b). Typically, it weathers to a highly permeable residuum that is approximately 100 feet thick in the site area. The dolomite beds in the Roubidoux have been reduced by chemical and solution weathering to red clay. The resulting volume reduction has results in differential settlement of the resistant chert and sandstone beds. These brittle materials have been folded and fractured, and in some areas have collapsed into underlying caverns (MDNR, 1988b). Caves are common at the Roubidoux-Gasconade Formation contact throughout the Salem Plateau. Voids have been documented in several well logs within the area. Many of these voids are thought to mark the contact between the two formations (MDNR, 1998b). The southwest-to-northeast cross

section A-A' on Figure 3.4 illustrates some of the voids observed near the contact of these two formations.

The Gasconade Formation beneath the site is approximately 175 feet thick in the area and consists of cherty dolomite. This formation is generally considered the uppermost competent bedrock in the site area (MDNR, 1988a; 1994). The basal unit of the Gasconade Formation is known as the Gunter Sandstone Member. It is approximately 20 feet thick in the area when it is present. The Gunter Sandstone is not present in many boring logs in the area and appears to be poorly developed in the Highway AF Well Area (MDNR, 1998b). It typically consists of a quartz arenite, but laterally grades into a sandy dolomite, which is what is present at OGV01. The Gunter Sandstone separates the Ordovician and Cambrian-aged strata.

The Eminence Dolomite is the uppermost Cambrian unit in the area. It is approximately 200 feet thick and consists of dolomite with minor amounts of chert. Beneath the Eminence Dolomite is the Potosi Dolomite which consists of dolomite, chert, and drusy quartz. It is approximately 275 feet thick in the site area. From the Proterozoic high west of Sullivan, the Potosi and Eminence formations appear to thicken eastward as sediments filled the structural lowland (Smith et al., 2004a). The east-to-west cross section B-B' on Figure 3.5 illustrates the thickening of these units, particularly the Potosi Formation. The Potosi Formation is underlain by the Derby-Doerun Formation, the Davis Formation, the Bonne-Terre Formation, and the Lamotte Sandstone.

3.4 HYDROGEOLOGY

Unless otherwise noted, the discussion below is based on previous site investigations and summarizes the interpretation and conclusions provided in these existing site documents. Section 5.1 presents HGL's interpretation of the physical setting of the site area.

3.4.1 Regional Hydrogeology

The OGV site is located above the Ozark Plateaus aquifer system. The hydrogeologic units of the Ozark Plateaus aquifer system (designated from the highest to the lowest) are the Springfield Plateau aquifer, the Ozark confining unit, the Ozark aquifer, the St. Francois confining unit, and the St. Francois aquifer (Figure 3.1). The Springfield Plateau aquifer and the Ozark confining unit are not present in the site area.

On a regional basis, the Ozark Plateaus aquifer system is unconfined and is influenced by major topographic features. Regional boundary discharge areas include the Missouri River on the north and the Mississippi River on the northeast and east margins of the Ozark Plateaus aquifer system. A major groundwater divide expressed as a topographic ridge runs from the southwest towards Springfield to the Mississippi River east of the St. Francois Mountains. Groundwater north of this divide discharges to the Missouri, Mississippi, Gasconade, and Meramec rivers in the site region (Imes and Emmett, 1994).

The Ozark aquifer is made up of the lower part of the Jefferson City Dolomite, the Roubidoux Formation, the Gasconade Formation and Gunter Sandstone member, the Eminence Formation, and the Potosi Formation. Regionally, within the southern portion of Franklin County and the northern parts of Crawford and Washington counties, the Ozark aquifer is approximately 600 to

800 feet thick (Imes and Emmett, 1994). The St. Francois confining unit, which consists of the Derby-Doerun Formation and Davis Formation, is approximately 180 to 330 feet thick. The underlying St. Francois aquifer is made up of the Bonneterre Formation and the Lamotte Sandstone. It is approximately 350 to 650 feet thick.

The majority of public and private wells in the site area are completed in the Ozark aquifer. Sullivan municipal well COS10, which is 1,840 feet deep, is the only well in the area known to extend through the Ozark aquifer and the underlying St. Francois aquifer. This well terminates in igneous basement rock (MDNR, 2012). Sullivan municipal well COS12, also known as the Menard's well, is 1,000 feet deep, and most likely terminates in the St. Francois confining unit.

The matrix of the dolomites of the Ozark aquifer are relatively impermeable and groundwater movement is primarily in joints, fractures, bedding planes, and other discontinuities. The movement of groundwater through these features causes dissolution of the bedrock and enlargement of the features, which results in the formation of karst features–sinkholes, caves, losing streams, and springs.

The presence of these types of karst features within the region significantly impacts the site hydrogeology and makes it difficult to adequately characterize. Karst features capture surface water and channel it into a well-integrated subsurface drainage system. In addition, karst features allow communication between different parts of the aquifer. Groundwater can flow in different directions at different depths within the aquifer (MDNR, 1998b).

As in most karst settings, conduit flow in karst features predominates in the unsaturated and upper saturated zones of the aquifer. This corresponds to the Roubidoux Formation, which is predominantly residuum, and the upper Gasconade Formation in the site area. Additionally, the brittle cherty dolomites of these two formations readily fracture allowing for accelerated karst development (Smith et al., 2004a). Caves and voids are common at the Roubidoux-Gasconade Formation contact throughout the Salem Plateau. The Roubidoux residuum and Upper Gasconade therefore have moderate to high permeabilities (MDNR, 1988a). Rainfall would be expected to migrate rapidly downward along joints and fractures, with some lateral movement along perching layers, to the saturated zone (MDNR, 1988a).

While dominating flow in the unsaturated and upper saturated zone, karst features also occur deeper within the aquifer as voids and weathered/collapse zones have been encountered within and near the base of the Eminence Dolomite. Many of the major caves in the region, such as LJSCC, are developed within or near the base of the Eminence. MW-2, which is shown on cross section B-B' (Figure 3.5), collapsed within a large void at 458 feet bgs to 475 feet bgs near the base of the Eminence Dolomite. COS11, not shown on the cross section, collapsed at about this same depth interval. It was originally open to a depth of 890 feet bgs but collapsed below 430 feet bgs.

Groundwater flow in the regional flow system generally is in a northeasterly direction, and mirrors the regional topography (MDNR, 1994). However, localized conditions such as the presence of conduit flow in karst terrain and gradient reversal caused by pumping from high capacity wells could cause deviation from this northeast flow direction (Benham, 2005). Figures 1 and 2 in Appendix C are regional potentiometric maps generated from past investigations.

Locally, groundwater movement is from upland areas between major rivers and streams toward the valleys where the water discharges as stream base flow. Most of the precipitation that percolates downward through the vadose zone to the saturated zone moves laterally through shallow, local flow systems (karst features) and eventually discharges into streams and springs. A small amount of the precipitation percolates downward to the regional flow system (Imes and Emmett, 1994).

Recharge to the Ozark aquifer in the Sullivan and OGV areas is thought to be through both diffuse and discrete flow mechanisms. During diffuse recharge through infiltration of rainfall through interconnected pores in the vadose zone, the aquifer's hydraulic response to a recharge event (rainfall) is muted by the slow movement of recharge through the pore space. This results in a time lag between the recharge event and a rise in the aquifer water level. In contrast, there is very little time lag between the recharge event and a rise in the aquifer water level in karst and fractured-rock aquifer where there are direct connections via fractures in bedrock, sink holes and other dissolution features, and losing streams that funnel recharge to the aquifer. During periods of sustained or intense rainfall, discrete recharge is more likely to cause turbidity in springs and water supply wells. Weathered dolomites and infilling of joints and fractures in the dolomites with clay materials tend to temper the peaks associated with recharge and provide water storage from which water is continually released to the aquifer during periods of low recharge.

Further complicating the regional hydrogeology is the poorly understood fault system in the area. Faults on the Salem Plateau may affect groundwater movement in different ways, depending on their age. Fault gouge in younger faults may have low hydraulic conductivity (MDNR, 1998b). Over time, the movement of groundwater through older faults may have caused increased dissolution of the bedrock and enlargement of solution channels that increase the secondary hydraulic conductivity.

3.4.2 Site-Specific Hydrogeology

Due to the complex nature of the hydrogeology, six specific hydrogeologic studies have been conducted at the site:

- Hydrogeologic Report on the Oak Grove Village Well Contamination (MDNR, 1987b),
- Hazardous Waste Site Investigation (SI) (MDNR, 1988c),
- Summary of Dye Traces in the Sullivan Vicinity by Division of Geology and Land Survey (DGLS) (MDNR, 1992),
- Hydrogeologic Report for the Highway AF Wells Site (MDNR, 1998b),
- Evaluation of Intermediate and Deep Groundwater Flow at Sullivan, Missouri (Barr, 2000), and
- Geophysical Logging and Packer Testing to Determine Depth of TCE Contamination in the Vicinity of OGV01 (USGS, 2004).

Additionally, other broader investigations in the site area, such as the RCRA RFI at the Former TRW Facility, included hydrogeologic study elements within their SOW. The following discussion of the hydrogeology is summarized from these reports.

As discussed above, the Ozark aquifer is the shallowest aquifer found at the site. It consists of the Ordovician-age Roubidoux and Gasconade formations and the older Cambrian-age Eminence and Potosi formations. Figure 3.2 illustrates the site stratigraphy logged at OGV01 alongside select well completion details for OGV01 and OGV02. The Roubidoux residuum is unsaturated over most of the site area. Depth to groundwater varies widely over the site depending on land elevation. The OGV01 log indicates that the groundwater surface in that well, open from 365 feet to 805 feet bgs, was at 245 feet bgs (MDNR, 1987b). At the TRW site, the first continuous water was observed at approximately 72 feet bgs (MDNR, 1994). Water level measurements collected by USGS from select wells in 2010 showed water levels ranging from approximately 87 feet to 228 feet bgs (Table 3.1).

Cross sections completed by HGL of the stratigraphy beneath the site area are provided as Figures 3.4 and 3.5. Based on the cross-sections, and the average water level elevation (760 feet amsl) from the wells provided on Table 3.1, a typical saturated thickness for the Ozark aquifer beneath the site ranges from about 420 feet (COS05) to 620 feet (COS10). As indicated by Figure 3.5, the thickness of the aquifer increases significantly from west to east.

Based on static water levels recorded on well logs for wells within a 5-mile radius of the OGV site, the 1987 MDNR study concluded that there is the functional equivalent of two groundwater systems in the area of the site. At that time, the water level (i.e. head) in the shallow zone was approximately 50 feet above that in the deep zone. In general, the shallow system consists of the Gasconade Formation upward to the water table, and a deep system consisting of the Eminence Formation down to the Davis Formation (MDNR, 1987b).

At the former TRW/Ramsey facility, contractors have delineated groundwater into three zones:

- a shallow groundwater zone in the Roubidoux residuum and upper Gasconade Formation (S-wells);
- an intermediate groundwater zone in the lower Gasconade Formation (D-wells); and
- a deep groundwater zone in the Potosi Formation (DD-wells).

These groundwater zones are the three depth intervals in which the monitoring wells were screened at that site. The RCRA RFI indicated the shallow monitoring wells were situated below the uppermost potentiometric surface at the site. According to the RFI, intermediate and deep monitoring wells were screened in the upper portion of the primary (Ozark) aquifer in the site area, which they indicated coincided with the open interval of many private and municipal wells in the site area (O'Brien & Gere, 1996).

The RIs completed by MDNR, and potentiometric maps produced by USGS from groundwater levels they collected, utilized mostly private wells. Available well construction information for private wells was compiled for the Phase I RI (Jacobs, 2002). During the Phase II RI, these wells were examined against structural contour maps for the formations underlying the site (Benham, 2005). Table 6 in Appendix B lists reported construction details for the private wells along with the interpretation of the formations open to the well (Benham, 2005). Ninety private wells were identified as probably being completed into or through the Roubidoux and Gasconade formations, and at many locations, into the Eminence Formation. A few private wells also terminated in the underlying Potosi Formation.

To organize all the existing hydrogeologic information, HGL used the following descriptions to divide the Ozark aquifer for discussion throughout this document:

- Shallow Groundwater – the water table (typically within the Roubidoux Formation) into the upper Gasconade Formation.
- Intermediate/Deep Groundwater – the lower Gasconade, through the Eminence and Potosi Formations, and into the Derby-Doerun Formation.

The terms "system" and "zone" are not used by HGL because this implies an unspecified level of hydraulic separation between each designation. The Ozark aquifer is a single water-bearing unit. The geologic units that comprise the aquifer have variable permeabilities. However, widely recognized data do not exist to suggest that a distinct aquitard limits the vertical hydraulic connection between certain depths in the Ozark aquifer beneath the site area.

Groundwater in the site area would typically be expected to discharge primarily into the Bourbeuse River because the site lies in its watershed via Winsel Creek and Spring Creek; however, the Meramec River appears to be a primary feature for groundwater discharge in the site area (MDNR, 1998b). It is common in areas of karst for the groundwater divide and the surface water divide not to coincide. OU1 lies very near the topographic divide between the Meramec and Bourbeuse river basins and the topography is asymmetric with much steeper slopes to the nearby Meramec River (approximately 2 to 5 miles from the site) than to the Bourbeuse River (approximately 7-10 miles from the site). In addition, Winsel Creek, Spring Creek above Kratz Spring, and the Bourbeuse River above Spring Creek are considered to be losing streams (MDC, 2012). Additionally, dye injected in Winsel Creek showed up in the LJSCC to the east of the site along the Meramec River, as well as in Kratz Spring north of the site.

3.4.2.1 Shallow Groundwater–Roubidoux and Upper Gasconade Formations

Shallow groundwater is not often used in the site area, although some private wells are apparently open to groundwater near the water table (Appendix B, Table 6). Because the Roubidoux residuum often lacks the integrity needed to maintain an open borehole, it is typically cased off in water supply wells.

The 1987 MDNR study contained a potentiometric map based on static water levels recorded on well logs for wells completed from the bottom of the Gasconade Formation upward within the site area, including around the former TRW/Ramsey facility. Based on this study, a northeastward flow direction was observed for the shallow groundwater (Appendix C, Figure 3).

Shallow groundwater in the Roubidoux residuum and upper Gasconade Formation at the former TRW/Ramsey facility has been studied extensively during the RCRA investigations. Potentiometric maps generated for the former TRW/Ramsey facility from shallow monitoring wells are included in Appendix C. The November 2010 shallow groundwater potentiometric map for the facility indicated that shallow groundwater beneath the facility while COS02 was pumping was generally convergent into a northwest-to-southeast elongated area (Appendix C, Figure 4) (ARCADIS, 2011). This is generally consistent with the potentiometric maps generated during the TRW RFI when COS02 was not pumping (O'Brien and Gere, 1996; Appendix C Figure 5 and 6).

In the RFI, TRW postulated that this convergence of shallow groundwater was evidence of vertical flow into a northwest-southeast trending inferred fault zone running beneath the site.

TRW surmised the presence of the fault zone based on stratigraphic offsets in monitoring well boring core samples and northwest-to-southeast trending faults mapped to the northwest and southeast of the site (O'Brien and Gere, 1996). TRW concluded that fault-related vertical fractures likely allow shallow groundwater to recharge the zone they termed "intermediate groundwater zone" (O'Brien and Gere, 1996). However, the RFI report also states that shallow groundwater is isolated from intermediate and deep groundwater beneath the site, which is incongruent with the hypothesis of fault zone recharge as described.

Based on slug tests conducted in select shallow monitoring wells at the TRW site, hydraulic conductivities ranged from 0.06 feet per day (ft/day) to 3.97 ft/day.

3.4.2.2 Intermediate/Deep Groundwater–Lower Gasconade through Derby-Doerun Formations

Deep groundwater includes a stratigraphically larger portion of the Ozark aquifer because many of the municipal wells, private wells, and deep OU1 monitoring wells have open intervals that straddle three or more of the geologic formations that comprise this portion of the Ozark aquifer. Therefore, the data cannot be readily parsed for separate discussions.

The majority of the 90 private wells used as data points during various investigations in the site area are completed in the Gasconade and Eminence formations (Appendix B, Table 6). In February 2005, water level measurements were taken in 40 of the 90 private wells identified. All water levels measured were non-pumping water levels meaning that the well had not been pumped for at least 15 minutes before the water level measurement was taken (Benham, 2005).

Figure 3.6 illustrates the potentiometric surface based on the 2005 water level measurements. March 2005 groundwater measurements from monitoring wells at the former TRW/Ramsey facility also were incorporated into the potentiometric map. The figure shows many different flow directions within the Sullivan/OGV area. It should be noted that there is a potentiometric trough that extends westward from west of the closed Sullivan landfill. In the Phase II RI report, it was theorized this trough might be the result of pumping of the numerous water supply wells in the immediate area drawing down the potentiometric surface (Benham, 2005). It also has been suggested by USGS that this trough may reflect a major conduit system within the karst environment.

West and northwest of Sullivan, groundwater appears to be flowing generally northward. In the Highway AF well area, there appears to be a groundwater divide in the intermediate/deep system (Figure 3.6). This corresponds to the Highway AF hydrologic study that showed this is an area of recharge (MDNR, 1998b). To the southeast near OGV01 and OGV02, groundwater is flowing to the northeast, but as it approaches the closed Sullivan Landfill area, groundwater appears to flow in a more easterly direction. Groundwater flow in the Sullivan and OGV area is generally consistent with that observed in 1987 as discussed in Section 3.4.2.1.

In March 2005, groundwater flow at the former TRW/Ramsey facility was generally toward nearby city of Sullivan municipal well COS02. The D-wells screened in the lower Gasconade Formation were used for contouring. COS02 is pumped continuously in an attempt to capture the TCE-contaminated groundwater emanating from the site. Groundwater measurements collected by TRW in December 1995 from the D-wells showed that groundwater flow was generally toward the northeast (Appendix C, Figures 10 and 11). Pumping records show that COS02 was not operational during December 1995. This groundwater flow was noted to be consistent with regional studies completed by USGS and MDNR (O'Brien and Gere, 1996).

In May 2010, USGS measured the water levels in 45 private wells and one Sullivan Municipal well (COS04). COS04 is completed in the deep groundwater. The water levels are tabulated in Table 3.1. The potentiometric surface, which was contoured without the COS04 data, is illustrated on Figure 3.7. This figure also shows potentiometric contouring from June 2010 groundwater level measurements collected from the D-wells at the former TRW/Ramsey facility. Figure 3.7 shows groundwater flow directions similar to the 2005 potentiometric map for the area. Groundwater flows to the north in the western portion of Sullivan and toward a groundwater recharge area near the Hwy AF Well area. As in 2005, groundwater flow at the former TRW/Ramsey facility is generally toward COS02.

Though this more recent dataset does not include groundwater elevations near OGV, areas that overlap between the 2005 and 2010 gauging events showed similar flow directions. Therefore, it can be inferred that groundwater flow in the OGV and closed Sullivan Landfill areas would be similar to that observed in 2005. In general, these flow directions are consistent with the regional and historical maps shown in Appendix C.

Municipal wells in the area draw water primarily from the deeper portion of the Ozark aquifer in the Eminence and Potosi formations. The presence of karst features in the aquifer, coupled with pumping of the municipal wells complicates the understanding of the natural flow of groundwater in the vicinity of Sullivan and OGV. The construction details for the municipal wells are summarized in Table 3.2.

According to information provided by the City of Sullivan, the city has had as many as 12 supply wells. The newest well, COS12, came online in February 2019. Only 7 of the wells are currently being used:

- COS02 is the only municipal well to run continuously;
- COS03, COS05, COS07, and COS12 activate automatically as needed, and, under normal operating conditions, are pumped daily;
- COS06 is manually activated and is used most days; and
- COS09 is manually activated as needed during special circumstances.

The other municipal wells, which are not in use, are:

- COS11 is not currently being used because it requires chlorination;
- COS10 was taken out of service in 2012;

- COS01 was taken out of service in the 1960s because of bacteria and was capped but not fully decommissioned;
- COS08 was taken out of service and plugged in 2004 because of TCE contamination; and
- COS04 is nonoperational and was converted to an observation well in the MDNR groundwater level monitoring program.

Pumping records for the COS municipal wells were supplied by the city of Sullivan and compiled by USGS and HGL. The records are included in Appendix C.

COS10 is open to both the Ozark and the St. Francois aquifers and is the only Sullivan municipal well that does not draw groundwater exclusively from the Ozark aquifer. Annual withdrawal by the Sullivan municipal wells is approximately 350 million gallons per year. It has been documented that after sustained rainfalls, the Sullivan municipal wells tend to pump muddy water, implying a surface water influence during recharge (Singleton, 1987). This observation supports the occurrence of discrete recharge such as would occur through a sinkhole or losing stream that is hydraulically connected to the underlying aquifer. It also may indicate enhanced hydraulic connection within the aquifer such as would occur with karst features such as solution-enlarged bedding planes.

During the Phase II RI, groundwater measurements were taken to define the groundwater flow in the deeper portion of the Ozark aquifer. The static (non-pumping) water levels were measured at three monitoring wells (MW-1, MW-2, and MW-3) on May 26, 2005, and again on June 13 and 14, 2005. The construction details for these three monitoring wells are summarized in Table 3.3. The potentiometric maps generated for the data collected on these two dates are Figures 7 and 8, respectively, in Appendix C. These maps show a northeast flow direction within the Eminence and Potosi formations across which these wells are open. This is consistent with the recognized groundwater flow in the regional aquifer (MDNR, 1994).

The potentiometric map for the deeper (below Gasconade Formation) portion of the Ozark aquifer from the 1987 MDNR study is Figure 9 in Appendix C. As shown on the figure, deep groundwater flow beneath Sullivan and OGV is generally northeastward, except northeast of OGV where flow is eastward toward the Meramec River.

At the former TRW/Ramsey facility, the DD-wells are completed in the Potosi Formation. The groundwater flow direction interpreted from the 1995 dataset was to the east and southeast in the vicinity of the former TRW/Ramsey facility (Appendix C, Figure 12) (O'Brien and Gere, 1996). This deep groundwater flow direction is dissimilar compared to what was observed during the 1987 study for deep groundwater flow, and during 2005 in the three deep monitoring wells.

Based on an aquifer test conducted by TRW in 1993 using COS02 as the pumping well and select TRW monitoring wells as observation points, hydraulic conductivities from measurements in D-wells ranged from 1.08 ft/day to 1.87 ft/day. Hydraulic conductivities calculated for the Ozark aquifer in the DD-wells ranged from 2.81 ft/day to 6.42 ft/day. Tensor analyses performed for TRW suggest that calculated transmissivities for the intermediate wells are higher in a northwest-southeast direction (O'Brien and Gere, 1996). TRW notes that this is the orientation of the fault it has inferred to underlie the TRW facility (O'Brien and Gere, 1996).

Table 3 from the Barr report estimates hydraulic conductivities and transmissivities for the municipal wells existing in 2000. The table is included in Appendix C for reference. According to the table, the wells with the highest specific capacity were COS02 (4.2 gallons per minute per foot [gpm/ft]), COS11 (9.1 gpm/ft), and OGV01 (6.8 gpm/ft). The specific capacity of OGV02 is unknown, but was estimated by USGS as approximately 5.1 gpm/ft.

3.4.2.3 Vertical Groundwater Movement

There is a strong downward gradient within the Ozark aquifer between shallow groundwater and deeper groundwater (Figures 1 and 2, Appendix C) (MDNR, 1987b and MDNR, 1998b). Groundwater levels in wells completed in the Gasconade Formation, including the Gunter member, were about 50 feet higher than groundwater levels observed in wells completed in the underlying Eminence and Potosi formations. TRW also observed downward gradients at the former TRW/Ramsey Site across all three of their screened depths (Appendix C, Figure 4). The highest vertical gradient was between the shallow monitoring wells screened in the Roubidoux residuum and upper Gasconade Formation and the intermediate wells screened in the lower Gasconade Formation (O'Brien and Gere, 1996).

TRW concluded that these head differences indicated a poor hydraulic connection between shallow and intermediate groundwater. TRW surmised that the poor hydraulic connection was the result of a low permeability chert layer near the contact of the Roubidoux residuum and upper Gasconade Formation (O'Brien and Gere, 1996).

In 2000, an evaluation of intermediate and deep groundwater flow was conducted at TRW by Barr Engineering. According to the report, monitoring/pumping programs undertaken for the Sullivan municipal wells have shown that there is not a strong hydraulic connection between the shallow groundwater and the intermediate/deep groundwater (Barr, 2000). The shallow groundwater responds very little, if any, to pumping of the Sullivan municipal wells.

Additional information on the vertical movement of groundwater was obtained at select well locations using borehole geophysical logging techniques. Geophysical data collected in 2004 from OGV01 indicated downward flow across the entire open interval, although groundwater below 700 feet flow was observed to be stagnant (USGS, 2004). To the northwest of the OGV wells, groundwater flow also was observed to be vertically downward in the area of the Highway AF well site (MDNR, 1998b). Residential well PH062 located in this area was evaluated for vertical groundwater flow. The well was determined to be 335 feet deep and was cased to a depth of 175 feet bgs. The borehole flow meter indicated downward flow throughout the borehole, from the water table at approximately 180 feet bgs to the bottom of the well. Downward flow increased in the 250 to 300 feet depth interval.

At the former TRW/Ramsey facility located approximately 1.75 miles southwest of OGV01, vertical gradients calculated during the RFI also were downward across all three monitored groundwater depths (O'Brien and Gere, 1996). This also was the case at the Voss well located about 1.2 miles northeast of OGV01 on the east side of the closed Sullivan Landfill. Vertical flow measurements collected at 356 bgs well showed downward flow throughout the open interval from the water table at 191 feet bgs to the bottom of the well (MDNR, 2005).

Borehole geophysical logging also was conducted at OU1 monitoring wells MW-1, MW-3, and MW-6. At MW-1, located adjacent to the south side of the closed Sullivan Landfill, groundwater flow was downward from 175 to 280 feet bgs (elevations 579 to 684 feet amsl) and upward from 320 to 505 feet bgs (354 to 539 feet amsl) (MDNR, 2007a). Between 260 to 320 feet bgs (539 to 599 feet amsl), the intensity of flow decreased significantly, which was interpreted to be a zone of outflow from the well. Results of the geophysical logging at MW-3 showed nearly uniform downward flow from the water surface to about 440 feet bgs (499 feet amsl), indicating that groundwater was entering at the top of the borehole and exiting the borehole between 440 and 580 feet bgs (359 to 499 feet amsl). The video log showed groundwater cascading down the borehole from above the water table. MW-6 was installed in 2010 about 1,000 feet southeast of OGV01. At MW-6, vertical flow measurements showed upward flow from the bottom of the well at 525 feet bgs to about 390 feet bgs (530 to 395 feet amsl) and downward flow from the base of the casing at 325 feet bgs to about 350 feet bgs (570 to 595 feet amsl). These upward and downward flows appear to converge and exit the borehole between 350 and 390 feet bgs (530 to 570 feet amsl).

3.4.2.4 Dye Trace Studies

In 1991, MDNR performed five dye trace tests in the area to assist in defining the groundwater flow direction and determine certain hydraulic properties of the aquifer (MDNR, 1992). The injection points of the tracers for which there was tracer recovery are shown on Figure 3.8. Four dye trace tests involved releasing a tracer into various reaches of Winsel Creek, and one tracer was injected into a sinkhole at the closed Sullivan Landfill. The 1991 tracer injection points and associated recovery locations were:

- Test 1 – Fluorescein was released into a sinkhole in the closed Sullivan Landfill on January 14. The tracer was recovered approximately 179 days later between July 12 and 22 in LJSCC, which is approximately 2 miles east of the release point. MDNR postulated that the 179-day time lag may have occurred because dye movement was slowed by a perched water zone above the regional water table (MDNR, 1992). However, this same time lag can be caused by insufficient flushing of the dye into the subsurface, in which case, the dye may have been mobilized by precipitation over time. No mention of water injection or flushing was included in the field notes for the event.
- Test 2 – Rhodamine WT was released into Winsel Creek immediately south of the closed Sullivan Landfill on May 28 and recovered in LJSCC between June 10 and July 1.
- Test 3 – Rhodamine WT was released into Winsel Creek in the vicinity of the closed sewage lagoon north of Sullivan on August 19 and first recovered in LJSCC between August 26 and September 3. Dye was also recovered at Kratz Spring.
- Test 4 – Fluorescein was released into Winsel Creek at I-44 immediately downstream of the current Sullivan sewage lagoon on October 9. The dye was first recovered at Kratz Spring November 1 through 8. The dye possibly was recovered also at LJSCC, but the same fluorescein dye also was present at this location from Test 1, making this a questionable migration pathway from the injection site.
- Test 5 – Tinopal was released into Winsel Creek on October 9 at Highway AF north of Sullivan/OGV. The dye was not recovered at any of the monitored locations, probably due to an insufficient amount of injected dye.

Based on these tracer tests, MDNR concluded that Winsel Creek was a losing stream throughout much of its length and that groundwater in the vicinity of OGV/Sullivan discharges to the LJSCC and Kratz Spring rather than to the Bourbeuse River (MDNR, 1992). In August and October of 1991, USGS did two seepage runs along Winsel Creek at roughly the same times as dye trace tests 3, 4, and 5. These studies also confirm that Winsel Creek is a losing stream. The maps and data from these studies are included in Appendix C.

The 2005 potentiometric surface is overlain on the results of the dye trace study in Figure 3.8, which also shows the mapped sink holes in the Sullivan area. The inclusion of this data supports the hypothesis that the potentiometric trough extending through the closed Sullivan landfill may reflect a major conduit system within the karst environment.

USGS has measured a minimum (baseflow) discharge of about 4 cubic feet per second (cfs) several times at the LJSCC, and as high as 8 cfs during one measurement event (Mugel, 2012). A rough estimate of the recharge area can be made based on a maximum of 12 inches precipitation for the Salem Plateau and average spring discharge rate (Miller and Vandike, 1997). Using an average discharge of 4 cfs for the cave complex, the recharge area is estimated to be approximately 4.5 square miles. Based on the data from the dye tracer studies, the recharge area for the LJSCC may include a sizable portion of the site area.

According to the Phase I RI Report, two other tracer tests were performed in the site area about one mile southeast of the OGV Well Site. These tests were in response to observations of decreased discharge from Elm Spring (located near the western boundary of Meramec State Park, approximately one-half mile east of Sullivan) when the Sullivan municipal well COS10 was in operation. These tests indicated that COS10 was intercepting flow that previously discharged from Elm Spring and that Elm Spring receives recharge from the area around COS10 (Jacobs, 2002).

4.0 SITE INVESTIGATIONS AND REMEDIAL ACTIONS

Numerous investigations have been undertaken in the site areas that are associated with, or relevant to, the OGV well site. Because the amount of data and pertinent information generated by these investigations, the description of past investigative activities is organized into the following subsections to facilitate the discussion:

- Database,
- Pre-Remedial Investigations (includes investigations that were not conducted as a part of OU1 but contain pertinent information related to OU1),
- MDNR Remedial Investigations,
- Interim Remedial Action,
- Post-Interim Remedial Action Investigations,
- OU2 Investigations,
- LJSCC Investigations,
- RCRA Investigations, and
- Existing Source Controls.

Subsections 4.2 through 4.8 summarize the historical investigations and the conclusions drawn in the reports. Sections 5, 6, and 7 present HGL's interpretation of the data.

4.1 DATABASE

A database of select VOCs has been compiled for OU1 of all the available groundwater and surface water data from each of the investigations discussed in this section and includes available data through November 2019. The database is included as Appendix D in electronic form. Data associated with OU2 and the former TRW/Ramsey facility is included in the database to facilitate a thorough analysis of the nature and extent of contamination at OU1. The database was generated in the sequence described below.

Analytical data from multiple sources was tabulated by USGS and provided to HGL in 2008 at the beginning of the Interim RA. No data validation documentation was provided with the data; however, the data was reviewed by USGS and either passed or failed their review. HGL assumed at that time that all analytical data provided by USGS that passed their review were of suitable quality for inclusion in the database. This data is designated as being verified by USGS in the database.

Data from the Interim RA was added to the database as it was acquired in 2008 through 2010. The EPA Region 7 laboratory performed the analysis of all water samples collected during the Interim RA and validated this data; HGL conducted a quality check of the analytical data packages. This data is designated as validated in the database.

HGL reviewed all the available historical analytical data collected for the site to add to the database. Any available data that was documented in any of the past investigations and/or

documented in a laboratory analytical report was either added to the database or verified that it had already been included in the database. If the laboratory analytical data sheets were available, HGL reviewed them and designated the data as verified by HGL in the database. In addition, Benham verified a large portion of the historical data for inclusion in the Phase II RI completed under contract to MDNR. This data is designated as being verified in the database by Benham. Data from annual reports from OU2 and the former TRW/Ramsey facility were assumed to be validated and were also included in the database.

Finally, all the analytical data provided by USGS during their ongoing investigations in 2010 through 2019 were added to the database. This includes both field screening data and laboratory data. The field screening data is labeled as such in the database. The laboratory analytical data was assumed to be validated.

In the following discussions, the process by which the data came to be included in the database is included with the discussion of each of the reports reviewed.

Appendix D also includes two additional databases. One is for soil data that has been collected during the past investigations and the other is for the air data that has been collected at LJSCC.

4.2 PRE-REMEDIAL INVESTIGATIONS

Many pre-remedial investigations were undertaken for the OGV Well Site before MDNR began its RI. Several of the pre-remedial investigations were discussed in detail in Sections 3.3 and 3.4 and are therefore, not included in this discussion. These include:

- Hydrogeologic Report on the Oak Grove Village Well Contamination (MDNR, 1987b),
- Hazardous Waste SI (MDNR, 1988c),
- Summary of Dye Traces in the Sullivan Vicinity by DGLS (MDNR, 1992), and
- Hydrogeologic Report for the Highway AF Wells Site (MDNR, 1998b).

Pre-Remedial groundwater investigations undertaken for the OGV Well Site that have not been previously discussed are listed below. It should be noted that these investigations were completed before the site was split into two OUs.

Potential Hazardous Waste Site Preliminary Assessment (PA) (Singleton, 1987) – MDNR DGLS issued this report in June 1987. The report recommended that a hydrogeologic assessment be performed and that additional sampling of wells be conducted. It also identified the closed Sullivan Landfill located northeast of OGV and the former TRW/Ramsey facility as potential TCE sources. The report contained analytical data obtained by MDNR in 1986 and 1987 from samples collected from OGV and Sullivan municipal supply well samples, as well as samples collected from distribution points in the OGV supply system. The laboratory analytical data sheets were reviewed by HGL and the groundwater data for the municipal wells was added to the database; however, it is unknown if the data was validated. The data was reported in the Phase II RI.

Report of Investigation (MDNR, 1987a) – This investigation included collection and analysis of seven groundwater samples from OGV01 and surrounding wells. The laboratory analytical data

sheets were reviewed by HGL and the data was added to the database; however, it is unknown if the data was validated. Some of the data was reported in the Phase II RI.

Hydrogeologic Report on the OGV Well Contamination (MDNR, 1987b) – This report was issued by MDNR DGLS in December 1987. Potentiometric maps produced for the report show the functional equivalent of two groundwater systems in the area of the site: a shallow groundwater system, and an intermediate/deep groundwater system (Appendix C Figures 1 and 2). Regional flow was shown to be generally to the northeast. The report stated that the recharge area for OGV01 was to the southwest, toward the center of Sullivan; however, the presence of major faults, a field of operating municipal wells, and karst topography made it difficult to determine the local groundwater flow direction. The report recommended that samples be collected at the LJSCC to determine whether groundwater flow was migrating to the complex through karst conduits, as implied by the potentiometric maps. No environmental samples were collected or reported.

Site Investigation (SI) Report (MDNR, 1988b) – During this investigation, MDNR sampled OGV01, Sullivan municipal wells, and two private wells in an attempt to determine the extent and possible source of the TCE contamination. TCE was detected in OGV01 and Sullivan municipal well COS02; however, the sampling did not attribute the contamination to a specific source or Potentially Responsible Party (PRP). The analytical data was reported in the Phase II RI. USGS reviewed the data; the data that passed their review was included in the database. HGL reviewed the laboratory analytical data reports.

Addendum to OGV Public Water Supply Well PA/SI (MDNR, 1988a) – This report, issued by MDNR in July 1988, discussed the complex geology of the site. No environmental samples were collected or reported.

Complaint Investigation Report (MDNR, 1990) – MDNR collected surface water and sediment samples from a tributary to Winsel Creek at the request of the state Water Pollution Control Program. The tributary received discharge from the closed lagoon, which served as a wastewater holding basin for the former TRW/Ramsey facility. The samples were analyzed by the MDNR laboratory for metals and VOCs. Metals were detected in both the surface water and sediment samples, but no VOCs were detected. The laboratory analytical data sheets were reviewed by HGL and although the data collected is not from a groundwater source, the surface water data was added to the database. It is unknown if the data was validated. USGS and DGLS activities focused on dye trace tests along Winsel Creek (discussed in Section 3.4.2.4); seepage studies at the former Sullivan Landfill (discussed in Section 4.6); and sampling in OU2, COS municipal wells, OGV01, and LJSCC).

Final Expanded Site Inspection (ESI) Report (Jacobs, 1994) – Jacobs (under contract to EPA Region 7) issued the Final ESI in September 1994. The objectives of the ESI were to identify a source or sources of the TCE groundwater contamination, establish a hazardous waste quantity for the source(s), provide Hazard Ranking System quality sampling and analytical data for any identified source(s), and to collect samples from private wells in OGV to determine if they had been impacted. The ESI focused on the Sohn and Blanton properties (Figure 4.1) as potential source areas; 10 soil samples were collected from these two areas. These two properties were

identified as potential source areas in the Phase I and Phase II Environmental Site Assessments conducted for Wal-Mart as part of the due diligence process for a property transaction.

The analytical results of the soil sampling are summarized in Table 4.1. During the July 1994 sampling at the Sohn and Blanton properties, TCE was detected in only one sample (28 micrograms per kilogram [µg/kg]), which was collected at the Sohn property near a drum storage area. PCE and cis-1,2-dichloroethene (DCE) were detected in two samples from the Sohn property. The maximum concentration of each was 80 µg/kg and 33 µg/kg, respectively. The data obtained was insufficient to attribute the contamination at OGV01 to either of the Sohn or Blanton potential source areas. Groundwater was sampled in one private well (PW024 on Figure 4.2). TCE was not detected in the well PW024. The report also contained a compilation of historical monitoring at OGV and Sullivan municipal wells by various entities, including MDNR, USGS, and EPA. The data is included in the database. Some of the data had been reported in previous reports, including the Phase II RI. Whenever the laboratory analytical sheets were available, HGL reviewed the data. The only data that was known to have been validated is the data from the EPA lab. Select tables and figures from this report are included in Appendix E.

Additional Site Assessment (ASA) Report (MDNR, 1998a) – MDNR performed the ASA under a cooperative agreement with EPA Region 7. The objectives of the assessment were to determine whether any private drinking water wells in the OGV vicinity had been impacted by TCE and to initiate a more comprehensive investigation of the potential sources. This investigation was to include an assessment of the potential link between the OGV01 contamination and the widespread contamination in the Sullivan municipal wells. However, no additional source areas were identified during the investigation. Groundwater samples were collected from OGV01 and from six private wells north and northwest of OGV01 (PH006, PH062, PW024, PW041, PW042, and PW067). TCE was detected in OGV01 and in two of the private wells (PH062 and PW067). The TCE concentrations measured in OGV01 and in PH062 were found to exceed the MCL of 5 µg/L. The analytical data was reported in the Phase II RI. USGS reviewed the data; the data that passed their review was included in the database. HGL reviewed the laboratory analytical data reports as well.

4.3 MDNR REMEDIAL INVESTIGATIONS (JUNE 2001–JULY 2005)

Three phases of RIs have been undertaken by MDNR to determine the source(s) and extent of the TCE contamination at the OGV Well Site: Phase I, Phase II, and Post-Phase II. The following subsections summarize the reports for these investigations. Select figures and tables from these reports are included in Appendices E, F, and G. Figure 4.2 includes the locations of groundwater samples collected from private wells, municipal wells, monitoring wells, and springs during all three phases of the RI.

In general, the RIs showed TCE contamination in five general areas within the OGV well site: (1) OGV01/OGV02, (2) the closed Sullivan Landfill, (3) the former TRW/Ramsey facility, (4) the LJSCC, and (5) an area located along Highway AF known as the Highway AF well area. Although numerous potential source areas were investigated, no additional source areas were identified.

4.3.1 Phase I Remedial Investigation (June 2001–December 2001)

Jacobs, under contract to MDNR, conducted the Phase I RI and the report was issued in March 2002 (Jacobs, 2002). The focus of the Phase I RI was to collect data that would support the determination of potential source areas for the contamination detected in OGV01. The report provided both historical data and data collected during the Phase I RI field effort. Field activities included sampling of private and municipal wells, a downhole investigation of OGV01, and source investigations. The components of the Phase I RI field activities are summarized in the following subsections, and select tables and figures from the RI report are included in Appendix E.

4.3.1.1 Groundwater Sampling

The groundwater investigation included the collection of 147 groundwater samples (including split samples and duplicates) from 98 spatially distributed private residential wells, 9 springs, and OGV01 (Jacobs, 2002). Table 3 from the Phase I RI Summary Report, which summarizes the detected VOCs, is included in Appendix E. Plate 2 of the report (also included in Appendix E) shows the sample locations, which are also shown on Figure 4.2.

TCE was detected at ten locations: OGV01, eight private wells, and one spring (LJSCC). One private well (PW014) and LJSCC both had detections of TCE exceeding the MCL of 5 µg/L. Plate 3 in Appendix E shows the locations of the TCE detections, which appear to be limited in areal extent to three areas in addition to OGV01: LJSCC, located northeast of OGV01; three wells along Highway AF northwest of OGV01; and five wells near the closed Sullivan Landfill, located north/northeast of OGV01.

During the field investigation, a downhole video survey was conducted and caliper logging was performed on OGV01. This information was used to help determine the condition of the borehole and identify sampling depths. A BarCad™ multilevel sampling system was then installed in OGV01. The system was designed to hydraulically and chemically isolate select intervals in the well for low-flow groundwater sampling.

MDNR collected a series of groundwater samples for TCE analysis from OGV01 over a l20-hour period in November 2000. The initial TCE concentration in the OGV municipal well at time zero was 4 µg/L. The TCE concentration dropped to 1.8 µg/L after 2.5 hours of pumping (Figure 8 in Appendix E) and then steadily rose to 4.7 µg/L at the end of 120 hours.

OGV01 was sampled on three separate dates in the fall of 2001 using the BarCad™ system and low-flow sampling techniques. During initial sampling on September 21, samples were collected from two zones at depths of 378 feet bgs and 536 feet bgs. TCE was not detected in samples collected from either of these two zones. For the second round of sampling on October 11, the BarCad™ system was reinstalled to sample four zones at the following depths: 389 feet bgs, 499 feet bgs, 607 feet bgs, and 715 feet bgs. TCE was detected in only one of the samples from these depths: 0.5 µg/L at a depth of 715 feet bgs. For the third round of sampling on December 12, one sample was collected from a depth of 482 feet bgs. No VOCs were detected in this sample.

All the groundwater data reported in the Phase I RI is included in the database. Almost all of the analytical data collected for Phase I was either reviewed by USGS or verified by Benham for the Phase II RI. When available, the analytical data sheets were reviewed by HGL.

4.3.1.2 Investigations of Potential Source Areas

In addition to the groundwater investigation, surface water and sediment samples were collected in July 2001 to help identify potential contaminant sources. Locations are shown on Plate 2 in Appendix E. A total of seven sediment samples were collected at sinkholes and stream beds (including Winsel Creek). No VOCs were detected in these samples. The analytical results for the sediment samples were not included in the report.

The Phase I report states that one surface water sample was collected at "Gerry's Lagoon (as identified in the Pre-Comprehensive Environmental Response, Compensation, and Liability Act Site Screening Report)." The sample number for this surface water sample is unknown but based on Plate 2 it is believed to be SW002, which is located approximately three miles southwest of OGV01/OGV02 along I-44. No VOCs were detected in the sample.

It should be noted that spring sampling locations are shown as surface water sampling points on Plate 2.

4.3.1.3 Recommendations and Conclusions

The information obtained during the Phase I RI provided additional data to help define the extent of contamination; however, no additional potential sources were identified. Jacobs concluded that the discrepancy between low levels of TCE recorded from the BarCad™ low-flow sampling and higher TCE concentrations for samples collected from the wellhead was a result of sampling flow rates (Jacobs, 2002). Higher flow rates caused a cone of depression that pulled in more contaminated groundwater. The report states that this may indicate a local source area captured by the drawdown within the cone of depression. However, data gathered after this report was published indicates that there is no shallow source near OGV01 (see Sections 5.1.2 and 6.1.1).

The Phase I RI report recommended the following additional tasks:

- Fracture trace analysis – to help define the conceptual site model
- Additional site reconnaissance to locate and determine relevant features and structures
- Additional groundwater tracer studies
- Develop potentiometric surface maps for the Ozark aquifer
- Additional residential well sampling
- Additional soil sampling at potential source areas
- Sample and conduct hydraulic testing of Sullivan municipal wells
- Collect groundwater samples from wells between the former TRW/Ramsey facility and OGV01

- Conduct vertical groundwater profiling at TRW and Sullivan Landfill
- Conduct high-flow sampling and hydraulic testing of OGV01

4.3.2 Phase II Remedial Investigation (April 2002–July 2005)

Benham conducted the Phase II RI under contract to MDNR and issued the report in August 2005 (Benham, 2005). The report provided both historical data and the results of investigations conducted at the OGV site from April 2002 to July 2005. It included activities performed by several parties: Benham, MDNR, USGS, and Missouri Department of Health and Senior Services (MDHSS). The studies or investigations undertaken are summarized in the following subsections. Select tables and figures from this report are included as Appendix F.

MDNR Geological Survey and Resource Assessment Division (GSRAD) issued two geologic study reports in 2004 as a part of the Phase II RI:

- Bedrock Geology of Oak Grove Village-Sullivan Area (Smith et al., 2004a), and
- 3-D Analyst Addendum for Bedrock Geology of Oak Grove Village-Sullivan Area (Smith and Bachle, 2004b).

The results of these reports are discussed in Section 3.3.2, Site-Specific Geology and Section 3.4.2, Site-Specific Hydrogeology. Figures from the reports are provided in Appendix A.

4.3.2.1 <u>Geophysical Investigations</u>

USGS and GSRAD conducted geophysical logging of both OGV01 and GWS003 (also known as the Voss well) during the Phase II RI. GWS003 is a private well located at the eastern margin of the closed Sullivan Landfill. The results of these investigations also are discussed in Section 3.4.2, Site-Specific Hydrogeology.

The geophysical logging of OGV01 was conducted in late 2003 and early 2004 and documented in *Geophysical Logging and Packer Testing to Determine Depth of TCE Contamination in the Vicinity of OGV01* (USGS, 2004). The geophysical logging consisted of natural gamma, borehole fluid conductivity and temperature, caliper, and borehole flow meter testing. The results of the investigation indicated that OGV01 had the largest concentration of TCE entering the borehole from a permeable zone in the Potosi Formation located between 540 and 560 feet bgs. It was also found that this permeable zone yielded approximately 40 percent of the total yield under pumping conditions.

Geophysical logging of GWS003 was conducted in February and March 2005. The results of the investigation show that the well has a strong downward gradient, with the highest flow rate possibly corresponding to the Gunter Sandstone Member of the Gasconade Dolomite. Specific conductivity values generally dropped with depth, indicating that fresher, less contaminated water enters the well with depth. A large void was observed in this well at approximately 220 feet bgs, and flow into the well increased below that depth (Benham, 2005).

4.3.2.2 Monitoring Well Installation and Sampling

During the Phase II RI field activities, three deep groundwater monitoring wells were installed and sampled MW-1 (Landfill well), MW-2 (Flying J well), and MW-3 (VFW well). The wells were installed into the Gasconade, Eminence, and Potosi formations using air-rotary drilling methods. Drilling began on February 23, 2005 and was completed on May 18, 2005. The locations of the monitoring wells are shown on Figure 4.2. The well logs are included in Appendix B.

Groundwater sampling at each of the three monitoring well boreholes was conducted from June 13 through June 30, 2005. The results are compiled in Table 17 of Appendix F and are included in the database provided as Appendix D. The groundwater samples were collected at specific time intervals over a course of 120 hours with the pump running at a continuous rate of 50 gallons per minute (gpm). The pump was set at depths of 410 feet bgs and 514 feet bgs in MW-1 and MW-3, respectively, to correspond to the elevation at which it has been determined that the highest concentration of TCE entered OGV01. The pump was set at a depth of 433 feet bgs at MW-2, above the depth of a large void encountered during drilling at a depth of 458 feet bgs to 475 feet bgs.

VOCs detected in MW-1 were TCE, Freon 11, Freon 12, and toluene. Concentrations of these contaminants were greatest in samples from the first time interval (10 minutes) and generally decreased as the length of pumping time increased. TCE and Freon 12 were detected only in samples collected during the first six hours of pumping. TCE concentrations ranged from 0.52 µg/L to 0.83 µg/L. Toluene concentrations ranged from 0.46 µg/L to 34 µg/L. The MCL for toluene is 1000 µg/L. Freon 12 concentrations ranged from 0.57 µg/L to 0.76 µg/L. Freon 11 concentrations ranged from 2.6 µg/L to 9.3 µg/L. EPA has not established an MCL for Freon 11 or Freon 12. However, the RAO for Freon 11 as established in the Interim ROD is 100 µg/L. The tap water screening level for Freon 12 is 190 µg/L. These results indicate that none of the sample concentrations exceeded either the respective RAO, MCL, or tapwater screening level.

Toluene was the only contaminant detected at the OU1 monitoring wells MW-2 and MW-3. Toluene was detected in all samples from these two wells, with concentrations generally decreasing as the pumping time increased. Concentrations were similar in the two wells and ranged from 0.96 µg/L to 6.6 µg/L, well below the MCL of 1000 µg/L.

The analytical data collected was verified by Benham and reviewed by USGS. The data that passed the review by USGS is included in the database. HGL also reviewed the laboratory analytical data reports if they were available.

4.3.2.3 Municipal Well, Private Well, and Spring Sampling

Ten Sullivan municipal wells, two OGV municipal wells (OGV01 and OGV02), and approximately 138 private wells and 14 springs were sampled during the period from April 2002 to July 2005. The locations are shown on Figure 2 in Appendix F. The results are compiled in the database included as Appendix D. During this time frame, TCE was detected at concentrations exceeding the MCL at nine locations:

- OGV01 – TCE concentrations ranged from nondetect to 103 µg/L
- OGV02 – TCE concentrations ranged from 5.86 µg/L to 119 µg/L
- Sullivan municipal wells COS02 and COS08 – TCE concentrations ranged from nondetect to 49.4 µg/L
- LJSCC – TCE concentrations ranged from 0.97 µg/L to 12.6 µg/L
- Four private wells associated with OU2 – TCE concentrations ranged from 1.35 µg/L to 15.3 µg/L

TCE also was detected in eight wells in the Highway AF area, but at concentrations less than the MCL.

Isopleth contaminant concentration maps for the private wells and springs were generated for the report and are included as Figures 13 through 20 in Appendix F (Benham, 2005). Figure 13 shows the results for the November 2004 sampling for TCE. Figure 14 shows the historical high TCE concentrations from the period January 1, 1990, through March 10, 2005. Contamination in the Gasconade and Eminence formations appears to be limited to three areas: one centered on the closed Sullivan Landfill; one centered on the former TRW/Ramsey facility; and one along Highway AF.

Appendix F presents the isopleths maps that were generated for PCE, (Figures 15 and 16), Freon 11 (Figures 17 and 18), and Freon 12 (Figures 19 and 20). As illustrated on these figures:

- TCE, PCE, Freon 11, and Freon 12 are present in monitoring wells located at the closed Sullivan Landfill.
- TCE and Freon 11 are present in wells in OU1.
- Freon compounds were detected in 14 private wells in the Highway AF area; however, concentrations were less than 1.0 µg/L.

Isopleth maps of TCE contamination for the municipal wells, which represent the groundwater in the Eminence and Potosi formations, were generated for the report and are included as Figures 21 and 22 in Appendix F. The maps show TCE contamination at the OGV municipal wells, select City of Sullivan municipal wells, and TRW/Ramsey monitoring wells. Isopleth maps of the deep groundwater were not generated for PCE or the Freon compounds because PCE was not detected and Freon compounds were detected only at very low concentrations in the intermediate to deep groundwater.

The analytical data collected was verified by Benham and reviewed by USGS. The data that passed the review by USGS is included in the database. HGL also reviewed the laboratory analytical data reports if they were available.

4.3.2.4 Groundwater Level Measurements

A groundwater level measurement program was conducted to define the groundwater flow in the OGV area. Groundwater level measurements were taken in representative private wells to define the shallow groundwater flow in the Gasconade and Eminence formations. Available well construction data for private wells was reviewed, and 90 wells were identified as probably being

completed in the Gasconade and/or Eminence formations. Between February 7 and 11, 2005, water level measurements were taken in 40 of the 90 private wells identified. All water levels measured were non-pumping water levels; that is, the well had not been pumped for at least 15 minutes before the water level measurement was taken. Figure 3.6 shows the potentiometric map for February 2005 as interpreted by Benham.

To define the groundwater flow in the intermediate/deep groundwater (Eminence and Potosi formations), measurements were taken on two separate occasions in the three deep monitoring wells installed as a part of the Phase II RI. The static (non-pumping) water levels were measured at these three wells on May 26, 2005, and again on June 13 and 14, 2005. The maps generated for the data collected on these two dates are Figures 7 and 8 in Appendix C.

The results of the groundwater measurement program are discussed in Section 3.4.2, Site-Specific Hydrology.

4.3.2.5 Surface Water and Sediment Investigations

Surface water and sediment samples were collected within and along the Meramec River as a part of the ecological risk assessment sampling in August 2003. MDNR collected six surface water samples and four sediment samples at the confluence of the LJSCC entrance into the river. No COPCs were detected in either the surface water or sediment samples.

The analytical results for the surface water samples collected from Meramec River are included in the database. HGL reviewed the laboratory analytical data reports.

4.3.2.6 Investigations of Potential Source Areas

The Phase II RI included the investigation of nine potential source areas. The locations of the known potential source areas are shown on Figure 4.1. The investigations included wastewater, tree core, and soil sampling.

Tree core sampling was conducted at the potential source areas in June and August 2004 as another approach to determining past or existing sources of contamination. Trees are known to retain certain chlorinated hydrocarbons in their woody structure during the uptake of soil moisture with their root system. These chlorinated hydrocarbons can then be detected by analytical testing of the woody material in the tree trunk. The presence of chlorinated hydrocarbons or COPCs in tree cores was expected to indicate soil and/or groundwater contamination at that location. The sampling locations are shown on Figure 24 in Appendix F. The analytical results are tabulated in Table 19 in Appendix F and summarized in Table 4.2.

Soil and/or sediment samples were collected from potential source areas in conjunction with the tree core sampling to determine whether VOCs were present in the soils/sediments at the potential source areas. Samples were analyzed for VOCs, total chromium, and total lead. The boring locations are shown on Figure 25 in Appendix F. The full analytical results are included as Table 21 in Appendix F and summarized in Table 4.1.

The samples collected during the investigation are summarized in the following table:

Potential Source Area	Number of Wastewater Samples	Number of Tree Core Samples	Number of Soil Borings	Number of Soil Samples
OGV and Sullivan Sanitary Sewer	29	-	-	-
Sohn/Wal-Mart Property	-	2	1	2
Former Sullivan North Sanitary Lagoon	-	22	3	4
Former Sullivan South Sanitary Lagoon	-	12	6	10
Closed Sullivan Landfill	-	4	-	-
Closed OGV Sanitary Lagoon	-	4	2	6
Peterson Property Northern Pond	-	6	2	4
Peterson Property Southern Pond	-	7	-	-
Abandoned Drum Disposal Site	-		6	6

Note: - no sample collected from identified matrix

OGV and Sullivan Sanitary Sewer Systems

The OGV and Sullivan sanitary sewers are constructed of unlined clay tiles or concrete blocks, with brick or block concrete junction boxes. (MDNR, 2007a) Any suspended solids or sediment in the wastewater introduced into the sewer could settle or precipitate out and accumulate on the bottom of the sewers. Over time the contamination could leach out through fractures in or joints around the tile or blocks into the surrounding soil and migrate into the shallow groundwater. The sanitary sewers could also act as conduits for a shallow source of contamination and distribute contamination throughout the OGV and Sullivan area. Contamination that did not settle or precipitate out and accumulate on the bottom of the sewers would ultimately be discharged to the sewage lagoons.

The OGV/Sullivan sewer lines were sampled on January 17 and 18, 2005. The samples were collected to determine whether residual contamination was present, the location of potential businesses or industries responsible for the discharge, and whether the contamination had leached out of the sewer at some point in time to impact the surrounding soil and groundwater. Figure 8 in Appendix F shows the locations and results of the 29 sewer line water samples collected from existing sewer line manholes. The sample locations were chosen based on their location relative to residential areas, commercial businesses, and industrial sites.

PCE was detected in sanitary sewer samples from two locations: one in the vicinity of Wal-Mart and the second in the vicinity of the former TRW/Ramsey facility. The PCE concentrations observed on these properties were 1.4 µg/L and 1.0 µg/L, respectively. No TCE, Freon 11, or Freon 12 were detected in the samples. It is unknown whether the PCE is related to residual compounds in the shallow soils/water near the sample collection points or is related to discharges of impacted wastewater into the sanitary sewer system. Other VOCs detected in the two samples are commonly used in adhesives, paints, varnishes, and lacquers. These compounds are likely related to wastewater discharges from businesses that use these types of products, such as auto repair shops.

Blanton, Sohn, and Wal-Mart Properties

These potential source areas were originally identified in the Phase I and Phase II Environmental Site Assessment (ESA) reports completed in 1991 for Wal-Mart (Huntingdon, 1991 and Kansas

City Testing Laboratory, 1992). They are located near the intersection of I-44 and Highway 185 and are all located in proximity to each other (Figure 4.1). These properties also were investigated as a part of the EPA ESI discussed in Section 4.2.

The Highway 185 garage was located on the Sohn property. It was a full-service automotive repair shop. The garage used solvents, industrial cleaners, and lubricants and stored waste oil. During the ESI, TCE was detected in soils at the Sohn property in the drum storage area (Table 4.1). It was concluded in the ESI report that the low TCE concentration observed in one sample was not indicative of a source area for the OGV01 groundwater contamination (Jacobs, 1994).

The Blanton property consisted of a vacant lot on which a sewage lagoon/collection pond was constructed. Blanton Oil and a Goodyear Service Center are adjacent to and upgradient of the vacant lot. In 1993, Wal-Mart purchased the Blanton property and surrounding properties and constructed a retail store and parking lot on the properties. During the ESI, TCE was not detected in soil samples (Jacobs, 1994).

Limited tree core and soil sampling was conducted in June 2004. Two tree core samples, TC-001 and TC-002, were collected and analyzed for the VOCs TCE, cis-1,2-DCE, and trans-1,2-DCE (see Figure 24 in Appendix F). Two soil samples were collected at SB-15 at depths of 1 to 2 feet bgs and 7 to 8 feet bgs. Both samples were analyzed for VOCs. The location of SB-15 is shown on Figure 24 in Appendix F. No TCE or other COPCs were detected in the tree core or soil samples. The analytical results are summarized in Tables 4.1 and 4.3.

Former Sullivan Sewage Lagoons

The city of Sullivan operated two sewage lagoons to treat municipal sewage; the northern lagoon and the southern lagoon. The southern sewage lagoon was taken out of service in 1988 and the northern sewage lagoon was taken out of service in 1989. The locations of these former lagoons are shown on Figure 4.1. The lagoons were built in approximately 1958 and received wastes from residences, businesses, industries, and manufacturing operations from the city of Sullivan via the sanitary sewer system. The lagoons had clay bottom liners; any contamination introduced into the lagoons could have settled or precipitated out and accumulated on the bottom of the lagoon. Over time, this contamination could have leached out into the soil and migrated into the shallow groundwater.

Tree core sampling was conducted along the perimeter of the lagoons and down the spillways to the property line on June 22 and 23, 2004, as shown on Figure 24 in Appendix F. Twenty-two tree core samples were collected near the northern lagoon and 12 tree core samples were collected at the southern lagoon. The samples were analyzed for the VOCs TCE, cis-1,2-DCE, and trans-1,2-DCE using a field gas chromatograph (GC). No TCE or other COPCs were detected in these samples. The analytical results are summarized in Table 4.2.

Soil samples were collected at each of the lagoons on June 24 and 25, 2004. Six soil borings were completed at the southern lagoon and three soil borings were completed at the northern lagoon. The locations are shown on Figure 25 in Appendix F. Samples were collected from the borings at depths ranging from 0.66 feet to 15 feet bgs. No TCE or other COPCs were detected in the soil

samples (Table 4.1). Chromium was detected in all samples, but at low concentrations (Table 21 in Appendix F).

Closed Sullivan Landfill

The closed Sullivan Landfill is a part of OU2. It is owned by the city of Sullivan and is approximately 28 acres in size. It is located approximately 3,000 feet northeast of OGV01/02 (Figure 4.1). Landfill records indicate that drums of barium chlorate and TCE/oil and grease mixtures may have been deposited in the landfill. A detailed discussion of the landfill is included in Section 4.6.

Four tree core samples were collected from the closed landfill along the northern perimeter, as shown on Figure 24 in Appendix F. The samples were analyzed for TCE, cis-1,2-DCE and trans-1,2-DCE. None of these VOCs were detected.

Closed OGV Sewage Lagoon

The closed OGV sewage lagoon was built in approximately 1958 north of the Highway 185 overpass and west of the St. Louis-San Francisco railroad tracks. This small lagoon received wastes from residences, businesses, industries, and manufacturing operations via the sanitary sewer system. The lagoon had a clay bottom liner; any contamination introduced into the lagoon could have settled or precipitated out and accumulated on the bottom of the lagoon. Over time this contamination could have leached out into the soil and migrated into the shallow groundwater. According to the Post-Phase II RI Report, the lagoon was closed in 1985. The dam was breached and the accumulated fluids were allowed to discharge. The accumulated solids and sediments remained undisturbed within the footprint of the former lagoon basin. The report did not indicate where the fluids were discharged, or if removal of the solids and sediments occurred.

On August 25, 2004, soil and tree core samples were collected as a part of the Phase II RI. Four tree core samples (TC-054 through TC-57) were collected along the perimeter and within the spillway of the former lagoon as shown on Figure 24 in Appendix F. The analytical results are summarized in Table 4.2. No TCE or other COPCs were detected.

Seven discrete soil samples were collected from two soil borings (SB-13 and SB-14) at the former lagoon. Sample depths ranged from the ground surface to 16 feet bgs. The boring locations are shown on Figure 25 in Appendix F and the analytical results are summarized in Table 4.1. No TCE or other COPCs were detected.

Peterson Ponds

According to the Post-Phase II RI report, the owner of two ponds in the Highway AF well area indicated that contaminated materials may have been dumped in either pond in the past. The two ponds, known as the Peterson Ponds, are located along Highway AF as shown on Figure 24 in Appendix F. The southern of the two ponds is larger, and the northern pond is smaller and located closer to the Peterson Oil Company. Both ponds are unlined. Any contaminated materials dumped into the pond could have settled or precipitated out and accumulated on the bottom of the pond. Over time, this contamination could have leached into the soil and migrated into the shallow groundwater.

Tree core sampling was conducted along the perimeter of the ponds on June 24 and 25, 2004, as a part of Phase II RI. Six tree core samples were collected from around each of the ponds, as shown on Figure 24 in Appendix F. The samples were analyzed for the following VOCs: TCE, cis-1,2-DCE, and trans-1,2-DCE. No VOCs were detected in these samples. The analytical results are summarized in Table 4.2.

Two soil borings were completed at the northern Peterson pond to depths of approximately 15 feet bgs. No soil borings were completed at the southern pond. The boring locations are shown on Figure 25 in Appendix F. Four discrete soil samples were collected from the two borings at depths ranging from 4.5 feet bgs to 15 feet bgs. No VOCs were detected in these subsurface soil samples. The analytical results are summarized in Table 4.1.

Abandoned Drum Disposal Site

The abandoned drum disposal site was discovered on February 22, 2005, by a surveying team. The site is located in OGV, north of the Highway 185 South overpass, west of the St. Louis-San Francisco railroad tracks, and southeast of the closed OGV sewage lagoon (Figure 4.1).

According to the Phase II RI report, it was determined that the drums had been there for a very long time due to their rusty condition, worn and faded labels, and vegetative overgrowth. The origin of the drums is unknown.

Six soil samples were collected from this area during the Phase II RI and the samples were analyzed for VOCs. Sample depths ranged from 0.5 feet bgs to 4.5 feet bgs. No TCE or other COPCs were detected in the soil samples. The analytical results for these samples are summarized in Table 4.1. The exact locations of the borings are unknown. According to the Phase II RI report, three borings (SB-01, SB-02, and SB-03) were completed in a triangular pattern along the perimeter of the site. SB-04 was completed in a gully wash that migrated from the site toward the closed OGV sewage lagoon. SB-05 and SB-06 were drilled within the boundaries of the drum disposal area (MDNR, 2007a).

4.3.2.7 La Jolla Spring Cave Complex Investigations

MDNR sampled the groundwater and cave air at the LJSCC numerous times between 2002 and 2005. The complex is currently part of both OU1 and OU2. Air samples were collected from six public-access locations within the cave system and the following constituents were detected: Freon 11; Freon 12; Freon 113; TCE; cis-1,2-DCE; PCE; acetone; chloromethane; ethanol; and 2-propanol. TCE was detected at the highest concentrations, ranging from nondetect to 1,700 micrograms per cubic meter ($\mu g/m^3$). Table 4.3 summarizes the analytical results of the air samples collected at LJSCC. Figure 26 in Appendix F entitled "La Jolla Spring Cave Complex Air TCE Data" shows many of the sampling locations, though several of the sample locations are unknown. Table 22 in Appendix F summarizes the analytical results.

Samples were collected from groundwater drip stone pools and seeps within the cave complex. These are designated as sample locations GWS009, GWS010, and PH020 on Figure 4.2. TCE and Freon 11 were the only contaminants consistently detected in the groundwater seep samples. TCE concentrations ranged from nondetect to 12.6 µg/L. Freon 11 concentrations ranged from nondetect to 2.13 µg/L.

The analytical results for the groundwater samples collected from the LJSCC are included in the database provided as Appendix D. HGL reviewed the laboratory analytical data reports that were available.

4.3.2.8 Fluorescence Spectroscopy

According to the Phase II RI report, numerous groundwater samples were collected and analyzed using fluorescence spectroscopy in an attempt to "fingerprint" source areas. Fluorescence spectroscopy uses the pattern of energy absorption and emission to identify the organic substances in sample water. While chemical analyses separation techniques are used to identify individual constituents in water, fluorescence spectroscopy is used to analyze a water sample, without the separation phase, to identify the source of the water (Benham, 2005).

Groundwater samples from the Voss well and OGV01 were analyzed using this method; however, the results of the fingerprinting study were inconclusive. The data appear to show that the use of this analysis has technical limitations that prevent its use as a tool to identify and track source waters with a specific "fingerprint" pattern (Benham, 2005).

4.3.2.9 Ecological and Baseline Human Health Risk Assessments

In June 2005, MDHSS issued the Baseline Human Health Risk Assessment (HHRA) in which the potential impacts to human health from groundwater contaminated with TCE and other organics was evaluated (MDHSS, 2005). The HHRA was included as an appendix to the Phase II RI report. Two media were evaluated: groundwater from wells and the cave air at the LJSCC. Data from 2000 to 2004, primarily from the Phase I and II RIs, were used to evaluate groundwater risk. It included data collected from private wells, municipal wells, springs, and surface water.

The results of the HHRA, with respect to OU1, can be summarized as follows:

- Future Resident Scenarios—the potential for lifetime excess carcinogenic risks exists for future residents using groundwater affected by the Highway AF, closed Sullivan Landfill, and TRW Plumes. The potential also exists for adverse non-carcinogenic health effects from residential exposure to these plumes.
- Future Industrial/Commercial Scenarios—the potential for lifetime excess carcinogenic risks exists for future commercial/industrial workers using groundwater affected by the Highway AF, closed Sullivan Landfill, and TRW/Ramsey plumes. The potential also exists for adverse non-carcinogenic health effects from occupational exposure to the closed Sullivan Landfill and TRW/Ramsey plumes.
- Current Commercial/Industrial Scenarios—this assessment found that the risks posed to the current commercial/industrial scenario using contaminated groundwater from OGV02 are within the EPA carcinogenic target risk range, and non-carcinogenic health effects are not expected to occur from occupational exposure to this well.

Air samples collected at the LJSCC during five different sampling events (October 2002, April/May 2003, October 2003, February 2004, and January 2005) were used to evaluate the risk in the cave air (Table 4.3). The HHRA found that the cave air impacted by TCE over risk-based values represents a potential risk to workers. The LJSCC is a part of both OU1 and OU2.

The Screening Level Ecological Risk Assessment did not indicate a potential toxicological risk to aquatic or terrestrial species living inside the cave (EPA, 2004).

4.3.2.10 Recommendations and Conclusions

The data collected during the Phase II RI narrowed the data gaps and better defined the location and extent of the contaminant plumes. However, no new contaminant source areas were identified as a result of the potential source area sampling efforts.

Upon review of the Phase II RI Report, EPA and MDNR decided that additional site work was needed to address remaining data gaps. To adequately define the site and fill address data gaps, the OGV site was divided into two OUs; OU1 was investigated as described in Section 4.3.3.

4.3.3 Post-Phase II Remedial Investigation (May 2005–June 2007)

The Post-Phase II RI report was issued by MDNR in June 2007 to document the extent and magnitude of TCE contamination at OU1. The report presented the results of investigations conducted at OU1 from August 2005 to June 2007. The investigations were a cooperative effort between MDNR, EPA, MDHSS, and USGS (MDNR, 2007a). The field activities included investigation of two private wells; groundwater sampling of private, municipal, and monitoring wells; installation and completion of monitoring wells; and potential source area sampling. Select tables and figures from this report are included as Appendix G.

OU2, which is defined as the closed Sullivan Landfill and areas where contamination from the landfill has come to be located, is currently being investigated by a PRP to evaluate the nature and extent of OU2 groundwater contamination.

4.3.3.1 Completion of Deep Monitoring Wells

Post-Phase II RI activities included completion of the video logging, geophysical logging, final construction, and sampling of three deep monitoring wells installed during Phase II RI activities discussed in Section 4.3.2.2. The locations of MW-1, MW-2, and MW-3 are shown on Figure 4.2. MW-1 is included in OU2.

A video log of MW-2 was completed in December 2005 and showed a void from about 460 feet bgs to 475 feet bgs where the borehole appeared to be collapsed. A cable rig attempted to open up the hole, but met refusal, and upon removal, ground-up steel was found. From this it was inferred that there were drilling rods that had been lost in the hole. No other field activities were done at MW-2 during Post-Phase II RI activities.

Downhole video and geophysical logs of the MW-1 and MW-3 boreholes were completed in December 2005. The geophysical logs consisted of a gamma log, a fluid temperature log, a conductivity log, a resistivity log, a caliper log, and a heat-pulse flow meter log. These logs are included in Appendix B. Concurrent with the logging, groundwater samples were taken from discrete depths from both wells MW-1 and MW-3. The well construction for each of the wells was completed in January 2006.

Results of the borehole fluid and flow meter logs at MW-1 indicated the open section of the borehole (below 104 feet bgs) was intersecting two flow regimes within the bedrock aquifer. Downward flow was indicated from 175 bgs to 280 feet bgs. Upward flow was indicated from 320 feet bgs to the bottom of the borehole at 505 feet bgs. The intensity of the upward and downward flow decreased in the interval 260 feet bgs to 320 feet bgs, indicating that the flow was exiting the borehole in this interval.

Groundwater samples were collected at MW-1 at four depths: 185 feet bgs, 250 feet bgs, 415 feet bgs, and 480 feet bgs. TCE and other contaminants were detected in samples collected from 185 feet bgs and 250 feet bgs. No contaminants were detected in the samples collected at 415 feet bgs and 480 feet bgs.

Results of the geophysical logging at MW-3, when the well had only 132 feet of casing, showed nearly uniform downward flow from the water surface to about 440 feet bgs, indicating that groundwater was entering at the top of the borehole and exiting the borehole between 440 feet bgs and 580 feet bgs. The video log showed groundwater cascading down the borehole from above the water table. Groundwater samples were collected from MW-3 at four depths: 225 feet bgs, 300 feet bgs, 425 feet bgs, and 525 feet bgs. No contaminants were detected in samples collected at any of these depth intervals. Because the video log showed water cascading down the borehole, the samples indicate a lack of shallow groundwater contamination.

Based on the geophysical logging and discrete sampling, MW-3 was completed in January 2006. A 3-inch steel casing was installed to a depth of 327 feet bgs to seal off the source of the downward flow (USGS, 2012d). MW-3 was sampled three times in 2006 after well completion. No TCE was detected in any of the samples collected from the well.

4.3.3.2 Installation of Monitoring Wells

Two shallow monitoring wells were installed during the Post-Phase II RI in 2006 using a cable tool drill rig. These wells were situated between potential source areas and OGV02 in an effort to reduce uncertainty regarding the source of TCE groundwater contamination. MW-4, also referred to as the 185 Garage Well, was installed to determine if there was shallow groundwater contamination at or near the water table. MW-5, also referred to as the Ditch Witch Well, was installed to determine if the isolated detections in soil at the Ditch Witch property (discussed in Section 4.3.3.6) could be contributing to groundwater contamination. The locations of these wells are shown on Figure 4.1. Well completion diagrams are included in Appendix B.

Installation of MW-4 began on June 2, 2006 and was completed on June 30, 2006. MW-4 is 225 feet deep. The construction details for this well are included in Table 3.3. During installation, 32 groundwater and drill cutting samples were collected for field GC analysis. No TCE or other COPCs were detected in any of the samples (Tables 4-6, 4-7 and 4-8 in Appendix G).

Installation of MW-5 began on July 24, 2006 and was completed on September 9, 2006. MW-5 is 240 feet deep. The construction details for the well are included in Table 3.3. During installation, seven groundwater samples and 34 drill cutting samples were collected for field GC analysis. No TCE or other COPCs were detected in any of the samples (see Tables 4-6, 4-9, 4-10 and 4-11 in Appendix G).

Three rounds of sampling at MW-4 and MW-5 were completed in 2006 and 2007. No TCE or other COPCs were detected in any of the samples collected.

4.3.3.3 Groundwater Sampling Events

Private and municipal wells, as well as monitoring wells, were sampled during the Post-Phase II investigations. Between May 2005 and June 2007, TCE was detected in two municipal wells (COS02 and OGV02) at concentrations exceeding the MCL of 5 µg/L. TCE also was detected in eleven private wells in the Highway AF area, but at concentrations less than 4 µg/L. These results are included in the database provided as Appendix D.

OGV02 was sampled five times between May 2005 and October 2006. TCE concentrations before treatment ranged from 7.35 µg/L to 76.2 µg/L. Cis-1,2-DCE was detected four times, and its concentrations ranged from 0.34 µg/L to 2.27 µg/L. Freon 11 was detected three times at concentrations less than 1.39 µg/L.

COS02 also was sampled five times between May 2005 and October 2006. TCE concentrations in COS02 (before treatment) ranged from 1.73 µg/L to 52.9 µg/L. Cis-1,2-DCE was detected four times with concentrations ranging from 1.32 µg/L to 1.63 µg/L. Freon 11 was detected once at a concentration of 1.0 µg/L.

All the groundwater data reported in the Post-Phase II RI is included in the database. A portion of the analytical data was reviewed by USGS, and the data that passed their review is included in the database. HGL reviewed the laboratory analytical data reports if they were available.

4.3.3.4 Private Well Investigations

Geophysical investigations were conducted at two private wells. The locations of these two wells (PH062 and PH068) are shown on Figure 4.2.

Residential well PH062, also known as LOC 111 and AF-P, was investigated during the Post-Phase II RI because historically TCE had been detected at concentrations greater than the MCL and the well was thought to be greater than 1,000 feet deep. Downhole logging was conducted at PH062 in January 2006. The well was determined to be 335 feet deep and was cased to a depth of 175 feet bgs. A series of borehole geophysical logs run in January and February 2006 (borehole caliper, fluid temperature and conductance, and borehole flow meter) indicated downward flow throughout the borehole from the water table at approximately 180 feet bgs to the bottom of the well. Downward flow increased in the 250 to 300-foot depth interval.

Discrete depth sampling was conducted at PH062 (also known as well AF-P) on February 6 and 14, 2006. Samples were collected at five depths under both ambient and pumping conditions. The samples were analyzed using a field GC. Split confirmation samples were collected under pumping conditions. The TCE concentrations were uniform throughout the borehole under both ambient and pumping conditions and ranged from 1.2 µg/L to 2.0 µg/L. It was concluded in the Post-Phase II RI report that the uniform TCE concentrations and the downward flow in the well suggests that the TCE impacting the wells in the Highway AF Well area is present at or near the water table and may be related to a local source of TCE (MDNR, 2007a). The possible sources of the

contamination are discussed in more detail in Section 5.2.3.2. The analytical results are summarized in Table 4-3 in Appendix G.

PH068, a former residential well also known as the White House Well or WH1, was also characterized during the Post-Phase II RI. The well is located adjacent to OGV01, as shown on Figure 4.2. A video log of the well was completed on May 17, 2007. The well was found to be cased to a depth of approximately 140 feet bgs. The bottom of the borehole was determined to be approximately 342 feet bgs, which is above the depth of the casing at nearby OGV01 and OGV02. Point samples were collected at 220 feet bgs and at 332 feet bgs in May 2007, and these samples were analyzed using a field GC. No VOCs were detected in these samples. On May 24, 2007, after purging approximately 3,100 gallons of water, a sample was collected for laboratory analysis. No VOCs were detected in the purged sample. The Post-Phase II RI report indicated that the absence of TCE at PH-068 strongly suggests that the source of the TCE in OGV01 and OGV02 is not local (MDNR, 2007a).

4.3.3.5 Investigations of OGV01 and OGV02

MDNR conducted investigations at OGV01 and OGV02 in 2003 and 2004. Although the analytical data from these investigations were included in the Phase II RI Report (Benham, 2005), the results were not discussed in detail until the Post-Phase II RI Report (MDNR, 2007a).

In March 2003, MDNR conducted a 48-hour sampling event to monitor OGV02. TCE was detected at 5.86 µg/L in the sample taken at the beginning of the test. After two hours of pumping, the TCE level was 19.3 µg/L. After 30 hours of pumping, the TCE level peaked at 70.8 µg/L. After 36 hours, the TCE levels fluctuated between 61.0 µg/L and 66.3 µg/L (Table 4a, Appendix F). This indicated that the longer the system was in operation prior to sampling, the higher the TCE concentration. Other COPC detections also show a correlation to the length of time between the start of operation of the well and the sampling event. The longer the system was operating prior to sampling, the more likely that other COPCs were detected in the sample and the higher the concentration. The data presented in Table 4-22 (Appendix G) from the Post-Phase II RI Report also shows that the longer OGV02 is pumped, the higher the TCE concentration. When OGV02 was pumped for about 30 minutes in October 2006, the TCE concentration was 7.35 µg/L. When OGV02 was pumped for over three hours in 2005 and 2006, the TCE concentrations ranged from 60.1 µg/L to 119 µg/L.

Packer tests were conducted at OGV01 in 2004, which involved pumping the well at various rates from a pump set at 300 feet bgs and a single packer set at various depths below the pump to isolate the lower part of the borehole. The packer tests were done to confirm results from downhole discrete sampling of the open borehole that indicated most TCE entering the borehole at depths between 540 and 560 feet deep (USGS, 2004). A single packer was placed in the borehole and a pump set at 300 feet. The well was pumped initially at 8.9 gpm and the packer set at 437 feet, then reset at depths of 472, 490, 535, 564, 578, and 620 feet deep. The borehole above the packer was pumped for at least 24 hours before samples were collected from the pump outlet and the packer reset. Several of the packer sets were repeated using higher flow rates of 14.2 and 28.2 gpm (USGS, 2004). The 8.9 gpm packer tests indicated TCE less than 1.5 µg/L at packer sets above 540 feet and larger TCE of 6.36 and 6.15 ug/L when the packer was lowered to depths of 564 and 578 feet, respectively. At higher pumping rates, TCE concentrations increased with the maximum

TCE of 67.3 µg/L detected when purging 14.2 gpm above the packer set at 578 feet deep. TCE concentrations decreased dramatically to 5.04 µg/L when the packer was lowered to 620 feet deep while pumping at 14.2 gpm, confirming that most TCE was entering the borehole above 620 feet and below about 535 feet.

According to the Post-Phase II RI Report, this correlation between the pumping rate and the TCE concentration indicates that the most contaminated region of the aquifer is not directly intersected by OGV01. The pumping conditions create a cone-of-capture, which influences the localized groundwater gradients, causing groundwater to be drawn into the well primarily from the most permeable zones; however, groundwater could inflow from any direction into the open borehole.

4.3.3.6 Investigations of Potential Source Areas

The Post-Phase II RI included the investigation of five potential source areas (Figure 4.1). Tree core, surface water, and soil samples were collected at six areas as follows:

Potential Source Area	Number of Surface Water Samples	Number of Tree Core Samples	Number of Soil Borings	Number of Soil Samples
Highway AF Well Area	-	27	-	-
Blanton/Sohn/Wal-Mart Property	-	-	27	41
Ditch Witch Property	-	-	21	22
Closed OGV Sanitary Lagoon/Abandoned Drum Burial Site	-	9	-	-
Winsel Creek Tributary	1	-	3	3

Note: -no sample collected from identified matrix

Highway AF Well Area

The Highway AF Well Area is an area of known TCE and Freon contamination that appears to be associated with the shallow groundwater (see Section 4.3.2.7). It is located approximately 0.5 miles north of the northern former Sullivan sewage lagoon and approximately 0.5 miles west of the Sullivan airport. Winsel Creek, a losing stream, is situated south and east of the Highway AF Well Area (Figure 4.1). Fifteen wells within this area have historically had detectable concentrations of TCE and Freon.

Tree core samples were collected from 27 trees in the Highway AF Well Area as shown on Figure 6 in Appendix G. The samples were analyzed for TCE, PCE, cis-1,2-DCE, benzene, and toluene using a field GC. Complete analytical results are provided in Table 4-4 in Appendix G, and summarized in Table 4.2. VOCs were detected in 6 of the 27 samples. TCE was detected in only one sample, 21AF, at a concentration of 0.08 µg/kg. Cis-1,2-DCE was detected in three of the samples (10AF, 18AF, and 25AF). Benzene and toluene were also detected. According to the Post-Phase II RI Report, the presence of TCE and cis-1,2-DCE in tree cores along Highway AF supports the theory that there may be an unknown localized source near the area (MDNR, 2007a). However, USGS has indicated that they have very low confidence in TCE readings in cedar tree cores when analyzed using a portable GC because (1) the chromatograms are very noisy with lots of unknown peaks that interfere with TCE and (2) they are known to give false positive results for TCE (Schumacher, 2019). Information provided by MDNR indicates that sample location 21AF is a cedar tree.

Blanton, Sohn, and Wal-Mart Properties

As discussed in Section 4.3.2.7, these potential source areas were originally identified in the Phase I and Phase II ESA reports completed in 1991 for Wal-Mart (Huntingdon, 1991 and Kansas City Testing Laboratory, 1992).

Soil sample locations at the Blanton and Sohn properties are shown on Figure 14 in Appendix G. The split soil samples collected at each of the two sites were analyzed for VOCs using a field GC and the MDNR laboratory. No VOCs were detected in samples analyzed using the field GC and no TCE or other COPCs were detected in the laboratory-analyzed samples (Table 4.1). Other VOCs associated with petroleum and cleaning products (commonly used at gas stations and repair shops) were detected at low concentrations.

Soil samples were collected from the Wal-Mart property at the soil boring locations shown on Figure 2 in Appendix G. The 17 soil samples were analyzed by the MDNR laboratory for VOCs, chromium, and lead. Sample depths ranged from 3 feet bgs to 22 feet bgs. PCE was the only COPC detected, at locations WAL-3 (29.9 µg/kg), WAL-6 (4.16 µg/kg), WAL-13 (2.64 µg/kg), and WAL-16 (23.6 µg/kg). The maximum PCE concentration was observed in WAL-3 at a depth of 3 feet bgs to 4 feet bgs. No correlation between sample depth and PCE concentration was observed. As with the soil samples collected on the Sohn and Blanton properties, other VOCs were detected, but all were detected at low concentrations and all are associated with petroleum and cleaning products commonly used at gas stations and repair shops. Low concentrations of chromium and lead also were detected.

Ditch Witch Facility

The Ditch Witch Sales, Inc. facility in OGV is located southwest of OGV02 (Figure 4.1). It specialized in sales and on-site servicing of trenching equipment and was in operation for approximately 40 years. During that time, solvents were likely used to clean parts during equipment servicing. Structures at the facility included the main building, an old paint shop, a new paint shop, a machine shop, a closed sewage lagoon, and a closed pond.

At the time of the Post-Phase II RI, the Ditch Witch property was up for sale and a prospective purchaser completed a Phase I and Phase II ESA, which included on-site soil sampling. The samples were nondetect, although it is unknown what constituents were analyzed (MDNR, 2007a).

During the Post-Phase II RI, soil sampling was conducted to determine whether the Ditch Witch facility was a potential source area for TCE contamination. In August 2006, 17 soil borings (SB-DW-001 to SB-DW-017) were drilled across the property as shown on Figure 2 in Appendix G. At least two borings were emplaced near each of the four buildings at the facility. Two soil borings were emplaced in the closed sewage lagoon and one soil boring was emplaced in the closed pond. One soil sample was collected from each of the 17 borings and sent to the MDNR laboratory for analysis. Sample depths ranged from 2 feet bgs to 17 feet bgs.

TCE and PCE were detected in only one of the 17 soil samples, SB-DW-009, (listed as SB-09 on Table 4-17 in appendix G). This sample was collected at a depth of 2 to 3 feet bgs, outside the rear door of the machine shop. TCE was detected in this sample at 199 µg/kg and PCE was detected at

118 µg/kg. No other COPCs were detected. Chromium and lead were detected in six of the soil samples above background concentrations (Table 4-17 in Appendix G).

The area around SB-DW-009 was further investigated in September 2006 to define the extent of the TCE and PCE contamination. Four soil borings (DW-018 to DW-021) were emplaced so that one boring was placed in each of the four directions surrounding SB-DW-009. From Figure 2 in Appendix G, it appears that these borings were emplaced within 10 feet of SB-DW-009. One soil sample was collected at a depth of 4.0 feet bgs to 5.0 feet bgs from each of the four borings. TCE, PCE, cis-1,2-DCE, and trans-1,2-DCE were detected in the sample collected at DW-019. TCE and PCE concentrations at DW-019 were 153 µg/kg and 16.9 µg/kg, respectively. The analytical results are summarized in Table 4.1. TCE was detected at a third location (DW-020) at a concentration of 4.86 µg/kg.

Closed OGV Sewage Lagoon/Abandoned Drum Burial Site

As shown on Figure 13 in Appendix G, nine tree core samples were collected at the closed OGV sewage lagoon and the nearby abandoned drum burial site on September 27, 2005. Samples 4-1 and 5-1 were collected from the abandoned drum site and samples 6-1 through 9-1 were collected from the closed OGV Sewage lagoon. The samples were analyzed for TCE, PCE, cis-1,2-DCE, benzene, and toluene using a field GC. No target VOCs were detected in any of the samples. The data is summarized in Table 4.2.

Winsel Creek Tributary

Process-generated wastewater from the former TRW/Ramsey facility was discharged directly to a Winsel Creek Tributary from 1950 until 1964. The tributary received wastewater from settling lagoons from 1964 until 1983, when chrome plating operations ceased. Discharges were regulated by a National Pollutant Discharge Elimination System (NPDES) Permit from 1973 to 1983. The tributary is unlined, so the potential exists for any past and current contaminants that may have been introduced into the tributary to impact soils and the underlying groundwater.

Limited soil and surface water sampling was conducted at the Winsel Creek tributary as part of the Post-Phase II RI in September 2006. Soil/sediment samples were collected from three borings along the tributary near the former TRW/Ramsey facility. The locations of the samples are illustrated on Figure 2 in Appendix G. Soil borings WC-1 and WC-2 were emplaced along the tributary just west of the former TRW/Ramsey facility. Soil boring WC-3 was emplaced approximately 1/4 mile northwest of the former facility. The borings were drilled to refusal, which ranged from 16 to 20 feet bgs at the three borings. Soil samples were collected between 8 feet bgs and 10 feet bgs at WC-1 and WC-2. The soil sample from WC-3 was collected between 17 feet bgs and 18.5 feet bgs. No TCE or other organic COPCs were detected in any of the three soil/sediment samples. The analytical results for VOCs are summarized in Table 4.1.

Chromium was detected at concentrations ranging from 36 milligrams per kilogram (mg/kg) to 128 mg/kg. The highest concentration was found at the deepest sample depth, 17 to 18.5 feet bgs. Lead was detected at concentrations ranging from 18.6 mg/kg to 25.8 mg/kg. The highest concentration was found at a shallower depth–8 to10 feet bgs.

One surface water sample was collected at the former TRW/Ramsey facility outfall into the Winsel Creek tributary. The water sample was analyzed for VOCs, total chromium and lead. Five VOCs were detected in the sample, although the detected VOCs are not COPCs for OU1. In addition, the same five VOCs were also detected in the trip blank, making it likely the VOCs detected in the surface water sample were false positives (MDNR, 2007a). Chromium was also detected in the sample, but at low concentrations.

4.3.3.7 Recommendations and Conclusions

The following conclusions were reported in the Post-Phase II RI report, based on the three phases of previous investigations.

As discussed in Section 4.3.3.5, sampling of OGV01 indicated a direct correlation between pumping rate and concentrations of COCs: the greater the pumping rate, the higher the TCE concentrations. Sampling of OGV02 indicated a direct correlation between the duration of pumping and concentration of COCs: the longer the pump was in operation before sampling, the higher the TCE concentrations. These observations may indicate that the most contaminated region of the aquifer is not directly intersected by the wells, but that pumping creates a cone-of-capture that intersects a more contaminated region of the aquifer.

The absence of TCE and other COPCs in the White House Well (PH068) is consistent with the lack of TCE observed in shallow monitoring wells MW-4 and MW-5, the low TCE concentrations in the shallow (less than 450 feet deep) packered zone in OGV01, and the absence of TCE in deep monitoring well MW-3, including the sample collected from the shallow part of the well before additional casing was added (See Section 4.3.3.1). The absence of TCE in PH068 and other nearby shallow to intermediate monitoring wells, and the high TCE concentrations detected at depth in OGV01 and OGV02, strongly suggests that the source of TCE in OGV01 and OGV02 is not within the immediate vicinity of OGV02 (MDNR, 2007a).

As part of the Post-Phase II RI, calculations were completed to estimate the quantity of TCE that would result in the level of contamination observed in the OGV wells. Based on the results of these calculations, it was estimated that 12.5 gallons of pure TCE product would result in the level of contamination detected in the extracted groundwater in the OGV wells. The report went on to extrapolate that given the levels of TCE contamination in the Sullivan municipal wells and the OGV wells, the volume of TCE released into the groundwater could equal at least one 55-gallon drum of pure TCE product. This supposition is discussed in more detail in Section 4.9.

No source area for the contamination was identified.

4.4 INTERIM REMEDIAL ACTION (NOVEMBER 2008–MAY 2010)

This section provides a summary of the activities at OU1 as a part of the interim RA, which included quarterly sampling of OGV02; semiannual sampling of private wells, monitoring wells, and Sullivan municipal wells; and abandonment of OGV01 and MW-2. No private wells exhibited TCE contamination at levels that exceed the MCL; therefore, no alternate water supplies were required or supplied.

4.4.1 Interim RA Groundwater Sampling

The Remedial Design (RD) for Interim RA at OU1 was completed in September 2008 (HGL, 2008). The monitoring program specified in the RD was designed to establish baseline conditions and included continued sampling for an approximate five-year period following the initial round of baseline sampling. The plan included periodic sampling and analysis of groundwater samples from:

- Oak Grove Village Well water supply well OGV02, both influent (untreated) and effluent (treated) – quarterly sampling. TCE concentrations for OGV02 before treatment ranged from 42 µg/L in May 2009 to 160 µg/L in May 2010. The May 2010 concentration was the new historical high TCE concentration. It was noted in the Interim RA Report (HGL, 2010) that the significantly higher concentration in the sample collected in May 2010 followed a prolonged period of extremely heavy rain and that the area was under a flood watch when the sample was collected. Heavy precipitation may have caused the increase in contaminant concentration detected during this event due to increased mobilization of contaminants in karst conduits (HGL, 2010).
- City of Sullivan potable water supply wells – semiannual sampling. TCE was detected in two Sullivan municipal supply wells, COS02 and COS07. TCE concentrations detected in COS02 exceeded the RAO and ranged from 14 µg/L to 35 µg/L. TCE concentrations in COS07 were less than the RAO, ranging from nondetect to 1.6 µg/L. The highest concentration at COS07 was observed in May 2010.
- Private water supply wells – semiannual sampling. A total of 108 private wells in OU1 were sampled during the Interim RA. TCE was detected in five of the private wells (PH011, PH015, PH041, PW067, and PW106) at concentrations ranging from nondetect to 2.7 µg/L. All concentrations were below the RAO of 5 µg/L. All of the wells with detectable TCE concentrations are located along Highway AF (Figure 4.3).
- Three monitoring wells within OU1 – semiannual sampling. No TCE or other COPCs were detected in the monitoring wells.

Tables 4.4 through 4.6 summarize the analytical results from interim RA sampling (2008-2010) and Figure 4.3 shows TCE concentration ranges.

The groundwater data collected during the Interim RA is included in the database. All samples collected during the Interim RA were analyzed by the EPA Region 7 laboratory, and the data was validated by the laboratory. HGL conducted a quality check of the analytical data packages which included checking for consistency and completeness; evaluating the data qualifiers applied by EPA; determining whether the qualifiers affected the usability of the data point in decision making; and determining whether it was necessary to apply appropriate data qualifiers per the *National Functional Guidelines* (EPA, 1999) based on the results of field quality control (QC) samples (field duplicates, trip blanks, and rinsate blanks). Based on HGL's quality check, no additional qualifiers were added to the data packages for any of the sampling events and all data was determined to be of usable quality.

4.4.2 Well Abandonment

The ROD specified that the former Oak Grove village public water supply well OGV01 be abandoned. Although abandonment of MW-2 (also known as the "Flying J" monitoring well) was not part of the selected remedy in the ROD, it also was plugged under the RD.

In February 2009, OGV01 was abandoned in place in accordance with state regulations and in consultation with MDNR. Abandonment activities were completed by a Missouri licensed drilling firm and overseen by a registered geologist. OGV01 was located inside the city hall building. Because another active municipal water supply well (OGV02) was located in the immediate vicinity of OGV01, precautions were taken to help ensure that OGV02 was not impacted during abandonment of OGV01, including:

- The well casing at OGV01 was left in place.
- Materials (including pea gravel, grout, bentonite pellets, and bleach for sanitizing) were added to OGV01 only while OGV02 was not pumping. The pump in OGV02 was not operated for a minimum of 12 hours after plugging material was placed into OGV01.
- Four separate pump tests were run to determine the hydraulic connection between OGV01 and OGV02 at the following times: before abandonment activities, after placement of the pea gravel, and twice during placement of the grout.
- Chlorine bleach was added to the well to disinfect the fill material.
- Requirements specified by MDNR were followed regarding pea gravel and grout placement. Pea gravel was placed from the bottom of the well to approximately 418.5 feet below the top of casing (btoc), and the remainder of the well was filled with grout.
- Adequate time was allowed between grout lifts to allow the grout to set sufficiently so that grout would not be forced into the adjacent formations.

Well abandonment of OGV01 was completed on February 12, 2009. An abandonment registration form was completed and submitted to MDNR. Details of the abandonment can be found in the Interim RA Report (HGL, 2010).

The RD Plan included the abandonment of monitoring well MW-2, which was installed in 2005 as part of the Phase II RI. MW-2 had been sampled one time since it was installed and TCE was not detected. MW-2 was abandoned in consultation with MDNR and in accordance with state regulations. Oversight of abandonment activities was conducted by a registered geologist. Variances for well abandonment were obtained from the MDNR because of the conditions noted during the original video log of the well recorded in 2005. The video log showed that the borehole was very crooked and was blocked at approximately 470 feet btoc. Also, a large void was encountered from approximately 460 to 470 feet btoc. Because of the blockage and large void, the MDNR variance required that a 10-foot grout plug be placed at approximately 470 feet btoc. The variance also allowed the well casing to remain in place.

Abandonment of MW-2 was completed on February 19, 2009. Following abandonment activities, an abandonment registration form was completed and submitted to MDNR. Details of the abandonment can be found in the Interim RA Report (HGL, 2010).

4.5 POST-INTERIM REMEDIAL ACTION INVESTIGATIONS

After completion of the Interim RA, EPA continued efforts to fill data gaps identified for OU1 during previous site investigations. Several monitoring wells that were to be installed during the OU1 RI were not completed because of poor drilling conditions. Further, several possible TCE source areas in the vicinity of OGV01 and OGV02 were not identified until the RI was nearly complete. In addition, the findings of the RI were inconclusive regarding the source of TCE contamination in the Highway AF Well Area.

The EPA efforts to fill the data gaps consisted of various investigations performed by USGS. The investigations included sampling at potential source areas; installing and sampling one monitoring well; collecting air and groundwater samples at LJSCC; and collecting groundwater samples and measuring water levels at monitoring wells and private residential wells. Each of these investigations is discussed below. The USGS administrative letter reports for these investigations are included as Appendix H. A discussion of the air sampling at LJSCC is included in Section 4.7.

4.5.1 Groundwater Level Measurements

Groundwater level measurements were collected by USGS between May 11 and May 20, 2010. A total of 45 private wells were gauged during this period and the data is shown in Table 3.1. Figure 3.7 shows well locations and their associated groundwater elevations. It should be noted that these private wells typically have large open intervals and in many cases the data for well completion is unknown. It is assumed that the wells are screened in approximately the same formations: the Gasconade and Eminence formations. In addition, USGS estimated the ground surface elevations at each well from a digital electronic map, so groundwater elevations are accurate to within +/- 10 feet.

4.5.2 Installation of MW-6

MW-6 was installed by USGS in 2010. Its location is shown on Figure 4.4. The following discussion is taken from the administrative letter report summarizing the installation, geophysical testing, and sampling of the well. This report is included in Appendix H (USGS, 2012c).

MW-6 is located in the potential source area known as the machine shop, or Area 1 (see Figure 4.5), which is discussed in Section 4.5.5.1. It was drilled using cable tool to 250 feet bgs and air rotary from 250 feet to 525 feet bgs (650 to 375 feet amsl). MW-6 has an open hole completion; total depth is 525 feet bgs (elevation 395 feet amsl) and it is cased to the depth of 335 feet bgs (elevation 585 feet amsl). The well completion diagram is included in Appendix B. MW-6 was completed to a depth that would encompass the permeable zone at which the highest inflow of TCE contamination into OGV01 occurred (elevation 404 feet to 424 feet amsl).

During drilling several openings or voids were encountered, most notably from about 99 feet to about 106 feet bgs and at 426 feet to 435 feet bgs. Drill cuttings were screened for VOCs using a field GC. No TCE was identified in the cuttings to a depth of 365 feet. Low levels of TCE were identified in the cuttings from 385 feet to 525 feet bgs.

Drilling was stopped at progressively deeper depths to pump the borehole and collect water samples for TCE analysis, and to run geophysical tests. Discrete water samples were retrieved from specific depths under both pumping and ambient conditions (USGS, 2012c). Groundwater samples were collected at depths of 310, 392, 430, and 450 feet bgs. Table 4.7 shows the TCE concentrations in groundwater samples collected at these different depths. The highest TCE concentration of 163 µg/L was observed at a depth of 450 feet bgs.

The ambient flow-meter measurements in MW-6 indicated zones of downward and upward flow in the borehole, but these measurements were made under specific head conditions that could have been influenced by pumping of nearby municipal wells and therefore could change under different pumping conditions (USGS, 2012c).

4.5.3 Groundwater Sampling

USGS collected groundwater samples from many locations between May 2010 and August 2018. The sample locations include OGV02, COS municipal wells, private wells in OU1 and OU2, OU1 monitoring wells (MW-3 and MW-6), OU2 monitoring wells, and springs. The analytical data is summarized in Table 4.8 and has been included in the database. The TCE results are illustrated on Figure 4.4.

- In May and October 2010, USGS collected spring and surface water samples during reconnaissance trips with contractors completing work at OU2. Sample locations included Winsel Creek, Copper Hollow Creek, and several area springs. These water samples were analyzed either by field GC or at an off-site laboratory. TCE was detected only in the samples collected at LJSCC (PH078, PH083, and PH020), which is included in both OU1 and OU2. TCE concentrations at LJSCC ranged from nondetect to 6.44 µg/L.
- In December 2010, USGS collected groundwater samples from a total of 20 wells: 14 private wells, the newly installed MW-6, MW-108 (at the closed Sullivan Landfill), OGV02, and 4 Sullivan municipal wells. TCE was detected in 13 of the wells sampled. However, TCE exceeded the MCL in only two of the wells—OGV02 and the newly installed MW-6. It should be noted that COS02, which has consistently had TCE concentrations exceeding the MCL, was not sampled.
- In 2011, USGS collected samples at MW-3, COS03, and closed Sullivan Landfill monitoring wells MW-107 and MW-108 during their installation. TCE was detected at all sample locations except MW-3; however, no TCE concentrations exceeded the MCL.
- In 2012, USGS sampled select monitoring wells at the closed Sullivan Landfill and PH078 at LJSCC. TCE was detected at all sample locations except MW-1. Only the samples collected from LJSCC exceeded the MCL.
- In 2013, USGS collected groundwater samples from 19 locations: OGV02, PH078, and 17 private wells in OU1 and OU2. TCE was detected at 11 locations. TCE exceeded the MCL in the sample collected from OGV02, private well PH016 near the closed Sullivan Landfill, and one of the four samples collected at PH078.
- In 2014, USGS collected four groundwater samples from PH078 at LJSCC. TCE was detected in all of the samples. Concentrations ranged from 2.99 µg/L to 5.61 µg/L. TCE exceeded the MCL in the sample collected on January 1, 2014.

- In April and May 2016, USGS collected groundwater samples from OGV02, COS02, 24 private wells in OU2 and 3 private wells in OU1. TCE was detected at eight locations. The highest concentrations were detected in the influent at municipal wells OGV02 (52 µg/L) and COS02 (36 µg/L). TCE was detected at one private well in OU1 (PH015) at 0.61 µg/L. TCE concentrations detected at five private wells in OU2 ranged from 1.4 µg/L to 8.7 µg/L.
- In July 2016, USGS collected samples at one private well in OU2, LJSCC, and the Meramec River. TCE was detected at 1.4 µg/L in both samples from the cave complex and at 4.2 µg/L in the private well. It was not detected in Meramec River.
- In March 2017, USGS collected samples at OGV02, COS02, 16 private wells in OU2, and 5 private wells in OU1. The highest concentrations were detected in the influent at municipal wells OGV02 (21 µg/L) and COS02 (29 µg/L). TCE was detected in 10 private wells in OU2 at concentrations ranging from 0.065 µg/L to 4.7 µg/L. TCE was detected in 2 private wells in OU1 at 0.55 µg/L to 1.3 µg/L.
- In August 2018, USGS collected groundwater samples from OGV02, 2 private wells in the Highway AF area (PW067 and PW023), and 8 private wells in OU2. The highest concentration was detected in the influent at OGV02 (27 µg/L). Concentrations in Highway AF wells were nondetect and 1.2 µg/L at PW067. TCE was detected in five of the eight private wells in OU2 at concentrations ranging from 2.2 µg/L to 5.2 µg/L.
- In September 2019, USGS collected groundwater samples from OGV02, OGV03, and 3 private wells in OU2. TCE was detected only in the influent at OGV02. The TCE concentration was 71 µg/L.
- In October 2019, USGS collected groundwater samples at OGV02, OGV03, COS12, and two private wells in OU2. TCE was detected only in the influent at OGV02. The TCE concentration was 65 µg/L.

In summary, TCE was detected in 7 private wells in OU1, 15 private wells in OU2, OGV02, 4 COS municipal wells, MW-6, and 7 monitoring wells associated with the closed Sullivan Landfill. The MCL was exceeded only at OGV02, COS02, MW-6, 2 private wells in OU2 (PH016 and PH042), and at the LJSCC. The exceedances ranged from 5.2 µg/L to 54.27 µg/L. The highest TCE concentrations were found at OGV02, COS02, and MW-6.

In addition to the TCE, other contaminants were detected as follows during the time period May 2010 through September 2019:

- PCE was detected in one private well in OU1, five private wells in OU2, OGV02, MW-6, landfill monitoring wells, and two locations at LJSCC (PH078 and PH083). The highest concentration detected was 1.07 µg/L at GWS003, which is in OU2. The MCL for PCE is 5 µg/L.
- Cis-1,2-DCE was detected in four private wells in OU2, OGV02, COS02, MW-6, and three locations at LJSCC. The highest concentration detected was 2.36 µg/L at MW-6. The MCL for cis-1,2-DCE is 70 µg/L.
- Trans-1,2-DCE was detected in one private well (GWS003) in OU2, OGV02, MW-6, as well as two monitoring wells at the landfill. The highest concentration detected was 0.021 µg/L at MW-6. The MCL for trans-1,2-DCE is 100 µg/L.

- Methylene chloride was detected in seven private wells, only two of which were in OU1. The highest concentration detected was 0.51 µg/L at GWS003. The MCL for methylene chloride is 5 µg/L.
- Freon 11 was detected in one private well in OU1, 17 private wells in OU2, 7 monitoring wells in the closed landfill, OGV02, COS02, MW-6, and three locations at LJSCC. The highest concentration detected was 61.14 µg/L at PW019 in OU2. No MCL has been established for Freon 11. The RAO has been established as 100 µg/L.
- Freon 12 was detected in 11 private wells in OU2 and in 7 monitoring wells in the closed landfill. The highest concentration was 6.34 µg/L at GWS003. No MCL or RAO has been established for Freon 12; however, the tap water Regional Screening Level (RSL) is 20 µg/L.
- Freon 21 was detected in four private wells in OU2, seven monitoring wells in the closed Sullivan Landfill, and two locations at LJSCC. The highest concentration was 108.1 µg/L at GWS003. No RSL or RAO has been established for Freon 21.
- Freon 113 was detected in 1 private well in OU1, 7 private wells in OU2, 7 monitoring wells in the closed Sullivan Landfill, COS10, and OGV02. The highest concentration was 2.53 µg/L at GWS003. No RSL or RAO has been established for Freon 113.

4.5.4 Pumping Test at MW-3

USGS conducted a pumping test at MW-3 in January and February 2011. The test was documented in an administrative letter report (USGS, 2012d). USGS estimated that approximately 1 million gallons of water flowed into the borehole from the unsaturated zone, down the borehole, and exited the borehole into the aquifer at approximately 430 feet to 550 feet bgs between July 2005 when MW-3 was drilled and January 2006 when the borehole was retrofitted to seal off the source of the downward flow. The downward flow was observed in 2006 by USGS during the downhole video logging and geophysical investigation of MW-3. In 2006, after the well was retrofitted, approximately 120,000 gallons of water were pumped from the well and groundwater samples were collected. No TCE was detected in any of the samples.

A pump was installed in MW-3 on January 10, 2011 and was run nearly continuously until February 16, 2011. Approximately 644,000 gallons of water were pumped from the well. When the pump was shut off and removed on February 16, a discrete sampler was placed in the well at 525 feet bgs, approximately the same elevation as the zone of TCE contamination in OGV1. TCE was not detected in the discrete sample collected at this depth or in the wellhead sample collected just before the pump was removed. Another discrete sample was collected at 430 feet bgs, which was the depth where downward flow was observed in the borehole before the well was retrofitted. This depth also corresponds to the zone of TCE contamination in nearby monitoring well MW-6. TCE was not detected in the discrete sample collected from this depth. The analytical results are included in Appendix H.

4.5.5 Investigation of Additional Potential Source Areas

USGS identified eight potential source areas that had not been investigated in previous studies. These areas were identified as potential source areas either through observation of disturbed

ground surface areas on historic aerial photographs, or through information obtained from residents (USGS, 2012b). The seven additional potential source areas identified by USGS are:

- Area 1 – Machine Shop
- Area 2 – Probable soil borrow area
- Area 3 – Old household dump #1
- Area 4 – Sewer junction box/disturbed soil area
- Area 5 – Old household dump #2
- Area 6 – Trucking facility
- Area 7 – Disturbed soil area
- Area 8 – Railroad derailment area

An overview of these eight areas is illustrated on Figure 4.5. Sample locations are shown on Figures 4.6 through 4.12. During the period July 2010 through December 2011, USGS investigated seven of the eight areas. Area 7 was not investigated because of access issues.

Tree core sampling was used as a screening tool to determine the location of soil borings. The tree core samples were collected during the summer months when trees were actively transpiring to optimize the detection of VOCs. The samples were screened for the presence of TCE and PCE using a field GC. The complete results of the tree core analyses are presented in Table 4.9.

Soil samples were collected utilizing either direct-push technology, a backhoe, or a hand auger. Soil samples were screened for TCE and PCE with a field GC. Soil samples for laboratory analysis were collected immediately after the field GC samples were collected. The laboratory samples were analyzed for TCE, PCE, cis-1,2-DCE, trans,1,2-DCE, vinyl chloride, benzene, and toluene by EPA method 8260. The field GC screening results and a summary of the laboratory analytical results are presented in Table 4.10.

The following samples were collected at the seven areas:

Potential Source Area	Number of Tree Core Samples	Number of Soil Borings/Trenches	Number of Soil Samples
Area 1 Machine Shop	6	12	21
Area 2 Probable Soil Borrow Area	7	12	24
Area 3 Old Household Dump #1	6	6	13
Area 4 Sewer Junction Box/Disturbed Soil Area	4	-	-
Area 5 Old Household Dump #2	8	6	12
Area 6 Trucking Facility	42	-	-
Area 8 Railroad Derailment Area	19	45	186

Note: - no sample collected from identified matrix

The results of these investigations were documented in an administrative letter report to EPA dated March 2, 2012 (USGS, 2012b). The following discussion summarizes this report, which is included in Appendix H.

4.5.5.1 Area 1–Former Machine Shop

Area 1 is the site of a former machine shop and welding shop that was located north of Highway 185 and west of the Burlington Northern-Santa Fe Railroad (BNSF) tracks (Figure 4.5). The area is located between three municipal wells at which TCE has been detected—OGV01/02, COS09, and COS10. According to USGS, disturbed areas in this vicinity were observed on aerial photographs dated 1965 and 1972. USGS investigated the area in July 2010.

Six tree core samples were collected from Area 1 as shown on Figure 4.6. Samples were collected only in the northern portion of the site because no other trees were present. No TCE or PCE were detected in the field screening samples (Table 4.9).

Soil samples were collected from 12 soil borings in the area; two east-west transects each consisting of 6 borings. Borings were spaced between 30 to 60 feet apart and drilled to refusal, approximately 2.4 feet to 7.9 feet bgs. No TCE or PCE were detected in either the 14 soil samples collected for field screening by the field GC or the 7 samples that were collected for laboratory analysis. Note that the detection limit for the field GC was approximately four times higher than the laboratory detection limit. The locations of the soil borings are shown on Figure 4.6 and the analytical results are shown in Table 4.10.

4.5.5.2 Area 2–Probable Soil Borrow Area

An area of disturbed soil north of Highway 185 and east of the BNSF tracks was identified on aerial photographs dated 1965 and 1972. This area was designated as Area 2 by USGS and investigated in July 2010. Like Area 1, it is located between OGV01/02, COS09, and COS10, which have all had detections of TCE (see Figure 4.5). During the field investigation it was determined that the area was probably an old soil borrow area.

Tree core samples were collected from the only treed portions of the area—along the north and east sides. The sampling locations are shown on Figure 4.7. TCE was tentatively identified by the field GC in three of the seven samples collected (TC02, TC03, and TC07) at concentrations ranging from 407 parts per billion by volume (ppbV) of headspace to 776 ppbV as shown in Table 4.9. It should be noted that these samples were collected from cedar trees, which, as discussed previously, are known to give false positive results.

Twelve soil borings were completed in two east-west transects each consisting of six borings. Spacing between the borings ranged from 35 feet to 125 feet as shown on Figure 4.7. The borings were drilled to refusal and ranged in depth from 1.9 to 4.8 feet bgs. Sample depths ranged from 1.5 feet bgs to 4.8 feet bgs. No TCE or PCE was detected in the 17 samples analyzed using the field GC, or the 7 soil samples submitted for laboratory analysis (Table 4.10).

4.5.5.3 Area 3–Old Household Dump #1

Area 3 is a possible dry pond that has been used by the landowner as a dump. It is located west of the BNSF tracks (Figure 4.5). In July 2010, six tree core samples were collected as shown on Figure 4.8. No TCE or PCE was detected by the field GC in any of the samples (Table 4.9).

In October 2010, a backhoe was used to excavate six trenches to a maximum depth of 4 feet bgs (Figure 4.8). Nine field GC samples and four laboratory samples were collected. TCE was tentatively identified in only one field GC sample at very low levels (OGV-A3-T02); however, the co-located laboratory sample was nondetect for TCE and PCE. TCE and PCE were not detected in any of the other laboratory samples. The analytical results are shown in Table 4.10.

4.5.5.4 Area 4–Sewer Junction Box/Disturbed Soil

Area 4 is an area of disturbed soil that was determined during a field reconnaissance of the area to be a sewer junction box. It is located west of the BNSF tracks as shown on Figure 4.5. Tree core samples were collected from four trees in July and August 2010 (Figure 4.9). No TCE or PCE were detected in the tree core samples. The results of the field screening are included in Table 4.9. No soil samples were collected for either field screening or laboratory analysis.

4.5.5.5 Area 5–Old Household Dump #2

Area 5 is located in a wooded area and has been identified as an old household dump site (Figure 4.5). The soil and tree core sample locations are shown on Figure 4.10. In July and August 2010, eight tree core samples were collected for field GC screening; TCE and PCE were nondetect (Table 4.9).

In October 2010, a backhoe was used to excavate 6 trenches to a maximum depth of 4 feet bgs. Nine field GC samples and three laboratory soil samples were collected. TCE was tentatively identified at a very low level in only one field GC sample (OGV-A5-T05). There were no detections of TCE and PCE in the laboratory samples (Table 4.10).

4.5.5.6 Area 6–Trucking Facility

Area 6 is both a former and a current trucking facility located on the east side of Old Highway 66 (Figure 4.5). Tree core samples were collected at 24 locations in Area 6 in July 2010 (OU1-A06-TC01 through OU1-A06-TC24), but no soil samples were collected because the landowner denied USGS permission to collect soil samples. The locations of tree core samples are shown on Figure 4.11. TCE was tentatively identified by field GC in five of the 24 tree core samples collected: OU1-A06-TC03, OU1-A06-TC04, OU1-A06-TC07, OU1-A06-TC08, and OU1-A06-TC20. Concentrations ranged from 64 ppbV to 674 ppbV (Table 4.9). All of the samples at which TCE was detected (except OU1-A06-TC20) are located in the north-central portion of the area. It should be noted that OU1-A06-TC04, OU1-A06-TC07, and OU1-A06-TC20 had the highest concentrations of TCE and are all cedar trees. As discussed previously, cedar trees are known to give false positive results.

In September 2012, 18 additional tree core samples were collected from Area 6; 11 of which were collected from the same trees sampled in 2010 (Table 4.9). The seven new sample locations are shown on Figure 4.11 as sample numbers OU1-A06-TC25 through OU1-A06-TC31. The samples were analyzed at the Missouri Science and Technology Laboratory. No TCE or PCE were detected in the 18 additional samples, even in OU1-A06-TC07 (a cedar tree), which had the highest TCE concentration according to the field GC results.

4.5.5.7 Area 8–Railroad Derailment Area

Area 8 is an area at which there was a train derailment involving several dozen rail cars (including tanker cars) that occurred in Sullivan in 1965. EPA learned of the train derailment from a former employee of a downtown business who recalled that one of railcars involved was a tank car that overturned, discharging a strong smelling liquid onto the land surface and flowed down a ditch leading northward from the tracks (USGS, 2012a). No information regarding the derailment was available from BNSF; however, a search of local sources turned up a photograph and an associated article of a derailment in the April 1965 issue of the Sullivan, Missouri Weekly Shopper. The 1965 photograph of the derailment; a March 31, 2009, track map provided by BNSF; and interviews with area residents and city officials indicated that the derailment occurred between Church Street and Center Street.

The subsurface investigation at Area 8 was conducted in two phases. Phase 1 consisted of soil and tree core sampling outside the BNSF property boundaries in June 2011. Phase 2 consisted of soil sampling on the BNSF right-of-way both north and south of the tracks in December 2012 after obtaining permission from BNSF.

Tree core samples were collected primarily from the trees in the northwest portion of the site. Due to the limited number of trees, only a few tree core samples were collected in the area of the former open ditch that reportedly carried the spill from the tanker(s). A total of 19 tree core samples were collected at locations shown on Figure 4.12. No TCE or PCE were detected in any of these samples. The results are included in Table 4.9.

A total of 45 soil borings were completed in Area 8. During Phase 1, 17 soil borings were completed north of the tracks on both sides of a storm sewer running parallel to the tracks (OGV-A8-BH1 through OGV-A8-BH16 on Figure 4.12). Borings were drilled to refusal and ranged in depth from 5.7 feet to 13.5 feet bgs. Sixty-three field GC screening samples were collected; TCE was tentatively detected in only two samples, both from OGV-A8-BH07 at depths of 6.7 feet and 9.7 feet bgs (Table 4.10). Five laboratory samples were collected from the borings. Two were collected from OGV-A8-BH07, but laboratory samples were from different depths than where TCE was detected with the field GC. TCE and PCE were not detected in any of the laboratory samples.

During Phase 2, 28 soil borings were completed, as follows:

- 23 soil borings were completed every 25 feet along three transects (Transects A, B, and C) parallel to the railway tracks within the BNSF right-of-way.
- 3 borings were completed with a hand auger to a depth of 3 feet bgs outside of the BNSF right-of-way.
- 2 borings were completed near OGV-A8-BH07 where TCE had been tentatively detected in field GC samples during Phase 1.

The locations of the borings are illustrated on Figure 4.12.

Transect A, which consisted of eight borings, was located eight feet south of the centerline of the railroad tracks. Boring depths along Transect A alternated between 4 feet and 8 feet bgs to

complete the drilling quickly within a two-hour window between trains. Transect B, which consisted of eight borings, was located 16 feet north of the centerline of the track. All but two of the Transect B borings were advanced to a depth of 8 feet bgs. OGV-A8-B02 was advanced to 12 feet bgs and OGV-A8-B06 was advanced to 7.5 feet (refusal). Transect C, which consisted of seven borings advanced to a depth of 8 feet bgs, was located 33 feet north of the track centerline.

Soil samples were collected from each transect boring approximately every two feet. A total of 88 samples were collected for field GC screening. The only target compound was TCE, which was tentatively identified at eight of the boring locations (Table 4.10). The concentrations detected ranged from 12 µg/kg to 49.9 µg/kg; however, each of these detections was less than the reporting limit for the field GC and therefore all are considered to be estimates. Seven laboratory samples were collected, including four from borings at which the field GC tentatively detected TCE. TCE was not detected in any of the laboratory samples; however, PCE was detected in five of the samples at concentrations ranging from 0.86 µg/kg to 9.4 µg/kg. The laboratory analytical results are included on Table 4.10.

Five field GC samples were collected from the hand auger borings from a shallow ditch located south of the railroad tracks between the tracks and the road: two each at OGV-A8-D01 and OGV-A8-D04, and one at OGV-A8-D08. TCE was not detected in any of the samples (Table 4.10). No laboratory samples were collected from these locations.

Fourteen field GC samples were collected at OGV-A8-BH17 and OGV-A8-BH18 which were located near OGV-A8-BH07 where TCE had been tentatively detected during Phase 1. TCE was tentatively detected in two of the samples collected from OGV-A8-BH17. The remaining 12 field GC samples were nondetect for TCE. Three laboratory samples were collected from OGV-A8-BH17 at depths corresponding to the depths of the field GC detections. No TCE was detected; however, PCE was detected in all three samples at levels below the reporting limit. One laboratory sample was collected at OGV-A8-BH18. No TCE or PCE were detected. The field GC and laboratory analytical results are included on Table 4.10.

4.5.6 Additional Tree Core Analyses

In October 2013, USGS sampled an additional 146 tree cores in the area around OGV02 and the Closed Sullivan Landfill. Tree core samples were analyzed for the presence of TCE, PCE, and chlorofluorocarbons by Missouri University of Science and Technology laboratory to find a possible potential source for the TCE contamination. The results of the tree core analyses are presented in Table 4.11. The sample locations in the area around OGV02 are shown on Figure 4.13. The sample locations near the former landfill are shown on Figure 4.14.

As shown on Table 4.11, TCE was detected in only one of the 146 tree-core samples, TC060 at 56.59 parts per trillion (ppt). TC060 was east of Walmart near a garage at the former Missouri Department of Conservation property at the southwest corner of Highway 185 and East Spring field Road (Figure 4.13). However, TCE was not detected in the sample collected from a nearby tree (TC059). PCE was detected in 26 of the samples at concentrations ranging from 0.5 ppt to 2.6 ppt. Chlorofluorocarbons were detected in 17 samples at concentrations ranging from 30.8 ppt to 1647 ppt.

The results did not indicate any pattern that would suggest a potential source area for contamination.

4.5.7 Compound Specific Isotope Analysis

A study involving Compound Specific Isotope Analysis (CSIA) of TCE in groundwater was conducted by EPA in 2014. CSIA is an analytical method that measures the isotopic ratios of naturally occurring stable isotopes in specific chemical compounds in environmental samples. The isotopic ratio of TCE is a function of the starting material and the manufacturing process, as well as the environmental factors such as degradation and evaporation once it is released; therefore, CSIA may be useful for source identification and tracking degradation pathways. The technical memorandum detailing the CSIA is included as Appendix I and summarized in this subsection.

In an attempt to confirm the probable source(s) of TCE contamination in several public and private groundwater wells and LJSCC, groundwater samples were collected in July and August 2014 at the following locations for this special analysis:

- OGV02;
- COS02;
- MW-6;
- one private well in OU2, PH016, located near the closed Sullivan landfill;
- PH078 at LJSCC; and
- 15 monitoring wells at the former TRW/Ramsey facility.

The sample locations are shown on Figure 4.15. These locations were selected for 2-D and 3-D CSIA because these locations historically contained TCE above 5 µg/L, the minimum concentration required for reliable CSIA determination. Several of the locations sampled represent two known TCE source areas: the former TRW/Ramsey facility and the closed Sullivan landfill. These are the only locations where substantive TCE contamination has historically been found despite a comprehensive search and investigation of more than 15 other locations by EPA and MNDR.

4.5.7.1 <u>VOC Results</u>

The VOC results are presented in Table 4.12 and Figure 4.15 summarizes TCE detections. TCE exceeded the RAO of 5 µg/L at all sample locations except at OBG-18D, PH016, and PH078. The highest TCE concentrations detected were from monitoring wells associated with the former TRW/Ramsey facility. TCE concentrations greater than 1,000 µg/L were found in OBG-01D, OBG-02S, OBG-03S, OBG-05S, OBG-09S, and TRW-MW-24D. Four of these wells, OBG-02S, OBG-03S, OBG-05S, and OBG-09S, are completed in the shallow groundwater between 120 to 150 feet bgs with 20-foot screens. Wells OBG-01D, OBG-18D, and TRW-MW-24D are approximately 315 to 325 feet deep and have 20-foot screens. The only deep monitoring well sampled at the former TRW/Ramsey facility (OBG-01DD, screened from 408 to 428 feet bgs) had TCE at 220 µg/L.

Other contaminants detected at levels exceeding the OU1 RAOs (Table 4.12) were:

- PCE at OBG-15S (9.1 µg/L);
- cis-1,2-DCE at OBG-02S (1,200 µg/L), OBG-03S (92 µg/L), OBG-05S (340 µg/L), and OBG-16S (170 µg/L);
- vinyl chloride at OBG-05S (24 J µg/L) and OBG-15S (2.9 J µg/L); and
- Freon 11 at OBG-09S (240 µg/L).

It should be noted that high levels of Freon 113 (330 ug/L) were also detected in OBG-9S.

Figure 4.16 illustrates the comparison of TCE concentrations measured in this study to historical concentrations. Before sampling for this study, the most recent historical data for many of the wells from the former TRW/Ramsey facility were from 2008. All TCE concentrations were within historical ranges except at PH016, OBG-05S, OBG-16S, OBG-01D, and TRW-MW-24D. At the two shallow locations, OBG-05S and OBG-16S, TCE concentrations were lower, which may reflect decreasing concentrations in the shallow groundwater with time. At the two intermediate depth locations, OBG-01D and TRW-MW-24D, TCE concentrations were higher, which may reflect increasing concentrations in deeper wells with time.

4.5.7.2 CSIA Results

As shown in Figures 4.17, 4.18, and 4.19, the isotope results generally lie within the range of published values for manufactured TCE and TCE consumer products. Although none of groundwater samples exactly match any of the published values for TCE, this is expected because the use of TCE at the former TRW/Ramsey facility began in the late 1940s or early 1950s and continued through the mid-1980s, thus spanning different production processes. In addition, given the long period of time that TCE has been released from the former TRW/Ramsey facility and old Sullivan landfill, processes such as microbial and abiotic degradation, and possibly even volatilization and exchange with water have occurred affecting the isotopic signature of the TCE. In contrast, most published isotopic values are for TCE produced during the 1990s and later.

Examination of 2-D CSIA of the groundwater samples collected during 2014 and accounting for analytical error, groundwater samples cluster into two general classes. Class A samples tend to have slightly larger δ^{37}Cl values and lie within an ellipsoid that trends toward the upper right of Figure 4.17 along a path from well OBG-21S, having the lightest δ^{13}C and δ^{37}Cl, to well OBG-18D having the heaviest. The second class (Class B) of samples have slightly heavier δ^{13}C and δ^{37}Cl and plot within a smaller ellipsoid that also trends toward the upper right of Figure 4.17 from well OBG-01S to well OBG-24D. Both public supply wells sampled, COS02 and OGV02, and the sample from PH078 (LJSCC) lie within the centroid of Class B samples, whereas the sample from domestic well PH016 lies within Class A. Three samples, from wells OBG-02S, 03S, and 09S, plot between class A and B and their error bars generally overlap Class A or B. These wells could be placed in either class and could be derived from mixing of the two classes or perhaps from volatilization from Class B; however, these three wells are spatially distributed across the former TRW/Ramsey facility and not solely associated with the former lagoons.

Overall, the results of 2-D CSIA indicated that the two public wells and LJSCC are similar in δ^{13}C and δ^{37}Cl to many of the monitoring wells at the former TRW/Ramsey facility, including

deep well OBG-01DD; however, somewhat distinct from other monitoring wells at the former TRW/Ramsey facility. While tending to cluster into two general classes based on 2-D CSIA, monitoring wells at the former TRW/Ramsey facility tend to plot within ellipsoids trending to the upper right generally consistent with some degree of reductive dichlorination. In considering the shift toward heavier $\delta^{13}C$ and $\delta^{37}Cl$ values in TCE resulting from reductive dechlorination, it is plausible that all the 2014 groundwater samples could be derived from known manufactured TCE plotting in the lower left of Figure 4.17, with $\delta^{13}C$ in the -28- to -30 range and $\delta^{37}Cl$ in the -0.5 to -3.0 range—and a unique fingerprint for TCE used at the former TRW/Ramsey facility is not evident.

Examination of 3-D CSIA incorporating H isotopes results in additional complexity, with three groupings primarily based on large variation in the $\delta^{2}H$ values as shown on Figure 4.18. All three groups have generally similar $\delta^{13}C$ ratios; however, Group 1 samples are enriched in $\delta^{2}H$ relative to Group 2 samples that tend to be depleted in $\delta^{2}H$. Group 3 lies between Groups 1 and 2 and possibly represents mixing of TCE from Groups 1 and 2.

Similar to 2-D CSIA results, 3-D CSIA results indicate monitoring wells OBG-18D and OBG-15S have outlier $\delta^{2}H$ values compared to other wells, in addition to their outlier $\delta^{13}C$ and $\delta^{37}Cl$ values (Figure 4.18). According to published literature, biodegradation of TCE causes a minor shift toward smaller $\delta^{2}H$ in the remaining TCE (Kuder et al., 2013; and Sakaguchi-Soder et al., 2007). These two samples appear to exhibit this shift, which is likely the result of biodegradation, consistent with the larger $\delta^{13}C$ and $\delta^{37}Cl$ values in these samples discussed previously.

Group 1 consists of OBG-01S, OBG-01DD, OBG-05S, OBG-07S, and OBG-16S at the former TRW/Ramsey facility; OGV02; PH078 from the LJSCC; and private well PH-016 which is near the closed Sullivan Landfill (Figure 4.19). Group 2 includes OBG-01D, OBG-02S, OBG-11D, OBG-15S, OBG-18D, OBG-21S, and OBG-21D at the former TRW/Ramsey facility; Sullivan municipal well COS02; and MW-6 (which is near OGV02). Group 3 includes OBG-03S and OBG-09S, which are both located at the former TRW/Ramsey facility. These two wells could represent mixing of TCE from Groups 1 and 2. Because both Groups 1 and 2 are found at the former facility, it would be logical to find a mixture of these groups. Class and group distributions based on the 2-D and 3-D CSIA are shown on Figures 4.20a and 4.20b, respectively.

4.5.7.3 Conclusions

The initial hypothesis for application of CSIA at the OGV site was that the large quantity of TCE contamination in soils and groundwater at the former TRW/Ramsey facility might have a unique isotopic fingerprint that would allow it to be readily traced to off-site receptors. However, 2-D and 3-D CSIA indicates that TCE in groundwater at the former facility has a complex distribution of isotopic contents with samples from the 15 monitoring wells at or near the facility are found in both 2-D CSIA classes and all three 3-D CSIA groups (Figures 4.17 and 4.18). There is no apparent spatial or vertical relation between isotopic contents of TCE at the former TRW/Ramsey facility, and in some cases, there is not complete agreement between the 2-D and 3-D CSIA results.

The complex pattern of isotopic fingerprints at the former Ramsey/TRW facility is consistent with the long history of TCE use at the site and long period of groundwater contamination and probably

indicates that TCE used was obtained from a variety of vendors and over a long period of time and therefore had a considerable range in isotopic signatures reflective of differences in manufacturing methods over the years overprinted with environmental effects such as biotic and abiotic degradation and possibly isotopic exchange and volatilization. The complex distribution of TCE 2-D and 3-D CSIA results from monitoring wells at the former TRW/Ramsey facility limit the use of CSIA alone to readily link TCE at that facility to TCE at other off-site locations.

However, if the former TRW/Ramsey facility is the primary origin of TCE in groundwater in the area, then the complex pattern of CSIA fingerprints observed at the facility also would be expected in off-site groundwater as well. This seems to be the case: from the 2-D CSIA, the TCE in LJSCC (PH078), OGV02, and COS02 are in Class B with similar $\delta^{13}C$ and $\delta^{37}Cl$ ratios; whereas 3-D CSIA places PH078 and OGV02 in Group 1 (enriched in ^{2}H) having nearly identical isotopic ratios as deep monitoring well OBG-01DD at the former TRW/Ramsey facility (Figure 4.18). OGB-01DD is approximately 540 to 550 feet deep and is screened at approximately the same elevation as the zone of largest concentration of TCE entering closed well OGV01 (Figure 3.4). The TCE at COS02 (which is attributed to the former TRW/Ramsey facility) and monitoring well MW-6 are in Group 2 and most closely match intermediate wells OBG-01D, OBG-11D, and TRW-MW-24D (Figure 4.18). The similar complex 2-D and 3-D CSIA patterns in groundwater onsite and offsite are not inconsistent with the large volumes of TCE used at the former facility (Metcalf & Eddy, 1992), and large concentrations in groundwater beneath and near the site. The complex hydrogeology in this mature karst area, combined with the complex and long TCE use history at the former Ramsey site result in complex isotopic signatures in groundwater at the site and vicinity that do not present a unique fingerprint of TCE used at the former facility.

4.6 OU2 INVESTIGATIONS–CLOSED SULLIVAN LANDFILL

The closed Sullivan Landfill is owned by the city of Sullivan and is approximately 28 acres in size. It is located approximately 3,000 feet northeast of OGV01/02 (Figure 4.1). The landfill began operation as a municipal and industrial waste disposal facility in 1970 but was not permitted by MDNR until 1974. From 1970 to 1975 both industrial and municipal wastes were accepted at the landfill and placed in the ravine portion of the landfill (Figure 1 in Appendix J), which was phased out beginning in 1975. MDNR issued permits for additional trench area disposal in 1978 and again in 1982. An industrial waste cell was constructed to dispose of approximately 200 drums. Landfill records indicate that drums of barium chlorate and TCE/oil and grease mixtures may have been deposited in the landfill.

The landfill stopped accepting wastes in 1983. In May 1992, approximately 149 55-gallon drums and 32 5-gallon buckets were removed from the industrial waste cell. According to the Drum Waste Disposal Plan prepared at that time, approximately 14 of the drums were classified as organics and water and consisted of an aqueous matrix with trace amounts of organic solvents, resins, and oils (ABB-ES, 1992). A Closure Plan Report was submitted to MDNR in 1993 and the construction of a landfill cap and leachate collection system was completed in 1995 (ABB-ES, 1996). MDNR approved closure of the landfill in 1996.

According to the Phase I RI report, at least 14 seeps had been observed in the vicinity of the closed Sullivan Landfill, but that seepage from the landfill had slowly been decreasing since the installation of the cap in 1995. Three of the larger seeps (L-1, L-9, and L-13) were sampled for

VOCs during a USGS investigation in 1990 (ABB-ES, 1992). The locations of these three seeps are shown on Figure 1 in Appendix J. The analytical results are included on Table 1 in Appendix J also.

These three seep samples contained TCE, PCE, degradation products of TCE and PCE, and chlorofluorocarbons at elevated concentrations as follows:

- TCE concentrations ranging from 0.2 µg/L to 370 µg/L.
- PCE concentrations ranged from 0.3 µg/L to 19 µg/L.
- Cis-1,2-DCE concentrations ranged from nondetect to 1,200 µg/L.
- Methylene chloride concentrations ranging from 140 µg/L to greater than 41,000 µg/L.
- Vinyl chloride concentrations ranged from nondetect to 80 µg/L.
- Freon 11 concentrations ranged from 12 µg/L to 156 µg/L.
- Freon 12 concentrations ranged from 6.2 µg/L to 490 µg/L.
- Freon 21 concentrations ranging from 288 µg/L to 6,400 µg/L.

The highest concentrations were generally observed in L-13, which was located along the southern perimeter of the landfill.

Seven monitoring wells were installed at the landfill sometime in 1992 by ABB Environmental Services, Inc. (ABB-ES) under contract to the closed Sullivan Landfill PRP Group. Locations are shown on Figure 2 and construction details are shown on Table 1A in Appendix G. The January 1992 ABB-ES work plan for the landfill discusses the proposed wells and the rationale for each well. The first sampling of the wells was in May 1992. At that time, TCE was detected in MW-101, MW-104, and MW-105. The TCE concentration at MW-105 exceeded the MCL at 6.0 µg/L.

An investigation was conducted at the landfill in March and May 1993 to address the potential presence of perched groundwater zones at the landfill. During this investigation, several borings were advanced and test pits were excavated to evaluate the potential perched water conditions. The sample locations are shown on Figure 2 in Appendix J. It was determined that no significant perched zones were present at the site and, therefore, perched water did not represent a viable migration pathway at the site (ABB-ES, 1993).

A 1994 Subsurface Investigation Report documents the collection of leachate, surface water, and sediment at seven seeps from the landfill, as shown on Figure 2 in Appendix J (ABB-ES, 1994). TCE was not detected in any of the leachate or sediment samples (Tables 3 and 4 in Appendix J).

The MDNR Hazardous Waste Program, Solid Waste Management Program, and Environmental Services Program conducted a multi-media investigation of the closed Sullivan Landfill in 2005. The multi-media investigation included gas sampling of the Passive Vent System, geophysics and soil sampling of the materials above and below the synthetic cap, and liquid and gas sampling of material encountered under the synthetic cap (MDNR, 2006). The soil data is presented in Table 4.13.

A membrane interface probe (MIP) was used to collect soil samples, leachate samples, and subsurface gas samples to determine the presence of site-related COPCs. A total of 34 borings were completed at selected locations based on local topographic and historical data. Each boring was advanced to refusal, which was considered bedrock. In conjunction with the MIP investigation, a track-mounted soil probe was used to collect 18 soil samples, 3 leachate, and 5 soil gas samples next to the MIP holes. The soil and leachate samples were analyzed for the site-specific metals cadmium, chromium, copper, iron, and lead, and VOCs. The soil gas samples were analyzed for VOCs. The boring locations are illustrated on Plate 1 in Appendix J.

According to the report (MDNR, 2006), the following 7 of the 34 MIP borings indicated VOCs in the subsurface: SUL l, SUL 14, SUL 17, SUL 22, SUL 24, SUL 28, and SUL 31. One boring (SUL24) also indicated the presence of leachate in the subsurface. The locations of the MIP borings are not shown in Plate 1 of Appendix J, but are assumed to correspond to the SB locations illustrated.

The VOC analytical results of the 18 soil samples are summarized in Table 4.13. TCE and PCE were detected at SB-22 at concentrations of 8.43 µg/kg and 36.1 µg/kg, respectively. SB-22 is located along the northern border of the landfill (Plate 1 in Appendix J).

Leachate samples were collected at SB-21 and SB-24. SB-21 is located near the sinkhole. SB-24 is along the northern border of the landfill (Plate 1 in Appendix J). Low concentrations of TCE, PCE, and Freon compounds were detected in both samples collected from SB-24, but not at SB-21.

Gas samples were collected at SB-19B, SB-20B, SB-24C, and SB-35. Freon compounds were detected at all 4 locations. TCE and PCE were detected only at SB-35.

The multi-media investigation documented that COPCs are present in the landfill, that trash is distributed throughout the landfill footprint, and that whenever enough moisture is available, the landfill does produce methane (MDNR, 2006). It is unknown how the moisture enters the landfill to allow the methanogenic process to occur.

Also according to the report, site related metals and VOCs should be present only in the old undisturbed ravine fill area of the landfill. However, soil, leachate, and soil gas samples along the northern portion of the landfill contain COPCs (MDNR, 2006).

Monitoring well MW-1 was installed at the closed landfill in 2005 as a part of the Phase II RI. A discussion of the installation and sampling of the well at the time of installation is included in Section 4.3.2.2.

In September 2009, EPA entered into a Settlement Agreement with the PRP to conduct an RI/Feasibility Study (FS) at OU2. This investigation is currently under way to evaluate the nature and extent of groundwater contamination. Two additional monitoring wells, MW-107 and MW-108, were installed in 2011. The location of these two wells is illustrated on Figure 3.3 and the two wells are included in cross section A-A' (Figure 3.4). The boring logs are included in Appendix B.

According to the 2018 Groundwater Monitoring Report (ERM, 2018), there are currently 16 wells associated with the closed landfill that are monitored:

- MW-1
- MW-1A
- MW-101
- MW-102A
- MW-102B
- MW-103
- MW-104
- MW-105
- MW-107S
- MW-107D
- MW-108S
- MW-108D
- B-201
- B-202
- B-203
- GWS003/Voss Well

Five of the wells (MW-101, MW-103, MW-104, MW-105, and GWS003/Voss well) are sampled biennially in accordance with the ground water monitoring program for the closed landfill. Locations for these wells are shown on Figure 2A and the construction details are shown in Table 1B, both in Appendix G. Table 3A in Appendix G shows the historical analytical results for these wells. GWS003/Voss well was not sampled in 2018 because the well was inaccessible, and unless the well can be rehabilitated, may no longer be included in the monitoring program.

The groundwater COCs identified for the closed Sullivan Landfill are Freon compounds, PCE, TCE, and breakdown products of PCE and TCE. Available analytical data for the landfill monitoring wells from 1992 through 2018 is included in the database. Table 4.14 and Figure 4.21 summarize the most recent groundwater data (2010-2019) collected for OU2. TCE was detected in all wells sampled except for MW-1, as shown in the table. TCE exceeded the MCL at only the two locations in LJSCC, PH078 and PH083.

Historically, TCE has been detected above the RAO in three wells: shallow wells MW-104 and MW-105, and in the GWS003/Voss well. TCE has not been detected above the RAO in the three deep monitoring wells associated with the landfill (MW-1, MW-107, and MW-108). Table 4.15 summarizes the historical detections of TCE at the landfill monitoring wells.

The primary contaminants found at the closed Sullivan Landfill are Freon compounds. Historically, Freon 11 concentrations have exceeded the RAO of 100 µg/L in two shallow monitoring wells: MW-103 and MW-105. The highest concentration of 197 µg/L was observed at MW-105 in 1996. More recently, Freon 11 was observed in MW-103 at 150 µg/L in 2006 and at 130 µg/L in 2012. At the Voss well, Freon 11 concentrations have ranged from nondetect to 120 µg/L.

4.7 LA JOLLA SPRING CAVE COMPLEX

TCE was first detected at LJSCC in 1990; LJSCC is currently included in both OU1 and OU2. It has been investigated under the Phase II RI as well as past and on-going investigations by the OU2 PRP, MDNR, EPA, and USGS. The investigations of the complex have included both air and water sampling. A diagram of the cave layout is included in Appendix K.
Table 4.16 summarizes the analytical results for the air samples collected between 2013 and 2015 by EPA. As shown in the table, TCE concentrations in some portions of the cave have been recorded at over 250 µg/m^3.

Chlorofluorocarbon concentration ranges (Tables 4.3 and 4.17) are as follows (the number of samples analyzed for each analyte is shown in parentheses):

- Freon 11 - nondetect to 1,600 µg/m^3 (139 samples).
- Freon 12 - nondetect to 6,200 µg/m^3 (139 samples).
- Freon 113 - nondetect to 51,000 µg/m^3 (147 samples).
- Freon 114 - nondetect to 5,600 µg/m^3 (45 samples).

The RSL for Freon 12 is 44 µg/m^3. No RSLs have been established for the remainder of the chlorofluorocarbons (EPA, 2017). Cave air samples were not analyzed for Freon 21.

In 2016, the OU2 PRP worked to address levels of TCE vapor concentrations within the cave complex through a combination of active and passive measures to alter air flow in the cavern. This work, completed under OU2, included:

- Installation of a set of air lock doors separating the upper level of the caverns from the lower level of the caverns.
- Upgrading air sealing and ventilation control at the main entrance and at another location within the cave complex.
- Installation of portable air scrubbers in the upper level of the cave, including the gift shop/cafeteria
- Installation of two ventilation shafts to increase airflow in the lower level of the cave, while also redirecting the natural airflow away from the air lock door system.
- Installation of an in-line water filtration system to remove TCE from wash water pumped from the cave stream.

Table 4.17 shows the TCE concentrations measured in the cave complex air since May 2016. As shown in the table, the remediation efforts have reduced TCE levels by an order of magnitude.

The majority of the data included in the groundwater database for locations within the cave complex have been tabulated and provided by MDNR. The more recent data available was provided by the OU2 PRP, EPA, and USGS. The USGS collected spring water samples as discussed in 4.5.3. The USGS data is presented in Table 4.8. One sample (PH078) collected from the cave complex as a part of the CSIA study (discussed in Section 4.5.7) is included in Table 4.12. The most recent data (2010-2019) was collected by the PRP and is shown in Table 4.17 and summarized in Figure 4.21.

A summary of the TCE detections in the spring water is provided in Table 4.18. Historically, TCE concentrations in spring samples have ranged from nondetect to 13.20 µg/L. Chlorofluorocarbon concentrations during this time frame (from the database contained in Appendix D) are as follows (the number of samples analyzed for each analyte is shown in parentheses):

- Freon 11 concentrations have ranged from nondetect to 2.13 µg/L (100 samples).
- Freon 12 concentrations have ranged from nondetect to 0.72 µg/L (99 samples).
- Freon 21 concentrations have ranged from nondetect to 1.1 µg/L (19 samples).
- Freon 113 has not been detected (15 samples).

Freon 11 has an RAO of 100 µg/L established in the interim ROD for OU1. RAOs have not been established for the remaining chlorofluorocarbons; however, the RSL for Freon 12 is 20 µg/L.

Based on USGS estimates, LJSCC has discharged an estimated 160 gallons of pure TCE since monitoring began in 1990 and an additional estimated 40 to 50 gallons through vapor transport (Schumacher, 2019).

4.8 RCRA INVESTIGATIONS OF THE FORMER TRW/RAMSEY FACILITY

The former TRW/Ramsey facility is located at 300 Ramsey Street in Sullivan (Figure 4.1). The site is approximately seven acres in size. TRW operated an automobile piston manufacturing plant at the site from 1950 until 1983. The plant used various organic solvents and petroleum-based raw products in connection with its chrome plating system. In 1987 the facility was sold to Sullivan Warehousing and Sister Property, Inc., and manufacturing operations (metal stamping and tool manufacturing) continue at the facility (EPA, 2007).

The facility operated under RCRA interim status beginning in 1980 but changed its status to hazardous waste generator only in 1983 (EPA, 2007). From 1985 to 1986, TRW collected soil samples from potential source areas and found evidence that soils had been impacted by site operations. This resulted in extensive remedial activities (primarily excavation) from July to November 1985 (EPA, 2007). The sample locations are shown on Figure 3-2 in Appendix L. Sample analysis focused on metals.

Under a Technical Enforcement Support Contract, an RFA was completed in 1992. The RFA is the first step in the three-stage RCRA Facility Corrective Action Program. The purposes of the RFA were to compile existing information, fill any data gaps, and summarize any corrective action activities that are necessary at the facility. The facility entered into a Consent Order with EPA in 1993. Interim measures specified in the Consent Order included preparing a Groundwater Monitoring Plan, Drinking Water Contingency Plan, and a Pump and Treatment Plan. The facility completed the RFI in 1997 and the Corrective Measures Study in 1998. After a public comment period, EPA issued the final remedy decision in early 2002.

Originally, 22 solid waste management units (SWMUs) and two areas of concern (AOCs) were identified in the RFA. The consent order identified 5 SWMUs and 2 AOCs, all potential soil source areas associated with industrial processes involving constituents that could migrate to groundwater (EPA, 2007). The locations of these areas are shown on Figure 2-1 in Appendix L. The following descriptions are taken from the RCRA Corrective Action Environmental Indicator (EI) Evaluation (EPA, 2007):

- SWMU 1 – Former surface impoundments that received electroplating settling sludges. Soil samples collected from the area indicate that the wastewater may have contained some TCE. TRW began closing the lagoons in 1985, removing 480,000 gallons of pumpable sludge and 8,400 tons of sludge and soils. Soil samples were collected from the base of the excavation and composited. The samples were analyzed for total metals and hexavalent chromium. Metals were within background concentration ranges and hexavalent chromium was not detected. The area was backfilled with clean fill.
- SWMU 2 – A drum storage area which consisted of a sheet-metal shed on a concrete pad where drums of waste TCE were stored for less than 90 days and disposed of off site. Based on the distribution of TCE contamination in groundwater, this SWMU is a likely source area.

- SWMU 3 – A material burn area which was used to dispose of facility trash and miscellaneous debris by burning. In 1986 and 1987, contaminated soils in this area were excavated and removed. Material was excavated to a depth of about 30 feet, and confirmation samples were collected and analyzed for total metals and hexavalent chromium.
- SWMU 4 – A burn material deposit area which consisted of two areas, the lagoon area and the facility area, in which ash and residual wastes from the material burn area (SWMU 3) were deposited before 1983. The facility area also included a 30,000-gallon underground storage tank containing fuel oil. In 1986 and 1987, soils known or suspected to be contaminated in the area of the SWMU were excavated and removed. In the lagoon area, soils were excavated to an average depth of 6 feet, confirmation samples were collected from the base of the excavation, and the pit was backfilled with clean fill. The samples were analyzed for total metals and hexavalent chromium. Metals were within background concentration ranges and hexavalent chromium was not detected. The area was backfilled with clean fill. The underground storage tank also was removed during closure activities.
- SWMU 5 – The Plating Operations Area, which included in-ground process tanks that held plating and cleaning mixtures containing lead and chromium wastes. In 1986 and 1987, the chrome plating building was demolished, and the soils under and around the building were excavated and disposed off site. Soils were excavated to a depth of about 30 feet, and confirmation samples were collected. The soil samples were analyzed for chromium by the toxic extraction procedure (TEP). Only low levels of TEP chromium were detected.
- AOC 1 – TCE and Mineral Spirits Storage Area which was an area south of the facility used for aboveground tank storage of virgin and product grade TCE and mineral spirits. In 1984, the tanks were emptied and cleaned when TRW discontinued operations at the Sullivan site. According to the RFA, data collected during a 1983 EPA compliance evaluation inspection indicated that TRW/Ramsey generated 8.3 metric tons of spent TCE per year (Metcalf & Eddy, 1992).
- AOC 2 – Winsel Creek Tributary where process-generated wastewater was intermittently discharged to the tributary from 1950 until 1964. The tributary received wastewater from settling lagoons from 1964 to 1983 when chrome plating operations ceased. Discharges were regulated by an NPDES Permit from 1973 to 1983. It is unknown if there were any NOVs during this period.

Soil samples were collected at the former facility as a part of both the RFA and RFI. Soil boring locations from these two investigations are shown on Figure 3-3 in Appendix L.

During the RFA, samples were collected from 11 soil borings ranging in depth from 1 to 21 feet bgs. The analytical results are summarized in Table 4.19. TCE was detected at two boring locations, B-10 and B-11, which are both located in the TCE and mineral spirits storage area (AOC 1). The highest concentration of TCE observed was 1,800 µg/kg at B-10 at a depth of 1 to 3 feet bgs.

Three sediment samples were collected at the tributary to Winsel Creek during the RFA. These locations are shown on Figure 3-5 in Appendix L. No TCE or COPCs were detected in the sediment samples (Table 4.19).

During the RFI, 42 soil samples were collected at depths ranging from 1 to 112 feet bgs. The results are summarized in Table 4.19. TCE was detected in 22 of the samples. The highest concentration of TCE of 317 µg/kg was observed in the deep soil boring designated DSB at a depth of 102 to 104 feet bgs. Boring DSB is located between the drum storage area (SWMU 2) and the TCE/mineral spirits storage area (AOC 1), shown on Figure 3-3 in Appendix L. According to the documents, no soil excavations have been conducted in this area.

A groundwater extraction and treatment system (GETS) was installed at the facility in 1995. The original remediation system consisted of three 150-foot deep recovery wells (RW-1, RW-2 and RW-3) completed in the shallow groundwater and an air stripper treatment system. The air stripper removes TCE and associated VOCs and the treated water is discharged to the city of Sullivan publicly owned treatment works (POTW). RW-3 has been shut off since 2000 due to lower influent concentrations and low productivity, and RW-2 was permanently taken off-line in March 2019 due to low productivity and elevated iron content. Between February 21 and March 27, 2019, the GETS was expanded to accommodate the new intermediate depth groundwater recovery well RW-4. The recovery well locations are shown on Figure 1 in Appendix L.

TRW has installed a groundwater monitoring network of 43 wells (Figure 1 in Appendix J). The locations of these monitoring wells are also shown on Figure 4.2. TCE was detected beneath the facility, in residential wells, and in three Sullivan municipal wells. Monitoring of the well network is ongoing and analytical data is included in the database provided in Appendix D. The sampling program in recent years has been scaled back; however, in February 2019, the entire monitoring well network was sampled to set a baseline before startup of a new GETS (Arcadis, 2019b). This latest round of groundwater sampling is summarized in Table 4.20 and on Figure 4.22. Table 4.21 summarizes the historical detections of TCE. Tables 5 through 9 in Appendix L, taken from the Third Quarter 2019 Report, tabulate the historical monitoring data (Arcadis, 2019c).

In 2016, sampling at the facility changed from the traditional purge methodology requiring the purging of three well volumes of groundwater to low-flow sampling protocols.

There are 26 monitoring wells in the TRW monitoring network that are completed in the shallow groundwater between 120 to 150 feet bgs with 20-foot screens (S-series monitoring wells plus TRW-MW-1 through TRW-MW-4). TCE concentrations in 16 of these wells have consistently exceeded the MCL (Table 4.21). Historically, the highest concentrations of TCE occurred at OBG-2S, OBG-5S, OBG-6S, TRW-MW-3, and TRW-MW-4 (Table 4.21) which have all had concentrations exceeding 11,000 µg/L. As discussed previously, concentrations of TCE exceeding 11,000 µg/L indicate the probable presence of DNAPL. TCE concentrations OBG-2S and OBG-5S have consistently had high concentrations of TCE, the majority of which have exceeded 11,000 µg/L. OBG-2S is located between the TCE/mineral spirits storage area (AOC 1) and the drum storage area (SWMU 2). OGB-5S is located in the former lagoon area. TRW-MW-3 and TRW-MW-4 are located near the former plating operations area. These two wells have had TCE concentrations that were above 11,000 µg/L when initially sampled in 1990; however, TCE concentrations in these two wells have averaged 7,300 µg/L and 3,700 µg/L, respectively, since that time. TCE concentrations at OBG-6S have hovered around 10,000 µg/L, except for one anomalous reading in 2007. The location of these wells is illustrated on Figure 4.22. Figure 1 in

Appendix L is a more detailed illustration of the monitoring well locations. The locations of AOCs/SWMUs for the former facility are shown on Figure 2-1 in Appendix L.

There are 13 monitoring wells in the TRW network that are completed in the intermediate groundwater. All D-series wells are approximately 315 to 350 feet deep and have 20-foot screens. The well locations are shown on Figure 4.22 (and Figure 1 in Appendix L). TCE has consistently been detected in seven of these monitoring wells at concentrations exceeding the MCL, with concentrations up to 3,000 µg/L (Table 4.21). The highest TCE concentrations have occurred at OBG-1D, OBG-8D, OBG13D, and TRW-MW-24D. Concentrations at these wells have been consistently above 500 µg/L. Locations of AOCs/SWMUs for the former facility are shown in Figure 2-1 in Appendix L. OBG-01D is located in the northeast portion of the former facility, OBG-08D is located in the former plating operations area, OBG-13D is located due east of the TCE/mineral spirits storage area (AOC 1) and the drum storage area (SWMU 2), and TRW-MW-4 is located northwest of the former plating operations area.

There are four monitoring wells in the TRW network completed in the deep groundwater. The deep wells are approximately 540 to 550 feet deep with 20 feet screens. TCE has consistently been detected in two of the deep monitoring wells (Table 4.21). Concentrations at OBG-1DD have ranged from 23 µg/L to 540 µg/L. OBG-1DD is located in the northeast portion of the property, downgradient of the TCE/mineral spirits area and former plating operations area (Figure 2-1 in Appendix L). Concentrations at OBG-20DD have ranged from nondetect to 4.7 µg/L (Table 4.21). OBG-20DD is located north of COS02 (Figure 4.22 and Figure 1 in Appendix L).

As shown on Table 4.20, Freon 11 exceeded the RAO at three locations (OBG-9S, TRW-MW-2, and TRW-MW-4). In February 2019, TRW-MW-2 had a Freon 11 concentration of 2,100 µg/L, which is also the highest Freon 11 concentration recorded sitewide.

Although the monitoring network consists of 43 wells, the 20-foot sample intervals at the three general sample depths leave a significant portion of the aquifer beneath the former TRW/Ramsey facility unmonitored.

4.9 EXISTING SOURCE CONTROLS

One of the provisions in the OU1 Interim ROD is to provide alternate water supply to homes with residential wells and businesses with commercial/industrial wells that exhibit TCE contamination at levels that exceed the MCL, either by extending the public water distribution system (when feasible) or via wellhead treatment using individual point-of-use treatment systems. EPA/MDNR currently supplies three area residents located near the closed Sullivan Landfill with carbon filtration treatment systems for household treatment of groundwater before use.

OGV01 was abandoned in accordance with MDNR specifications in February 2009 under the Interim RA. OGV02, which was the primary water source for OGV from April 2005 to August 2019 and currently supplies water on an as-needed basis, operates in conjunction with an air stripper to ensure a clean water supply for OGV residents. The air stripper at OGV02 remediated the groundwater within the capture zone of OGV02. As discussed in 4.3.3.7, it was estimated in the Post-Phase II RI that 12.5 gallons of pure TCE product would contaminate the extracted groundwater in the OGV wells to the observed concentrations. Based on usage information

provided by OGV, approximately 250 MGal of water has been pumped and treated since OGV02 became operational. Using an average TCE concentration of 65 µg/L, it is estimated that approximately 11 gallons of pure TCE product have been removed from the groundwater by the air stripper. OGV03 came online in 2019 and has had no detections of TCE. However, if OGV03 water is found to be contaminated with TCE, OGV has contingency plans to operate it in conjunction with an air stripper to remove the TCE before distribution.

COS02 also is currently in operation with a treatment system in place because of TCE contamination. In 2001, TRW installed an air-stripper on the discharge from this well. The air stripper ensures that a clean water supply is provided to citizens of Sullivan. According to the RCRA EI Evaluation, the continual operation of COS02 acts as a containment mechanism that stops the majority of contaminated groundwater from migrating out of the immediate vicinity of the former TRW/Ramsey facility (EPA, 2007). Under an agreement between TRW and the city of Sullivan dated April 28, 2004, the City is responsible for maintaining a minimum output flow rate from Well COS-2 to ensure hydraulic containment is maintained. According to the 2018 Annual Groundwater Monitoring Report (Arcadis, 2019a), approximately 39.31 pounds, or 3.22 gallons, of TCE were removed via air stripping at COS02 in 2018. If this removal rate is assumed since the air stripper was put in place in 2001, approximately 58 gallons of TCE have been removed since then.

A GETS was installed at the facility in 1995. The original remediation system consisted of three 150-foot deep recovery wells (RW-1, RW-2 and RW-3) completed in the shallow groundwater and an air stripper treatment system. The treated water is discharged to the city of Sullivan POTW. RW-3 has been shut off since 2000 due to lower influent concentrations and low productivity and RW-2 was permanently taken off-line in March 2019 due to low productivity and elevated iron content. Between February 21 and March 27, 2019, the GETS was expanded to accommodate new intermediate depth groundwater recovery well RW-4. According to the 2018 Annual Report, approximately 26.15 pounds, or 2.16 gallons, of TCE was removed by the GETS in 2018 (Arcadis, 2019a). If this removal rate is assumed since the GETS was put in place in 1995, approximately 52 gallons of TCE have been removed since then.

Combined, the air-stripper at OGV02, the air-stripper at COS02, and the GETS at the former TRW/Ramsey facility have removed a total of approximately 121 gallons of TCE from the groundwater beneath the city of Sullivan and OGV. Based on USGS estimates, LJSCC has discharged an estimated 160 gallons of pure TCE since monitoring began in 1990 and an additional estimated 40-50 gallons through vapor transport (Schumacher, 2019).

Informational ICs were included as a component of the Interim ROD to increase awareness of the site contamination and prevent exposure to groundwater contaminated at unacceptable levels. The RD identified four possible ICs that could be implemented; however, it is unknown what ICs have been implemented to date. The ICs are as follows:

- Wellhead signs – Prominently display permanent signage at wellheads of out of service but unabandoned wells within impacted zones, or wells that have point-of-use treatment systems installed. No point-of-use systems were required or installed in OU1, subsequently, no wellhead signs have been installed.

- Informational Fact Sheets/Advisories – Possible distribution methods include mailings, door hangers, public bulletin board displays, local newspaper publication, public library record, water well drillers' publications, local realty publications, and state hazardous waste site listings.
- Well drilling restrictions – MDNR should institute special requirements for wells drilled in the OGV/Sullivan area, to include initial well sampling and analysis, and distribution of fact sheets or advisories to new users.
- Deed notice – To be filed with public land records.

5.0 NATURE AND EXTENT OF CONTAMINATION

5.1 CONTAMINATED SYSTEM

This section summarizes HGL's interpretation of the site area geology and the site-specific conceptual hydrogeologic model. This interpretation is based on HGL's review of available geologic information for the site area, and analysis of data collected during the various studies conducted at the site. Hydrogeologic characteristics that affect the model are presented, particularly with respect to features that influence groundwater flow and contaminant transport.

5.1.1 Stratigraphy

A generalized hydrostratigraphic column is depicted on Figure 3.1. This stratigraphy is based on numerous well cores and logs completed for monitoring wells and municipal wells in the site area and across the region. Based on the boring log for OGV01, the lithology of the unsaturated zone consists of red gravelly clay residuum from 0 to 40 feet bgs. Below this is highly weathered Roubidoux Formation residuum, which consists mostly of sand and chert down to a depth of approximately 150 feet bgs. Beneath the residuum are the Gasconade, Eminence, and Potosi formations that consist primarily of dolomite with variable amounts of chert. The base of the Potosi Formation in the site area lies at a depth of approximately 800 feet bgs. The water table is encountered between 87 feet to 228 feet bgs, depending on the topography.

The structural geology has been examined extensively, as detailed in Section 3.3. OGV and Sullivan lie above a structural trough that generally dips to the north. This trough was created by the expression of the Pre-Cambrian basement rock, which was hypothesized to have been formed from either a caldera or atoll. The overlying Cambrian and Ordovician-aged sedimentary rock then conformed to this structural pattern during their deposition. These sedimentary rocks thicken to the east away from a basement rock high west of Sullivan towards a structural lowland that extends under the Meramec River. The presence of thicker sequences of cave-forming dolomites of the Eminence and Gasconade formations would heighten the potential for increased formation of karst features.

Karst features such as caves, sinkholes, and springs exist in the site area. Numerous voids also were documented during the drilling of monitoring wells in the site area. The contact between the Roubidoux and Gasconade Formations is known for an abundance of karst features. Both northeast and northwest trending faulting have been mapped in the site area from which karst features can form. The Pump Hollow Fault is a well described northeast trending fault that lies to the east of Sullivan and Oak Grove Village.

5.1.2 Groundwater Flow

Faults, fractures, and a karst setting can exert an immense influence on groundwater flow in the Ozark aquifer beneath the site. Nearby wells completed at equivalent depths can be hydraulically isolated from each other if they are not in the same fracture flow system. Local groundwater flow, and influences on its flow, in karst geology can be difficult to predict because it does not necessarily flow with topography or regional gradients.

Local groundwater flow is also complicated by the poorly understood fault system in the area. Depending on the age and nature of the fault, some may act as conduits with enlarged solution channels and others with less weathered fault gouge may act as aquitards. These faults could channel or inhibit groundwater flow in various ways both horizontally and vertically.

Because of the complex hydrogeology, the dominant type of groundwater flow in deeper portions of the Ozark aquifer has not been conclusively determined. The 1996 RFI states that pumping tests indicated a more diffuse non-karstic signature to the drawdown and recovery curves in observed water levels (O'Brien and Gere, 1996). However, it is likely that groundwater flow has both diffuse components through bedding planes and joints, and conduit flow through karst features such as solution-widened cavities. Karst features such as seeps and springs also control groundwater discharge in the site area, which influences the groundwater flow direction.

Dye trace studies have been conducted in the site area in an effort to delineate fracture and karst flowpaths. Although issues were raised about the scientific methodology applied in the 1991 MDNR dye trace study, the general conclusions of the study convey useful information about the behavior of groundwater flow. According to the study, the Meramec River is a major discharge location for water recharged via karst features in the site area, particularly LJSCC. Dye released into northward-flowing Winsel Creek in the Spring Creek watershed at select locations also appeared in the cave complex. Additionally, dye injected into Winsel Creek at I-44 appeared in a spring several miles north of the site area (MDNR, 1992).

At least some surface recharge, as shown by the dye injections, is migrating to deeper portions of the Ozark aquifer around the site area as it flows eastward toward the primary discharge area along the Meramec River. Based on USGS discharge measurements at LJSCC, and a maximum of 12 inches precipitation, the recharge area was roughly estimated to be 4.5 square miles. The recharge area for LJSCC may include a sizable portion of the site area, and the dye trace studies support that hypothesis.

5.1.2.1 Horizontal Groundwater Flow

Regionally, the flow in the Ozark aquifer is to the north and northeast. However, the presence of karst features within the region significantly impacts the site hydrogeology and makes it difficult to adequately characterize (MDNR, 1998b). The dolomites of the Ozark aquifer are relatively impermeable and groundwater movement is primarily in joints, fractures, bedding planes and other discontinuities. The movement of groundwater through these features causes dissolution of the bedrock and enlargement of the features, which results in the formation of karst features—sinkholes, caves, losing streams, and springs.

Based on the various hydrogeological discussions in reports for previous investigations the Meramec River is a primary discharge zone for the intermediate to deep portions of the Ozark aquifer in the site area. This should result in a natural groundwater flow direction in an easterly to northeasterly direction from the site area located to the west. Although the relatively impermeable Proterozoic basement rock appears to dip northward, groundwater flow will be in the direction of lower hydraulic head pressure regardless of the structure of the aquifer, if no other force, such as pumping, is exerted on the flow regime. Groundwater in a fractured bedrock aquifer system may flow through fractures and faults that are not in a straight line downgradient as a path of least

resistance mechanism, but it will move towards lower hydraulic head pressure whenever possible. Multiple studies have shown that the groundwater in the site area is affected greatly by pumping of the Sullivan municipal wells and OGV02.

Shallow groundwater potentiometric maps, for wells completed in the Gasconade and Roubidoux Formations, from the 1987 MDNR study show a northeastward flow direction beneath Sullivan and OGV. The 1996 RFI completed at the former TRW/Ramsey facility shows shallow groundwater converging from east and west of the site, and flowing in a north-northwest direction. It was concluded that an inferred northwest-southeast trending fault zone influenced shallow groundwater flow. It may be that the short-screened shallower monitoring wells at the former TRW/Ramsey facility do show a somewhat different localized shallow groundwater flow. But, the longer open intervals of the shallow water wells that penetrate the upper Gasconade Formation that were used in the 1987 study show a more regional flow to the northeast in the shallow aquifer. TRW concluded that an inferred northwest-southeast trending fault zone influenced shallow groundwater flow. However, this same effect can occur from fractures and orthogonal jointing in carbonate rock of the aquifer, without the presence of a fault zone. It is also not clear from the documents obtained by HGL whether the groundwater extraction system installed as an interim measure in 1995 was operational while water levels were collected from the monitoring wells. The two extraction wells were installed to about the same depth as the shallow monitoring wells, and would conceivably have an effect on the shallow groundwater surface.

During the 2005 Phase II RI, water level measurements were made at select private wells. These data showed that groundwater flow in the lower Gasconade and Eminence formations was generally toward the northeast in areas west of OGV, and eastward in the area around the closed Sullivan Landfill. USGS measured private well water levels again in 2010, and these measurements showed groundwater flow similar to that seen in 2005, with flow to the northwest in the western portion of Sullivan, and an apparent groundwater recharge area present near the Highway AF Well area. This more recent dataset does not include groundwater elevations near OGV. However, given that areas of overlap between the 2005 and 2010 showed similar flow directions, it can be inferred that groundwater flow in the OGV and closed Sullivan Landfill areas would be similar to that observed in 2005.

During the 2005 Phase II RI, groundwater measurements were taken from three monitoring wells that are open across the intermediate and deep groundwater, from which the municipal wells primarily draw groundwater. These data showed a northeast flow direction which is consistent with the recognized groundwater flow in the regional aquifer, and that observed in the 1987 MDNR study for the deep groundwater.

In the 1996 RFI, the groundwater flow direction interpreted from the 1995 dataset was to the east and southeast in the vicinity of the former TRW/Ramsey facility. These data are anomalous compared to any other measurement of groundwater flow in the deeper portion of the Ozark aquifer. It is unlikely that deep groundwater flow is southward, as it is recognized by most researchers that natural groundwater flow in the regional aquifer is northeastward. The southeast flow may possibly be toward COS07, which at the time of the water level measurements in December 1995, was the COS municipal well pumping at the highest rate, approximately 7 million gallons per month for the last four months of 1995. COS07 is located approximately 1 mile

southeast of the former TRW/Ramsey facility. Pumping at Sullivan municipal well COS08 may also have influenced groundwater flow in the deep groundwater. COS08, which was located about 0.5 miles southwest of the former TRW/Ramsey facility, was pumping approximately 6 million gallons per month during the last four months in 1995. COS08 has since been abandoned. The deep wells at the former TRW/Ramsey facility are completed only in the Potosi Formation. COS07 draws water from both the lower portion of the Eminence Formation and from the full length of the Potosi formations. COS08 drew water from the Potosi, Derby-Doerun, and Davis formations.

The potentiometric maps in the 2010 Annual Monitoring Report for the former TRW/Ramsey facility (ARCADIS, 2011) shows that groundwater in all three monitored depths flows toward COS02 in the vicinity of the site. Previous investigations have also shown that the municipal wells have a considerable influence on localized horizontal groundwater flow, and likely on the vertical movement of groundwater discussed below. To inform a 2000 groundwater modeling effort, water level data was collected from well COS02 while select other municipal wells were pumped in a systematic manner (Barr, 2000). Figure 5.1 shows the USGS graph of that data from the aquifer testing. In particular, pumping at well COS11 appears to have had a dramatic effect in lowering the water level in COS2. When COS11 was shut off, the water level in COS02 rose back up to pre-pumping levels. COS11 is located approximately 0.9 miles north of COS02 (Figure 1.2). Pumping at COS03 and COS07 also lowered the water level in COS02, although their effect was less relative to the effect induced by COS11. COS09 and COS10, located northeast of COS02 near the OGV municipal wells, appeared to have little impact on COS02 water levels.

During the Post-Phase II RI, a similar aquifer testing exercise was conducted using municipal wells OGV02, COS03, and COS09 as pumping wells (MDNR, 2007a). Water levels were monitored in OGV01 and deep monitoring well MW-3. Figure 4.1 illustrates the location of these wells. As expected, pumping in OGV02 induced drawdown in adjacent OGV01 and nearby MW-3. Pumping at COS09, located about 0.5 miles southeast of the OGV wells, induced less drawdown in the two monitored wells. Also, city of Sullivan personnel stated that pumping in municipal well COS10 caused drawdown in COS09 (MDNR, 2007a). Pumping of COS03, located only about 400 feet farther away from the monitored wells than COS09, appeared to have minimal impact on observed water levels. MDNR concluded that COS03 is likely not hydraulically connected to the other wells (MDNR, 2007a). The capacity at COS03 is also less than that of the other Sullivan municipal wells or OGV02. This may be an indication that COS03 is not in the same fracture system as other municipal wells, such as COS02 and OGV02. The observed effect may also be because OGV02 is drawing water from the Potosi Formation, whereas COS03 draws water primarily from the Eminence Formations. The drillers log (Appendix B) indicates that there was no flow in the well below approximately 615 feet bgs. If MW-3 is any indication of the large volume of downward flow possible in this area (Section 4.5.4), then a large volume of water may be entering COS03 from the Eminence dolomite, reducing the drawdown effects from pumping of water from the Potosi. It should be noted that this large volume of downflow was encountered in MW-3 before the well was cased to a depth of 327 feet bgs to seal off the source of the downward flow (USGS, 2012d).

The lack of hydraulic connection between sets of wells completed across generally similar aquifer intervals is consistent with complex hydrogeologic settings caused by karst terrain and fractured bedrock aquifers. Both aquifer testing efforts indicate the considerable influence that municipal

well pumping has on localized groundwater flow in the intermediate/deep aquifer. If COS03 is not hydraulically connected to the OGV wells and draws water primarily from the Eminence Formation, then this may explain why the OGV wells and COS9 and COS10 were more contaminated with TCE than COS03.

5.1.2.2 Vertical Groundwater Movement

Vertical flow measurements collected from OGV01 and nearby monitoring wells MW-3 and MW-6 indicated the following:

- OGV01 showed a downward gradient across the entire open interval, although below 700 feet flow was observed to be stagnant (USGS, 2004).
- Before additional casing was added, MW-3 showed nearly uniform downward flow from the water surface to about 440 feet bgs (499 feet amsl), indicating that groundwater was entering at the top of the borehole and exiting the borehole between 440 feet bgs and 580 feet bgs (359 to 499 feet amsl).
- MW-6 showed an upward flow from the bottom of the well at 525 feet bgs to about 390 feet bgs (530 to 395 feet amsl) and downward flow from the base of the casing at 325 feet bgs to about 350 feet bgs (570 to 595 feet amsl). These upward and downward flows appear to converge and exit the borehole between 350 and 390 feet bgs (530 to 570 feet amsl). This likely indicates a transition zone between differing potentiometric surfaces.

To the northwest of the OGV wells in the Highway AF area, the groundwater gradient in private well PH062 also was observed to be vertically downward. Downward flow was observed throughout the borehole, from the water table at approximately 180 feet bgs, to the bottom of the well at 335 feet bgs. Downward flow increased in the 250 to 300-foot depth interval.

A downward gradient also is dominant around the closed Sullivan Landfill. The 365-foot deep Voss well (GWS003) on the east side of the closed Sullivan Landfill showed downward gradients throughout the open interval from the water table at 191 feet bgs to the bottom of the well. The Voss well is located about 1.2 miles northeast of OGV01. At MW-1, located adjacent to the south side of the closed Sullivan Landfill, groundwater flow was downward from 175 to 280 feet bgs (684 to 579 feet amsl) and upward from 320 to 505 feet (539 to 354 feet amsl) (MDNR, 2007a). Between 260 to 320 feet (599 to 539 feet amsl), flow was interpreted to be outward from the well. As with MW-6, this is likely evidence of more than one potentiometric surface being expressed in the well.

At the former TRW/Ramsey facility located approximately 1.75 miles southwest of OGV01, vertical gradients also were calculated to be downward across all three monitored groundwater depths (O'Brien and Gere, 1996). TRW has advocated that shallow groundwater is isolated from intermediate and deep groundwater. However, contamination attributable to the former facility extends to more than 550 feet bgs beneath the former facility, as documented in the RCRA EI (EPA, 2007). This would seem to refute the notion that shallower groundwater is isolated from deeper groundwater in any meaningful way. TRW has also advocated that an inferred northwest-southeast trending fault zone influences shallow groundwater flow and allows shallow groundwater to recharge the zone they termed "intermediate groundwater zone" (O'Brien and

Gere, 1996). However, this same effect can occur from fractures and orthogonal jointing in carbonate bedrock, without the presence of a fault zone.

Based on the vertical flow and gradient measurements, it appears the dominant vertical flow direction is downward. However, vertical flow is likely dependent on location, pumping effects of nearby municipal wells, and nearby fracture systems or karst features that locally affect groundwater flow. USGS noted during their flow testing at MW-6 that flow conditions might be different depending on the state of operation of municipal wells in the area.

At MW-1 and MW-6, groundwater appeared to be flowing into the well from above and below the outward flow zone. It may be that this zone has a lower hydraulic head because it has a good hydraulic connection with a discharge zone, such as the LJSCC. As noted in Section 5.1.2, based on the data from the dye trace studies, the recharge area for the LJSCC may include a sizable portion of the site area.

5.2 CONTAMINANT FATE AND TRANSPORT

This section describes the generalized environmental fate and transport of the OU1 groundwater COC and COPCs in the physical system at the site. This discussion is limited to VOCs associated with OGV01 and OGV02, and the data evaluations below focus on fate and transport in groundwater. The physical and chemical properties of the COC and COPCs are listed in Table 5.1.

Based on the previous HHRA prepared by Missouri DHSS, the only COC identified for OU1 is TCE (MDNR, 2007a). The COPCs identified include PCE, cis-1,2-DCE, methylene chloride, and vinyl chloride. The mechanisms by which these contaminants can potentially migrate from the source area and affect other media are illustrated in Figure 5.2. Figure 5.3 depicts the biodegradation and reaction pathway of TCE and the other COPCs, which are all halogenated aliphatic compounds.

5.2.1 General Factors Influencing Fate and Transport

Knowledge of contaminant fate and transport is important in determining how contaminants will be distributed throughout the soil and groundwater at a site. The controlling environmental factors at the OGV Well Site are karst features present within the site.

5.2.1.1 <u>Contaminant Chemical and Physical Properties</u>

Table 5.1 presents some physical and chemical properties of TCE and the other COPCs identified at the site. These properties typically influence the fate and transport of contaminants. A discussion of the general physical and chemical properties affecting fate and transport of these analytes in soil and groundwater follows.

<u>Water Solubility</u>

Water solubility describes the mass of a compound that will dissolve in a measured amount of water at a given temperature and pressure. Water solubility is important in assessing the fate and transport of contaminants in groundwater because it indicates the affinity of the analyte for water. High water solubility means that greater amounts of the analyte will enter the aqueous phase,

whereas low water solubility indicates that a contaminant may be present as a separate phase (EPA, 1979). The water solubility of an analyte can be used to assess chemical mobility, chemical stability or breakdown, bioaccumulation, and chemical sorption. An analyte with a low water solubility (<10 mg/L) will tend to adsorb to soil, be persistent, bioaccumulate, and have negligible mobility in the environment. Conversely, an analyte with a high water solubility (>1,000 mg/L) will adsorb to soil only negligibly and be highly mobile in the environment, but will readily biodegrade and should not bioaccumulate (Ney, 1998).

Vapor Pressure

Vapor pressure indicates whether an analyte will significantly volatilize into the air. Generally, the higher the vapor pressure of a contaminant, the greater its tendency to volatilize. An analyte with a low vapor pressure (<0.000001 [or 10^{-6}] torr) will not volatilize significantly into the air, but will instead be persistent in the environment and have the potential to bioaccumulate. An analyte with a high vapor pressure (>0.01 [or 10^{-2}] torr) is likely to significantly volatilize into the air (Ney, 1998).

Henry's Law Constant

The Henry's Law constant of a constituent is the relative equilibrium ratio of a compound in air and water at a constant temperature. The Henry's Law constant indicates the relative ease with which the constituent may be removed from aqueous solution by volatilization (i.e., whether it is more likely to partition to water or the air) (EPA, 1979). A low Henry's Law constant ($<10^{-7}$ atmospheres cubic meters per mole [atm-m^3/mole]) indicates that the analyte is less volatile than water and, therefore, as the water evaporates the concentration of the analyte will increase. For analytes with a high Henry's Law constant ($>10^{-3}$ atm-m^3/mole), volatilization from water will be rapid (Howard, 1990).

Octanol Water Partitioning Coefficient

The octanol-water partitioning coefficient (K_{ow}) is the ratio of the concentration of a chemical in octanol and in water at equilibrium and at a specified temperature. This coefficient serves as an indicator of the bioaccumulation potential of a chemical in the fatty tissue of living organisms and the chemical's ability to adsorb to soil. A low K_{ow} (<500) indicates that the analyte will not significantly adsorb to the soil, making it highly mobile in the environment, as well as having little to no bioaccumulation and a tendency to biodegrade. A high K_{ow} (>1,000) indicates that the analyte will be adsorbed to the soil and have little mobility in the environment, that the analyte will not biodegrade significantly, and it will likely bioaccumulate (Ney, 1998).

Organic Carbon-Water Partitioning Coefficient

The organic carbon-water partitioning coefficient (K_{oc}) is the ratio of the mass of a chemical that is adsorbed in the soil per unit mass of organic carbon in the soil per the equilibrium chemical concentration in solution. The adsorption coefficient is indicative of the extent to which an analyte will be adsorbed to organic carbon in soil. Analytes with a high K_{oc} (>10,000) will readily adsorb to organic carbon and become relatively immobile, but are also persistent and bioaccumulative. Analytes with a low K_{oc} (<1,000) will not adsorb to soil organic carbon and will, therefore, be mobile in the environment (Ney, 1998).

Density/Specific Gravity

The density of a substance is its mass per unit volume. The density of a chemical will determine whether it sinks or floats when it encounters groundwater. The specific gravity of a chemical is its density normalized to the density of water. A substance with a specific gravity less than 1 will float in water, while a substance with a specific gravity greater than 1 will sink. Contaminants with a specific gravity greater than 1 generally must also be present as a DNAPL before they will sink through water. This can be useful in determining well screen depths when attempting to monitor for specific analytes in groundwater. In addition, relatively dense compounds will have a tendency to migrate through soil layers more rapidly than relatively less dense compounds (EPA, 1979).

5.2.1.2 VOCs

The COC and COPCs at the OGV Well Site OU1 are VOCs that are known as halogenated aliphatic compounds. Halogenated aliphatic compounds include numerous chlorinated solvents such as TCE and PCE. Chlorinated solvents form a class of compounds that have been produced in large quantities throughout the world since the middle of the 20th century. Typical uses of these chemicals include dry cleaning, metal degreasing, pharmaceutical production, pesticide formulation and chemical intermediates. Chlorinated solvents typically enter the subsurface as a result of disposal directly onto the land; disposal into unlined evaporation ponds/lagoons, leaking storage tanks and vapor degreasers; leaking piping; and accidental spills during handling and transportation.

These compounds are denser than water, and therefore have the potential to migrate to significant depths below the water table when quantities are sufficient. A release at the ground surface can therefore lead to long-term contamination of both the unsaturated and saturated zones. Chlorinated solvents are volatile, indicating that they will produce vapor phase contamination in unsaturated media. These compounds are typically characterized by low K_{oc} values, indicating that the flow rate of aqueous phase plumes will not be strongly retarded relative to the rate of groundwater flow. K_{oc} describes the distribution of an organic compound between water and the organic carbon content of the solid phase. High K_{oc} values are characteristic of strongly sorbed compounds. Such compounds are significantly retarded with respect to groundwater flow. The relatively rapid rate of chlorinated solvent migration and the relatively low degree of sorption are the two primary factors that distinguish this class of compounds.

According to the *Estimating Potential for Occurrence of DNAPL at Superfund Sites* (EPA, 1992), the rule of thumb is that concentrations greater than 1 percent of the solubility of a VOC can indicate the probable presence of DNAPL. Because the solubility of TCE is 1,100 mg/L, concentrations of TCE exceeding 11 mg/L (or 11,000 µg/L) indicate the probable presence of DNAPL. Concentrations of TCE in groundwater beneath the former TRW/Ramsey facility are high enough to indicate that the solvents occur in the form of a DNAPL. DNAPL exists in the subsurface as a separate fluid phase that is immiscible with both water and air. DNAPLs typically migrate downward to a less permeable layer or confining unit, where they slowly dissolve into flowing groundwater, giving rise to aqueous phase plumes. Specific information regarding the fate and transport of these chlorinated solvents is provided below.

5.2.2 VOCs in the Unsaturated Zone

The unsaturated zone has been described as the subsurface soil layers that have a three-phase system consisting of soil, water, and air (Fetter, 1988). This zone is also termed the vadose zone. Water and air exist in the vadose zone in the interstitial spaces between individual soil particles.

Water is present in the vadose zone as both water vapor and liquid water. Larger pore spaces contain a film of liquid water that coats mineral grains and is held in place by molecular attraction. Smaller pore spaces contain water that is held in place by capillary action. Water will percolate downward under the influence of gravity when the volume present exceeds the holding capacity of the capillary forces.

In general, chlorinated VOCs have high vapor pressures, high solubilities in water, high densities, and low organic carbon partitioning coefficients. They also have higher densities than water. Therefore, if chlorinated VOCs are released in sufficient volume, they will tend to migrate through the unsaturated zone and settle to the bottom of the water column forming a separate DNAPL layer. While migrating, the chlorinated VOCs will also tend to volatilize and occupy soil pore space in the vapor phase.

The presence of karst features within the area complicates the understanding of the transport of contaminants. The movement of groundwater and contaminants is no longer controlled only by percolation downward through the vadose zone. The movement of groundwater and contaminants is now also controlled by a well-integrated subsurface drainage system, which channels groundwater to move laterally and vertically through preferential zones, providing discrete recharge to and, in some cases, through the aquifer. During periods of sustained or intense rainfall, discrete recharge is more likely to cause turbidity in springs and water supply wells, as has been documented in Sullivan municipal wells, private water supply wells, and LJSCC. Weathered dolomites and infilling of joints and fractures in the dolomites with clay materials tend to dampen the peaks associated with recharge and provide water storage from which water is continually released to the aquifer during periods of low recharge.

TCE has not been detected in vadose zone soils above trace levels in any of the potential source areas investigated, except for the former TRW/Ramsey facility and one localized area within the Ditch Witch facility. The TCE contamination at the Ditch Witch facility, although observed above screening levels, appears to occur in only the one localized area. Groundwater data and soil samples from MW-5 did not contain detectable amounts of TCE or other COPCs, also supporting the supposition that the contamination at the Ditch Witch facility does not occur at high enough levels to act as a source for the contamination found in OGV01/OGV02 and the Highway AF Wells Area. Further supporting this conclusion is the absence of TCE detections in the shallow section of MW-3 before its final casing was set and nearby private well PH068 (open interval 140 to 332 feet bgs). See Sections 4.3.3.1 and 4.3.3.4, respectively, for more information on these wells. The potential source areas are summarized in Section 6.0.

5.2.3 VOCs in the Saturated Zone

The saturated zone exists below the water table and is a dual-phase system consisting of soil/bedrock and groundwater. In the saturated zone, all pore space is filled with liquid water.

The chlorinated solvents found at the site have specific gravities greater than 1. Therefore, upon reaching the saturated zone, these compounds will migrate downward through the water column. These compounds can form a DNAPL layer if quantities are great enough to exceed the solubility limit of the compound. Once in a fracture network, as in karst conditions, a DNAPL will preferentially migrate through the larger openings and fractures in the bedrock and the direction of the groundwater flow will have very little bearing on the migration of the DNAPL (University of Sheffield, 2011). Fracture orientation, density, and connectivity dictate a DNAPL's path through a fracture network which is preferentially along the paths of least capillary resistance. Because the compounds are water soluble, dissolution will also take place. As mentioned previously, concentrations of TCE in groundwater beneath the former TRW/Ramsey facility are high enough to indicate that the solvents occur in the form of DNAPL.

5.2.3.1 Horizontal Distribution

Historical and recent groundwater analytical data was used to describe the horizontal distribution of contamination at the site. This was necessary because of the wide range of dates on which the data was collected and the fact that the data was not collected at each location on consistent dates. It also was essential to discuss the totality of the data across the site, not just OU1, to gain a proper prospective of the horizontal distribution.

Figures 5.4, 5.5, and 5.6 are a compilation of Figures 4.3, 4.4, 4.15, 4.16, and 4.17. They depict the horizontal extent of the TCE contamination based on data collected from 2010 through 2019. This data is summarized in the following tables:

- Tables 4.4, 4.5, and 4.6 – 2008-2010 data for private wells, OGV02, and Sullivan municipal wells.
- Table 4.8 – 2010 through 2019 data from USGS investigations.
- Table 4.12 – 2014 data from CSIA investigation.
- Table 4.14 – 2010 through 2018 data for OU2 and the LJSCC.
- Table 4.17 – 2016 through 2019 data for the LJSCC.
- Table 4.20 – 2010 through 2019 data for monitoring wells at the former TRW/Ramsey facility, Sullivan municipal wells, and private wells.

In addition, summary tables help provide an overview of historical data. Table 4.15 summarizes the detections of TCE at the closed Sullivan Landfill and Table 4.18 summarizes the detections of TCE at the LJSCC. Table 4.21 summarizes the detections of TCE at the former TRW/Ramsey facility and Table 5.2 summarizes the TCE detections in OU1, which includes private wells in the Highway AF Well area and the municipal wells.

Shallow Groundwater

Figure 13 in Appendix F shows the TCE concentrations observed in water wells during Phase II of the RI in 2004. Figure 14 in Appendix F shows maximum detected concentrations in water wells from January 1990 to March 2005. As can be seen on the figures, the TCE contamination in the wells was interpreted by Benham as occurring in three separate plumes. One plume was in the Highway AF Well Area, while another plume was located at the closed Sullivan Landfill, which included the LJSCC. (It should be noted that the cave complex is probably situated within the

Eminence formation, which would place it in the intermediate/deep groundwater.) The third TCE plume was situated at the former TRW/Ramsey Facility. The horizontal distribution of TCE is, to some extent, an expression of the sample locations. In particular, there are limited groundwater sample locations between the former TRW/Ramsey facility and the OGV wells to the northwest.

More recent data from 2010 through 2019 is illustrated on Figure 5.4, which shows the horizontal distribution of TCE based on the available data. Comparison of the Figure 5.4 to Figures 13 and 14 in Appendix F shows that the horizontal distribution of contamination is relatively consistent. TCE contamination is present in the same three areas within the shallow aquifer: Highway AF well area, the closed Sullivan Landfill, and the former TRW/Ramsey facility.

In the Highway AF Well area, the TCE concentrations are currently all below the MCL and have been since 1998. TCE concentrations in this area have steadily declined since that time. A summary of TCE detections within this area is included as Table 5.2. Section 5.2.3.3 assesses data trends of select private wells in the Highway AF Well area. Freon 11 also has been detected in select wells in this area, but at low concentrations.

TCE, other VOCs, and Freons were detected at high levels in seeps at the closed Sullivan Landfill in 1990 (Section 4.6); however, the most current groundwater data available (Table 4.14) shows TCE detections in all the shallow monitoring wells, but at concentrations below the MCL. There is not a noticeable pattern to the TCE detections that might indicate a distinct area within the landfill that is acting as a source. The highest TCE detection of 3.5 µg/L was at MW-104 located at the northwest corner of the landfill. Historically, the MCL for TCE has been exceeded at three locations, the GWS003/Voss well and at MW-104 and MW-105 (Table 4.15).

Historically, the highest concentrations of TCE detected in shallow groundwater in the site area have been found at the former TRW/Ramsey facility. A tabulation of the highest TCE concentrations in the shallow groundwater beneath the former TRW/Ramsey Facility is provided in Table 4.21, and concentrations as high as 54,000 µg/L have been detected in the shallow groundwater.

Freon 11 has been detected in private and monitoring wells and springs across both OU1 and OU2 with the largest concentrations detected at the TRW/Ramsey facility. All Freon 11 detections sitewide have been below the RAO of 100 µg/L, except at landfill wells and former TRW/Ramsey monitoring wells. Freon 11 has been detected in most of the landfill wells, and in March 2012, the highest concentration of Freon 11 ever detected at the closed Sullivan Landfill was detected in MW-103, located at the northeast corner of the landfill, at 130 µg/L (Table 4.14). Freon 11 also has been detected consistently in three shallow TRW/Ramsey wells (OBG-1S, OGB-11S, and OBG15S). The majority of detections at OBG-15 have exceeded the RAO. As shown on Table 4.20, Freon 11 exceeded the RAO in 2019 at three locations (OBG-9S, TRW-MW-2, and TRW-MW-4). In February 2019, TRW-MW-2 had a Freon 11 concentration of 2,100 µg/L, which is also the highest Freon 11 concentration recorded sitewide.

In summary, TCE has been detected in three areas in the shallow groundwater—the Highway AF well area, the closed Sullivan Landfill, and the former TRW/Ramsey facility. However, TCE

concentrations above the RAO are currently only found in the shallow groundwater at the former TRW/Ramsey facility.

Freon 11 has been detected in private, municipal, and monitoring wells site-wide. However, all detections site-wide have been below the RAO of 100 µg/L, except at landfill monitoring wells and former TRW/Ramsey monitoring wells.

Intermediate/Deep Groundwater

Figures 21 and 22 in Appendix F show the TCE concentrations observed in deep municipal wells during Phase II of the RI in 2004 and maximum detected concentrations from January 1990 to March 2005, respectively. The TCE contamination in the deep groundwater was interpreted by Benham as occurring in one plume extending from COS08 to just northeast of OGV01/02. Sample locations were sparse between the former TRW/Ramsey facility and the OGV wells, which were the two areas where TCE detections were observed in deep groundwater. The lack of monitoring points in this area is consistent with the same problem hindering the evaluation of shallow groundwater.

As summarized on Table 5.2, TCE concentrations have exceeded the RAO of 5 µg/L at OGV01, OGV02, COS02, COS08, and MW-6. OGV02 and MW-6 have had TCE detections exceeding the RAO during nearly every sampling event. Deep monitoring well MW-6 is located about 1,000 feet southeast of OGV02. The highest TCE detection ever recorded in OVG02 was 160 µg/L observed in the May 2010 sample collected after a period of prolonged heavy rain. The latest round of sampling data available for these two wells is shown on Table 4.8. The TCE concentration in the sample collected from MW-6 in 2014 was 36 µg/L. The TCE concentration in the most recent sample collected at OGV02 (October 2019) was 65 µg/L.

A study was conducted at OGV01 and OGV02 to evaluate pumping duration versus TCE concentrations. The results showed that as pumping times lengthen, TCE concentrations increased in both wells. This seems to indicate that these wells are not directly situated within the most contaminated portion of the plume, but rather, the pumping lowers the potentiometric head in the vicinity of the well, thus drawing in more contaminated groundwater likely through a fracture or preferential flow zone. In contrast to this, the highest TCE concentration recorded at OGV02 (160 µg/L in May 2010) was in a sample collected 15 minutes after the pump was turned on. This sample was collected after a prolonged period of heavy rain in which the area was under flash flood watches. This seems to indicate that OGV02 intersects a karst conduit and is highly susceptible to discrete recharge, as discussed in Section 3.4.1.

All of the active Sullivan municipal wells have had detections of TCE during one or more sampling events conducted at various times. TCE concentrations have exceeded the RAO at COS02 and COS08. COS08 was decommissioned and plugged in 2004 due to TCE contamination. The highest TCE level observed in COS08 was 48 µg/L in 2001. COS02 has had TCE concentrations exceeding the RAO consistently since 2005. The latest data shows TCE concentrations at this well was 36 µg/L (Table 4.20).

TCE also was detected at levels below the RAO in the following Sullivan municipal wells during 2019 (Table 4.20): COS03, COS07, COS09, and COS11. COS03 is located approximately 4,500 feet northeast of the former TRW/Ramsey facility. COS07 is situated about 6,500 feet east of the facility, and COS11 is positioned north of the facility, approximately 4,000 feet beyond OBG-20DD. As discussed in Section 5.1.2.1, Figure 5.1 shows pumping at wells COS07 and COS11 all lowered the water level in COS02, indicating a hydraulic connection between COS02 and the other wells.

In general, the highest TCE concentrations in the COS wells occurs in the wells with the highest specific capacity, which correlates to the highest permeability, or in the case of karst environments, areas of the highest fracture flow. According to the Barr report and USGS estimates, the wells with the highest specific capacity are OGV01, OGV02, COS02, and COS11. These wells have had the highest concentrations of TCE with the exception of COS08. COS08 had high concentrations of TCE, but a much lower specific capacity according to Table 3 in Appendix C.

The highest concentrations of TCE detected in both the intermediate/deep groundwater in the OGV/Sullivan area are found at the former TRW/Ramsey facility. Table 4.21 shows that the highest TCE concentration in the intermediate depth wells was 3,000 µg/L in OBG-08D in 2018 and the highest TCE concentration in the deep wells was 540 µg/L at OBG-01DD in 2005. OBG-20DD is located north of COS02, and TRW contends COS02 is capturing the TCE-contaminated groundwater migrating from the site. However, TCE concentrations at OBG-20DD have been as high as 4.7 µg/L.

In the landfill area, the three intermediate/deep monitoring wells (MW-1, MW-107D, and MW-108D) had TCE concentrations ranging from nondetect to 2.9 µg/L during the 2010-2018 time period (Table 4.14).

Since monitoring began in 1990, 225 spring samples have been collected at the LJSCC, and TCE has been detected in all but 11 of the samples (Table 4.18). Based on the evaluation of the dye trace study, potentiometric maps, and local geology, it has been interpreted that the recharge area for LJSCC is located to the west of the LJSCC entrance toward OGV and Sullivan, which is why in the Phase II RI, Benham interpreted the TCE plume to extend to the springs approximately 2.5 miles to the east (Figures 13 and 14 in Appendix F). This interpretation is supported by the detection of Freon 11 in spring samples. Samples from LJSCC have had concentrations of Freon 12 and Freon 21 that generally have been restricted to detections in wells at or near the former landfill. The highest concentrations of Freon 11 have been detected in former TRW/Ramsey shallow monitoring wells (OBG-02S, OBG-05S, and TRW-MW-2) which have had Freon 11 concentrations above 1,000 µg/L. In addition, the dye trace from the landfill to LJSCC and one from the reaches of Winsel Creek on the north side of Sullivan indicate both of these areas likely are within the recharge area of LJSCC.

In summary, in the intermediate/deep ground water, TCE contamination above the RAO is found in only two areas: OGV01/02 and MW-6, and the former TRW/Ramsey facility. It is clear that TCE has migrated a considerable distance from the former TRW/Ramsey facility within the intermediate/deep groundwater given the fact that TCE is found in all the active Sullivan municipal wells. There are two intermediate/deep monitoring wells located between OGV01/02 and the

former TRW/Ramsey facility (MW-3 and MW-6) and one municipal well (COS03). MW-6 and COS03 both have had detections of TCE. MW-6 was installed in 2010 and TCE concentrations in the well were 54 µg/L in 2010 and 36 µg/L in 2014. COS03 has sporadically had low detections of TCE, with concentrations ranging from nondetect to 2.8 µg/L. The karstic and fractured nature of the aquifer and the transitional method of mapping groundwater contamination using monitoring wells with fixed open intervals make it hard to predict where contamination will be found at any specific location. The preferential movement of groundwater through the karst system, especially through the complex and poorly defined solution channels and cavities, makes it difficult to determine contaminant migration through the aquifer with a limited number of vertical monitoring wells. The narrow vertical interval carrying TCE contamination into OGV-01, the offset of this interval by nearly 100 feet in nearby monitoring well MW-6, and the complete absence of TCE in MW-3 is evidence of this complexity.

5.2.3.2 Vertical Distribution

As with the discussion of the horizontal distribution of TCE, it is necessary to discuss both OU1 and OU2 data to gain a proper prospective of the vertical distribution. The discussion below is organized by the areas where the horizontal extent of TCE contamination in groundwater was discussed in Section 5.2.3.1.

Figures 5.5 and 5.6 provide the cross sections presented on Figures 3.4 and 3.5, superimposed with the available TCE data from 2010 through 2019. If the well was sampled multiple times during this time period, the maximum TCE concentration is shown on the figures. The locations of the cross sections are shown on Figure 3.3. The discussion of the vertical distribution of the contamination is hampered by the lack of information on private well construction and the large open intervals of municipal wells contrasted by the limited length of open intervals in monitoring wells. However, three private wells, one municipal well, and four monitoring wells have undergone vertical profiling in an attempt to determine the flow path of TCE contamination in the highly complicated karst hydrogeologic system underlying the site area.

Highway AF Area

The Highway AF Area comprises an area of private wells that are in the shallow groundwater. The most current data shows no detections of TCE above the RAO of 5 µg/L (Table 4.6, Table 4.8, and Figure 5.4).

Private well PH062, located in the Highway AF area, was vertically profiled for TCE. Down-hole logging and discrete point sampling were conducted at the well in January and February 2006, as discussed in Section 4.3.3.4. The well was determined to be open to the formation from 175 feet bgs to its bottom at 335 feet bgs. TCE concentrations under both ambient and pumping conditions were consistent throughout the open interval at concentrations ranging from 1.2 µg/L to 2.0 µg/L. It is likely that, given the downward gradient measured throughout the entire open interval, and the consistent TCE concentrations, that the TCE impacting the wells in the Highway AF area is migrating through shallower groundwater. This may indicate a more local source of TCE for the contamination observed in this area. Such a source could be TCE contamination originating from historical releases to Winsel Creek, which is known to be a losing stream. As discussed in Section 4.8, a tributary to Winsel Creek intermittently received process-generated wastewater from the former TRW/Ramsey facility from 1950 until 1964. Winsel Creek flows less than one mile south

and east of Highway AF Well Area and dye injected into Winsel Creek discharges to Katz Spring, which is located north of the Highway AF area (Figure 3.8).

However, it also is possible that TCE-contaminated groundwater emanating from the former TRW/Ramsey was pulled farther northward into the area south of the Highway AF wells by pumping of COS11 and COS05 when COS02 was not in operation. COS02, which is known to be impacted by the former TRW/Ramsey facility, was heavily used until January 1990. COS02 was not used during the periods 1990 to 1995 and 1999 to 2001. COS05, which is located northwest of COS02 about 7,200 feet in the direction of the Highway AF wells area, then experienced increased usage through the 1990s. In addition, COS11, was pumped heavily between 1998 and 2002. COS11 is located approximately 5,000 feet north of COS02 in a direct line between COS02 and the Highway AF area. However, the highest concentrations of TCE in the Highway AF area were detected in August 1997 (PH062) and February 1998 (PW023) before COS11 began operation in late 1998.

There are no known deep groundwater wells in this area to evaluate potential vertical migration of contamination to deep groundwater.

Closed Sullivan Landfill

At the closed landfill in OU2, MW-1A, MW-101, MW-102B, MW-103 through MW-105, MW-107S, and MW-108S are completed in the shallow groundwater. Wells completed in the intermediate/deep groundwater are MW-1, MW-102B, MW-107D, and MW-108D. Deep well MW-1 was originally drilled by MDNR in 2005 and was subsequently reconstructed during 2006 into:

- MW-1A with a 104 to 280-foot depth interval to monitor shallow groundwater, and
- MW-1 with a 349 to 505-foot depth interval to monitor deep groundwater.

Within the closed Sullivan Landfill, concentrations of TCE as high as 6.9 µg/L have been observed in monitoring wells (Table 4.15). Current concentrations in the landfill wells are below the MCL (Table 4.14). During the 2010-2018 time frame, TCE concentrations in the shallow groundwater have ranged from 0.52 µg/L to 3.5 µg/L. TCE concentrations in the intermediate groundwater have ranged from 0.49 µg/L to 2.9 µg/L (Table 4.14). Figure 5.5 shows a vertical profile of TCE along southwest to northeast cross section A-A' that includes MW-107 and MW-108.

Vertical profiling was conducted at MW-1 in 2005, which was approximately 500 feet deep and had an open interval of approximately 400 feet at that time. It is the only well near the landfill that was drilled into the deep groundwater. TCE concentrations at 185 feet bgs and 480 feet bgs were 1.68 µg/L and nondetect, respectively, as discussed in Section 4.3.3.1. These concentrations are consistent with the understanding of vertical groundwater flow in MW-1. Flow was downward to 280 feet bgs, which carries contamination downward from the landfill. Groundwater flow was upward from the bottom of the well to 320 feet bgs, which moves deeper clean water upward.

The Voss (GWS003) private well was vertically profiled during the Phase II RI. This well is located on the east side of the closed Sullivan Landfill. As discussed in Section 4.3.2.1, the well was found to be 365 feet deep. In February 2005, seven discrete samples were collected at depths ranging from 205 feet bgs to 350 feet bgs. TCE concentrations ranged from 2.0 µg/L to 3.1 µg/L.

Freon 11 concentrations ranged from 48 µg/L to 88 µg/L. Freon 12 concentrations ranged from 3.5 µg/L to 5.3 µg/L. The concentrations were consistent and no trend was observed in relation to sample depth. Because vertical groundwater flow in the well was downward throughout the open interval, it is likely that the TCE and chlorofluorocarbon concentration is migrating through shallow groundwater from a localized source. This is consistent with the evaluation of the data for flow and TCE profiling at PH062 discussed above. The source is probably the nearby closed Sullivan Landfill.

OGV01/OGV02 Area

Monitoring wells MW-4 and MW-5 are completed in the shallow groundwater in the area of the current and former OGV municipal wells. These wells were installed to the west and southwest of the OGV01 and OGV02 during investigations of nearby potential source areas (Figure 4.2). TCE has not been detected in either well.

Vertical profiling for TCE was conducted at private well PH068 (White House Well), located adjacent to the OGV wells. It was found to be 342 feet deep, with an open interval from 140 feet to 342 feet bgs. This means that the bottom of well PH068 is slightly shallower than the casing depth of 350 feet at adjacent OGV01, which made it a good sample point to evaluate shallow and intermediate groundwater around the OGV well site. Groundwater samples were collected at 220 feet bgs and at 332 feet bgs. During a subsequent field event, approximately 3,100 gallons of water were purged from well PH068 before a sample was collected for analysis. No VOCs were detected in the three groundwater samples.

Deep monitoring wells MW-3 and MW-6 also have both undergone vertical profiling for TCE and groundwater flow. MW-3, which is located southwest of the OGV wells about 950 feet, has an open interval of approximately 450 feet and is approximately 580 feet deep. Results of the geophysical logging at MW-3 before it was reconstructed showed nearly uniform downward flow from the water surface (about 210 feet bgs) to about 440 feet bgs, indicating that groundwater was entering at the top of the open interval and exiting the borehole between 440 feet bgs and 580 feet bgs. Because of cascading water into the well from above the water table, the upper 327 feet of the borehole was cased out (see Section 4.5.4). TCE was not detected in MW-3 in either discrete or wellhead samples, before or after the additional casing was installed.

MW-6 is the nearest monitoring well to OGV01/02 that has had detections of TCE (Table 5.2). It is located about 1,000 feet southeast of the OGV wells, and has an open interval of approximately 200 feet and is approximately 525 feet bgs deep. Vertical flow measurements showed that the only zone of downward flow is immediately below where the casing was seated at 325 feet bgs. From approximately 350 to 390 feet bgs, groundwater appears to flow out of the well. Groundwater samples were collected at depths of 310, 392, 430, and 450 feet bgs from this well during pumping conditions. Table 4.7 shows the TCE concentrations in groundwater samples collected at these different depths. TCE concentrations ranged from nondetect at 310 feet bgs to 162.5 µg/L at 450 feet bgs. Samples also were collected from this well under ambient conditions at the following depths: 392 feet bgs, 440 feet bgs, and 515 feet bgs. TCE concentrations were 59 µg/L, 51 µg/L, and 24 µg/L, respectively. Figure 5.6 shows a vertical profile of TCE along west to east cross section B-B’ that includes MW-6 and OGV01/OGV02.

The absence of TCE in PH068, the shallow interval of MW3 (before it was reconstructed), MW4, MW5, and the shallow sections of OGV-01 during packer testing in 2004, indicate the absence of a local source of TCE because no TCE has been found in the upper 350 feet of the aquifer in the vicinity of the OGV wells. If a sizable local source was impacting the OGV wells, it is unlikely that no TCE would be found in the upper several hundred feet of groundwater. The only TCE found in the aquifer in the vicinity of the OGV wells is at depths below 350 feet with the primary depth zone carrying the TCE between 390 feet (MW-6) and 560 feet deep (OGV-01).

Municipal Wells

All Sullivan and OGV municipal wells have had detections of TCE, with the exception of COS01, which was never sampled for TCE and was taken out of service in 1960, and OGV03, which came online in 2019. OGV01, OGV02, COS02 and COS08 are the only municipal wells to have TCE concentrations exceeding the RAO. COS09 and COS11 have historically had TCE concentrations just below the RAO. As discussed earlier, OGV01 and COS08 have been decommissioned and plugged because of TCE contamination.

TCE consistently has been detected in former OGV01 and OGV02 (Table 5.2). OGV01 was drilled to a total depth of 805 feet bgs and cased to a total depth of 350 feet bgs. It was open to the entire length of the Eminence Formation and nearly the entire length of the Potosi Formation. OGV02, which was installed in 2003 in close proximity to OGV01, was drilled to a total depth of 900 feet bgs and cased to a total depth of 450 feet bgs. It is open to the lower portion of the Eminence Formation and the entire length of the Potosi Formation (Figure 5.5). OGV02 has historically had greater concentrations of TCE than OGV01. This may be because OGV02 is cased nearly 100 feet deeper than OGV01, causing permeable zones with no TCE contamination to be sealed off, preventing dilution of TCE coming from deeper zones in both wells (USGS, 2004).

Vertical profiling for TCE and groundwater flow was conducted at former OGV01 (See Section 4.3.2.1). The results of the investigation indicated that OGV01 had the largest concentration of TCE entering the borehole from a permeable zone in the Potosi Formation located between 540 and 560 feet bgs with no TCE detected entering from the upper 400 to 450 feet of the borehole. It also was found that this zone was providing approximately 40 percent of the total yield under pumping conditions. Geophysical data indicated a downward gradient across the entire open interval, although groundwater below 700 feet flow was observed to be stagnant (USGS, 2004).

TCE concentrations at OGV02 during the period 2010 through 2019 ranged from 21 µg/L to 160 µg/L.

During the 2010 through 2019 sampling events, TCE was detected in six of the Sullivan municipal wells as illustrated on Figure 5.4. The highest concentration was observed in COS02, which is located just to the north of the former TRW/Ramsey facility. It is 850 feet deep and has an open interval of approximately 500 feet. It is open to the lower portion of the Eminence Formation and the entire length of the Potosi Formation (Figure A2 in Appendix A). TCE concentrations in this well have ranged from nondetect to 64 µg/L. This well is theoretically used to capture and contain the groundwater contamination from the facility. However, TCE has been detected in OBG-20DD at concentrations approaching 5 µg/L. This well is situated north of COS02 (Figure 4.2).

COS08 is the only other Sullivan municipal well to have had TCE concentrations exceeding the RAO of 5 µg/L. COS08 has been decommissioned and plugged, but historic TCE concentrations in this well have ranged from nondetect to 48 µg/L. COS08 was 964 feet deep and had an open interval from 532 feet deep to 964 feet deep. It was open to the Potosi and Derby-Doerun formations, but not the Eminence Formation (Figure 5.5).

It should be noted that all four of the municipal wells that have TCE levels greater than 5 µg/L (OGV01, OGV02, COS02, and COS08) had open intervals in the Potosi Formation. As discussed in Section 4.3.3.5, it has been shown that the largest concentration of TCE was entering OGV01 from a permeable zone in the Potosi Formation located between 540 and 560 feet bgs and that concentrations of TCE above this level (in the Eminence) decreased with decreasing depth and no TCE detected above 400 feet to 500 feet in this borehole (USGS, 2004).

Wells COS03, COS05, and COS10 are depicted on Figures 5.5 or 5.6 showing vertical distribution of TCE along these cross sections from 2010 through 2019 sampling events. All Sullivan municipal wells, for which we have data, have had detections of TCE in past sampling events (Table 5.2). All of these wells, except COS10, terminate in the deep groundwater of the Ozark aquifer, but also are open to the intermediate groundwater. COS10 terminates in the underlying St. Francois aquifer, but is open to deep groundwater in the Ozark aquifer. Open intervals for the municipal wells range from 350 feet to 550 feet. COS10 is the exception and has an open interval of approximately 1440 feet. A long open interval makes it hard to determine the actual depth that contamination may enter the well. In addition, drawing water from such a large interval tends to dilute the TCE concentrations because water-bearing zones that contain little or no TCE dilute the TCE coming from more contaminated zones.

COS03 is located between the former TRW/Ramsey facility and OGV01/02. It is 905 feet deep and has an open interval of approximately 550 feet. TCE concentrations in this well have ranged from nondetect to 2.8 µg/L. MDNR concluded that COS03 is likely not hydraulically connected to the other wells (MDNR, 2007a). This could account for the general lack of TCE contamination in this well. Figure 5.5 illustrates the very large open interval of this well. However, the drillers log (Appendix B) indicates that there was no flow in the well below approximately 615 feet bgs. This means that the well produces the majority of water from the Eminence Formation. If MW-3 is any indication of the large volume of downward flow possible in this area (Section 4.5.4), then it may be that the large volume of water entering COS03 in the Eminence dolomite is diluting the TCE.

Two Sullivan municipal wells, COS09, and COS11, have had detections of TCE just under the RAO; however, neither are along the cross-section lines. COS09 is 775 feet deep with an open interval from 314 to 775 feet bgs. COS11 is 918 feet deep with an open interval from 403 to 430 feet bgs. COS11 was originally open to a depth of 890 feet bgs, but the well collapsed to 430 feet bgs.

Former TRW/Ramsey Facility

At the former TRW/Ramsey facility, there are 26 OBG S-series wells completed at depths ranging from approximately 118 feet to 160 feet bgs, except for one well (OBG-22S) completed to about 65 feet bgs. TCE has consistently been observed in 18 of these wells at levels exceeding the MCL

(Table 4.21). TCE concentrations at two locations (OBG-2S and OBG-5S) have consistently been greater than 10,000 µg/L, which indicates probable DNAPL. In general, the highest concentrations observed in the site area are present in the shallow wells at the former TRW/Ramsey facility.

Intermediate and deep monitoring wells associated with the former TRW/Ramsey facility are the OBG D and OBG DD-series wells, respectively. There are 12 OBG D-series wells that are approximately 325 feet deep. TCE has consistently been detected in seven of these monitoring wells at concentrations exceeding the MCL. Three monitoring wells, OBG-1D, OBG-8D, and OBG-13D, have had the majority of TCE detections observed greater than 1000 µg/L.

There are four OBG DD-series monitoring wells that are approximately 550 feet deep. TCE has always been detected above the RAO in OBG-1DD with the exception of one concentration measured in 2017. OBG-1DD is located on the northeast corner of the facility. Concentrations of TCE at OBG-1DD have ranged from 9.8 µg/L to 540 µg/L except for the 2017 concentration, which was less than 1 µg/L. It is unknown whether this sample was collected using the new or old sample collection method. TCE has sporadically been detected in OBG-14DD and OBG-20DD, but at concentrations below the RAO.

As discussed previously, although the monitoring network consists of 43 wells, the 20-foot sample intervals at the three general sample depths leave a significant portion of the aquifer beneath the former TRW/Ramsey facility unmonitored.

5.2.3.3 Contaminant Data Trends

Data trends show an overview of the contamination history at a well which helps with the determination on the nature and extent and even possible sources of contamination. Trend graphs have been made for each of the private wells in OU1 in which contamination has been found, as well as monitoring wells and municipal wells.

Private Wells

Fifteen private wells within OU1 have been found to contain detectable levels of TCE since monitoring began, at least as early as 1993. A summary of the detections at these wells is presented in Table 5.2. All of these wells are located along Highway AF (Figure 5.4).

Only two private wells within OU1 have had detections of TCE greater than the RAO of 5 µg/L: PH062 and PW023. The trend graph for each of these is shown on Figure 5.7. PH062 is currently unused and the residence has been added to the Sullivan Municipal Water System. The last data available for PH062 was in 2013; however, the RAO had not been exceeded in the well since 1998 (Figure 5.7). The well has not been abandoned but does not have an operational pump.

PW023 has been sampled regularly since 1998. In 1998, TCE concentrations were greater than the RAO of 5 µg/L: 7.0 µg/L in February 1998 and 5.5 µg/L in September 1998. Since that time, TCE concentrations at PW023 have steadily decreased. TCE was nondetect during the last three sampling events at this location in 2016, 2017, and 2019.

The trend graphs for the remaining wells at which TCE has been detected are shown on Figure 5.8. None of the detected concentrations exceeded the RAO. A trend graph was not included for JM-07

because this well has only been sampled one time. None of the graphs indicate an upward concentration trend.

Municipal Wells

In addition to the OGV municipal wells OGV01 and OGV02, two Sullivan municipal wells (COS02 and COS08) have had detections of TCE exceeding the RAO. Figure 5.9 shows the TCE trends at these four wells. This figure also shows the pumping history for both the Sullivan and OGV municipal wells. This pumping history is important in assessing temporal trends in contaminant data because of the complex hydrogeologic system underlying the site and the influence of pumping on TCE migration in groundwater.

OGV01 was the first municipal well at which TCE was detected above the RAO (1986). OGV01 was temporarily taken out of service from July 1991 through September 1992 and then was taken out of service permanently in February 1994. As shown on Figure 5.9, the highest TCE concentration recorded at this well was 99.6 µg/L, which was observed in March 2004 at a depth of 540 feet as part of the packer test described in Section 4.3.3.5. The highest concentration collected from the wellhead at OGV01 was 42.3 µg/L which was observed in September 1997.

Historical data for COS02 shows that it was first sampled in September 1986. In May 1988, TCE was first detected in COS02 at 4.6 µg/L. As shown on Figure 5.9, COS02 was taken out of service from January 1990 to April 1995 during which time TCE concentrations fluctuated between nondetect to 1.2 µg/L. After COS02 was brought back online in 1995, TCE concentrations continued to fluctuate around 1.0 µg/L. TCE concentrations steadily increased at COS02 beginning in 1998 when pumping rates at COS08 declined and COS11 became operational. COS11 operated between September 1998 and December 2002, and during this time was pumping an average of 5.5 million gallons per month. TCE concentrations at COS02 continued to increase after COS11 was taken out of service and peaked in March 2006 at 53 µg/L. This would appear to indicate that operation of COS11 (and the shutdown of COS08) allowed COS11 to pull the TCE contamination to the north. After OGV02 was placed in service, according to Figure 5.9, TCE levels in COS02 began to decline and become steady, fluctuating around 30 µg/L.

TCE was detected for the first time in COS08 in late 1990, approximately 11 months after COS02 was taken out of service. As shown on Figure 5.9, the TCE concentrations at COS08 were below the RAO until they began an upward trend in 1994, which corresponds to the time that OGV01 was taken out of operation. The TCE concentrations peaked in December 2001; however, COS08 was taken out of service from February 1998 to June 2003 and the TCE levels decreased to nondetect after June 2002. From the period July 2003 to July 2004 when COS08 was again in use, TCE levels were again above the RAO. COS08 was decommissioned and plugged in 2004. Based on Figure 5.9 it appears that pumping at COS02 and OGV01 was inhibiting TCE migration to COS08. COS08, which was located about 0.5 miles from the former TRW/Ramsey facility, was pumping an average of 5 million gpm from the Potosi Formation from the period 1990 to 1998.

Since OGV02 became operational in 2005, TCE concentrations measured at the well have fluctuated between a low of 5.86 µg/L in 2003 and a high of 160 µg/L in May 2010. There is no discernible upward or downward trend.

Figure 5.9 also shows the trend graphs for each of the Sullivan Municipal wells at which TCE has been detected, but at levels less than the RAO of 5 µg/L. The detections at three of these six wells (COS03, COS05, and COS10) have been sporadic. At COS09, TCE concentrations have fluctuated from nondetect to a high of 4.6 µg/L during the period 1997 to 2012. This corresponds to a period of increased pumping at COS10, which is located approximately 2,000 feet northeast of COS09. At COS11, TCE was detected from the first use of the well in late 1998. The TCE concentrations appear to have peaked in 2000 at 4.7 µg/L, approximately two years after the well began operation. COS11 has not been used as a source for municipal water since December 2002 and TCE concentrations in the well have fluctuated from nondetect to 1.3 µg/L since that time.

Monitoring Wells

Except for MW-6, the only monitoring wells that have had detections of TCE are associated with either the closed landfill (OU2) or the former TRW/Ramsey facility. Table 4.15 presents a summary of detections at the OU2 monitoring wells. Table 4.21 presents a summary of the detections at the former TRW/Ramsey facility.

The following discussion focuses on the former TRW/Ramsey wells because:

- There is limited data for MW-6 since the well was installed in 2010; and
- There are only three wells associated with the closed landfill (MW-104, MW-105, and the Voss well [GWS003]) that have had detections of TCE above the MCL of 5 µg/L. The TCE concentrations recorded at these three wells have fluctuated between nondetect and 6.9, with the majority being below the MCL. TCE concentrations in these wells have been below the MCL since 2006.

TRW has a groundwater monitoring network consisting of 43 wells with 20-foot screens at three general depths:

- 26 shallow monitoring wells with 20-foot screens between 120 to 150 feet bgs,
- 13 intermediate monitoring wells with 20-foot screens between 315 to 350 feet bgs, and
- 4 deep groundwater with 20-foot screens between 540 to 560 feet deep.

The 20-foot sample intervals at the three general sample depths leave a significant portion of the aquifer beneath the former TRW/Ramsey facility unmonitored.

As discussed in Section 4.8, in 2016, groundwater sampling at the former TRW/Ramsey facility switched from traditional purging of three well volumes to low-flow sampling. This change in sampling procedures may cause the trend graphs to show downward trends that are not the result of decreased concentrations at a location, but the result of less stress on the groundwater flow from the low-flow protocols.

TCE concentrations in 14 of the 26 shallow monitoring wells have consistently exceeded the MCL (Table 4.21). TCE concentrations at two locations (OBG-2S and OBG-5S) have consistently been greater than 10,000 µg/L. OBG-2S is located between the TCE/mineral spirits storage area (AOC 1) and the drum storage area (SWMU 2). OGB-5S is located in the former lagoon area (SWMU 1). Figure 5.10 shows the trend graphs for select shallow monitoring wells that have had consistent detections of TCE. The original GETS, installed at the facility in 1995, consisted of ground water recovery wells installed to a depth of approximately 150 feet bgs. As can be seen on

Figure 5.10, most of the wells show a downward or stable trend, except for two wells (OBG-13S and OBG-18S). The downward trend is to be expected given that these wells are screened at or near the levels of the recovery wells. OBG-13S, which shows a definite upward trend, is located southeast of the facility (Figure 4.2). OBG-18S shows an apparent upward trend as TCE had been nondetect at this well until 2019 when the TCE concentration was 6.4 µg/L. OBG-18S is located approximately 2,000 feet northeast of the former TRW/Ramsey facility. The upward trends at these wells may indicate that the GETS is not providing full hydraulic capture in these areas.

TCE has consistently been detected in 6 of the 13 intermediate monitoring wells at concentrations exceeding the MCL, with concentrations ranging from 5 µg/L to 3,000 µg/L (Table 4.21). Three monitoring wells, OBG-1D, OBG-8D, and OBG-13D, have consistently had TCE concentrations greater than 1,000 µg/L. Figure 5.11 shows the trend graphs for select shallow/intermediate monitoring wells. As can be seen on this figure, the majority of the wells show an increasing trend until about 2008 when TCE concentrations started a downward trend. OBG-01D, OBG-8D, OBG-13D, and OBG-18D appear to be an exception to this as all four wells show an overall upward trend in TCE concentrations. As discussed previously, OBG-13D is located southeast of the facility and OBG-18D is located approximately 2,000 feet northeast of the former TRW/Ramsey facility Figure 4.2). The upward trends at these wells may indicate that the GETS is not providing full hydraulic capture in these areas.

TCE has consistently been detected in two of the four deep monitoring wells, OBG-1DD and OBG-20DD. Figure 5.12 shows the trend graphs for these two wells. Concentrations at OBG-1DD, remained steady, fluctuating around 40 µg/L, until 1999 when concentrations increased to peak at 540 µg/L in 2005. Since 2005, concentrations appear to be on a downward trend. However, concentrations at this well during the third quarter of 2019 were again above 100 µg/L. OBG-1DD is located in the northeast portion of the property. Concentrations at OBG-20DD have ranged from nondetect to 4.7 µg/L and showed a consistent upward trend from 2003 to 2016. Concentrations have been nondetect or at very low levels during sampling in 2017 and 2019, possibly due to the changed sampling method. OBG-20DD is located north of COS02 and TCE detections in this well indicate that COS02 is not providing adequate capture of the TCE at deep groundwater depths to prevent migration of the plume.

Both the intermediate and the deep wells are screened below the level of the original GETS wells. The upward trend in TCE concentrations in monitoring wells indicates that the original GETS was not providing hydraulic capture in either the intermediate/deep groundwater. However, the new recovery well RW-4 is installed in the intermediate groundwater and the enhanced GETS came online in March 2019, after the first quarter 2019 sampling concluded. Continued monitoring of the intermediate and deep wells is necessary to determine if the enhanced GETS is providing adequate capture of the TCE in the intermediate/deep groundwater.

5.2.4 Public Water Supply

Groundwater from OGV02, which was the main water supply for OGV from 2005 to 2019 and is currently used on an as-needed basis, is treated before distribution using an air stripper. The air stripper at OGV02 ensures that a clean water supply is provided to OGV, while remediating the groundwater within the cone-of-capture of OGV02. It is difficult to assess the efficacy of OGV02 as a remedial system without a definitive source area from which contamination is migrating.

COS02, which supplies water to Sullivan, also uses an air stripper for treatment before distribution. According to the RCRA Corrective Action EI, the migration of contaminated groundwater is under control at the former TRW/Ramsey facility because of continued operation of COS02 which acts as a containment mechanism that stops the majority of contaminated groundwater from further migrating out of the immediate vicinity of the former TRW/Ramsey facility (EPA, 2007). However, as indicated in Section 5.2.3.3, COS02 may not have the complete effectiveness stated in the RCRA Corrective Action document.

If COS02 and the GETS at the former TRW/Ramsey facility are not providing adequate hydraulic capture of the TCE contamination beneath the former facility, then both private and public supply wells will continue to be impacted and new private and public supply wells may be impacted in the future.

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6.0 EVALUATION OF KNOWN AND POTENTIAL SOURCE AREAS

There are currently two known sources of groundwater contamination in the vicinity of OU1—the closed Sullivan Landfill and the former TRW/Ramsey facility. An additional 16 areas have been investigated as potential source areas either during the three phases of the RI (Figure 4.1) or as a part of the post-interim RA (Figure 4.5). The following sections evaluate each of these areas as a potential source area for the contamination at the OGV municipal wells.

6.1 POTENTIAL SOURCE AREAS INVESTIGATED

6.1.1 OGV01/02

The geophysical logging of OGV01 conducted as a part of the Phase II RI indicated that OGV01 had the largest concentration of TCE entering the borehole from a permeable zone in the Potosi Formation located between 540 and 560 feet bgs. No TCE was detected in samples collected from intervals above a depth of 400 feet bgs. The details of the geophysical logging were discussed in Section 4.3.2.1.

PH068, a former residential well also known as the White House Well or WH1, was characterized during the Post-Phase II RI as discussed in Section 4.3.3.1. The well is located adjacent to OGV01 as shown on Figure 4.2. A video log of the well was completed on May 17, 2007 and the well was found to be 342 feet deep and cased to a depth of approximately 140 feet. The bottom of the PH068 borehole is slightly shallower than the casing depth of 350 feet at OGV01. Groundwater samples were collected from PH068 at depth intervals of 220 feet bgs and at 332 feet bgs in May 2007 and analyzed using a field GC. No VOCs were detected in these groundwater samples. On May 24, 2007, after purging approximately 3,100 gallons of water, a groundwater sample was collected and submitted for laboratory analysis. No VOCs were detected in this groundwater sample.

The absence of TCE at PH068 and the elevated TCE concentrations detected at depth in OGV01 and OGV02 strongly suggest that the source of the TCE contamination in OGV01 and OGV02 is not in the immediate vicinity of these two wells.

6.1.2 Highway AF Well Area

The Highway AF Well Area is an area of known TCE and Freon contamination which appears to be associated with the shallow groundwater. Fifteen wells within this area have historically had detectable concentrations of these constituents. A summary of TCE detections within this area between 2008 and 2010 is included as Table 4.6.

The northern former Sullivan sewage lagoon and COS11 are located approximately 0.5 mile south of the Highway AF Well Area, and Sullivan's airport lies approximately 0.5 mile east of the area. Winsel Creek, a losing stream, is situated south and east of the Highway AF Well Area. As noted previously, process-generated wastewater from the former TRW/Ramsey facility was intermittently discharged to a Winsel Creek Tributary from 1950 until 1964. The tributary received wastewater from settling lagoons from 1964 to 1983 when chrome plating operations ceased. Discharges were regulated by an NPDES Permit from 1973 to 1983.

Investigations were performed during both the Phase II and Post-Phase II RIs to help determine whether a local source is the cause of the contamination in the Highway AF Well Area. During the Phase II RI, two ponds along Highway AF, known as the Peterson Ponds, were investigated. During the Post-Phase II RI, tree core samples were collected along Highway AF and private well PH062 was characterized to help determine the source of the contamination. These investigations are described in detail in Sections 4.3.2.7 and 4.3.3.5.

6.1.2.1 Soil and Tree Core Sampling

Both soil and tree core sampling were conducted in the Highway AF well area. The analytical results are summarized in Tables 4.1 and 4.3. A summary of the sampling and results are as follows:

- Tree core sampling
    - 13 tree core samples were collected from around the Peterson ponds (Figure 24 in Appendix F). No TCE or COPCs were detected.
    - 27 tree core samples were collected along Highway AF (Figure 6 in Appendix G). TCE was detected in one tree core sample and cis-1,2-DCE was detected in three tree core samples at low concentrations.
- Soil sampling – four soil samples were collected from two soil borings at the northern Peterson Pond. Collection depths ranged from 4.5 feet bgs to 15 feet bgs. The soil sample locations are shown on Figure 25 in Appendix F. No TCE or COPCs were detected.

The presence of TCE and cis-1,2-DCE in tree cores along Highway AF supports the theory that there may be an unknown localized source near the area. However, the argument can be made that the investigation is inconclusive for several reasons:

- the concentrations detected are low;
- the samples were analyzed using a field GC and no confirmation samples were collected and sent to an off-site lab for analysis;
- the samples with detections are spaced relatively far apart (greater than 500 feet in most instances) and are not located in one general area;
- many more samples that did not have detections of COPCs than did; and
- there were no detections in samples collected from the trees nearest to the detections.

6.1.2.2 Former Residential Well PH062

TCE has been detected in groundwater from former residential well PH062 at concentrations exceeding the MCL. The well is currently unused and the residence now obtains water from the Sullivan Municipal Water System. However, the well has not been abandoned.

PH062 was thought to be an old lead-zinc exploration borehole that was greater than 1000 feet deep. If the well was that deep, the impacted well could act as a conduit for shallower contamination to impact the groundwater at greater depths. Downhole video logging completed in January 2006 revealed the actual total depth of the well to be 335 feet bgs. The well is cased to a depth of approximately 175 feet bgs. Geophysical logging of the well indicated downward flow

throughout the borehole from the water table (approximately 180 feet bgs) to the bottom of the borehole. Downward flow increased between 250 feet bgs and 300 feet bgs.

Discrete groundwater samples were collected from the well at five depth intervals under ambient (non-pumping) and pumping conditions. The groundwater samples were analyzed using a field GC. The TCE concentrations were uniform throughout the borehole under both ambient and pumping conditions and ranged from 1.2 µg/L to 2.0 µg/L. The analytical results are summarized in Table 4-3 in Appendix G.

It was concluded in the Post-Phase II RI that the uniform TCE concentrations and the downward flow in the well suggests that the TCE impacting the well is present at or near the water table and is probably related to a local source of TCE. In addition, it was established that PH062 is not acting as a conduit for contamination to impact the groundwater at greater depths.

6.1.2.3 Summary

Trend graphs for impacted wells in the Highway AF well area, illustrated on Figures 5.7 and 5.8, show downward trends for the TCE contamination. Therefore, it appears that the TCE in this area could be naturally attenuating or the source has been eliminated. There are currently two hypotheses for the shallow contamination in this area. One hypothesis is that TCE contamination originated from historical releases to Winsel Creek. The other hypothesis is that the former TRW/Ramsey plume, having been pulled northward into the Highway AF wells area by COS02 and COS05, was pulled back southward by COS11. COS11 did not start operation until 1998, which is when the TCE concentrations began to decline in the Highway AF wells area (Figures 5.7 and 5.8). TCE was detected in COS11 from the start of operation.

The Post-Phase II RI concluded that the uniform TCE concentrations in PH062 and the downward flow in the well suggests that the TCE impacting the well is present at or near the water table and is probably related to a local source of TCE. The tentative identification of TCE and cis-1,2-DCE in tree cores along Highway AF also supports the idea that there may be a localized source near the area (MDNR, 2007a). But it should be noted that Section 6.1.2.1 also lists several reasons that these data may be inconclusive regarding a local source.

Based on the trend graphs and the investigations carried out at the Highway AF well area, it may be that the TCE contamination is from a small local source and is not related to the deep contamination found at OGV01/02 and the Sullivan municipal wells. It also is possible that a combination of pumping at COS02 and COS05 influenced deep groundwater flow and pulled contamination from beneath the former TRW/Ramsey facility into the Highway AF wells area.

There are no deep wells in the Highway AF area that intersect the intermediate/deep groundwater. The closest ones are COS05 and COS11, both of which have had detections of TCE (Table 5.2).

6.1.3 Blanton, Sohn, and Wal-Mart Properties

These potential source areas were originally identified in the Phase I and Phase II ESA reports completed in 1991 for Wal-Mart (Huntingdon, 1991 and Kansas City Testing Laboratory, Inc., 1992). They are located near the intersection of I-44 and Highway 185 and are all located in

proximity to each other (Figure 4.1). These properties were also investigated as a part of the EPA ESI. During the Phase II ESA, TCE was detected in soils at both the Sohn and Blanton properties. During the ESI, TCE was detected in soils at the Sohn property in the drum storage area (Table 4.1).

The Highway 185 garage, which was a full-service automotive repair shop, was located on the Sohn property. The garage used solvents, industrial cleaners, and lubricants and stored waste oil. The garage also includes a drum storage area. The Blanton property, which was purchased by Wal-Mart in 1993, consisted of a vacant lot on which a sewage lagoon/collection pond was constructed. Blanton Oil and a Goodyear Service Center are adjacent to and upgradient of property.

During the sewer line investigation in Phase II of the RI, a water sample was collected from the manhole that is the junction point of the sewer lines for the Blanton, Sohn, and Wal-Mart properties (POTW-3 on Figure 8 in Appendix F). No TCE was detected in the sample: however, PCE was detected at 1.4 µg/L (Table 9 in Appendix F). It is unknown whether the PCE is related to residual compounds in the shallow soils/water near the sample collection point, or is related to discharges of impacted wastewater into the sanitary sewer system.

Tree core and/or soil samples were collected from these properties during both the Phase II and the Post-Phase II RIs. No TCE or other COPCs were detected in the samples (Tables 4.1 and 4.3). A summary of the sampling is as follows:

- Phase II RI – sample locations shown on Figures 24 and 25 in Appendix F.
    - Tree core sampling - TC-001 and TC-002.
    - Soil sampling - two soil samples from SB-15, at depths of 1 to 2 feet bgs and 7 to 8 feet bgs.
- Post-Phase II RI – 27 soil borings shown on Figures 2, 14, and 15 in Appendix G.
    - Blanton property - 5 soil borings.
    - Sohn property - 6 soil borings.
    - Wal-Mart property - 16 soil borings.

The installation of MW-4 on the Sohn property was completed on June 21, 2006. During installation, 32 groundwater and drill cutting samples were collected. In addition, groundwater from MW-4 has been sampled 13 times since installation. No TCE or other COPCs were detected in any of the samples (Table 4-6 through 4-8 in Appendix F).

Based on all the investigation data, it does not appear that the limited soil contamination found on the Blanton, Sohn, and Wal-Mart properties is acting as a source for the TCE groundwater contamination found in OU1.

6.1.4 Former Sullivan Sewage Lagoons

Sullivan operated two sewage lagoons that are currently closed (Figure 4.1). The lagoons were built in approximately 1958 and received wastes from residences, businesses, industries, and manufacturing operations from the city of Sullivan via the sanitary sewer system until they were closed. The southern sewage lagoon was closed in 1988 and the northern sewage lagoon was closed in 1989. The lagoons had clay bottom liners; any contamination introduced into the lagoons could have settled or precipitated out and accumulated on the lagoon bottom. Over time, this contamination could have leached out into the soil and migrated into the shallow groundwater.
Tree core sampling and soil sampling were conducted June 22 through 25, 2004, as a part of the Phase II RI. No TCE or COPCs were detected in any of the samples (Tables 4.1 and 4.3). A summary of the sampling is as follows:

- Northern lagoon:
  - 22 tree core samples.
  - 3 soil borings – 4 samples collected from 2 feet bgs to 15 feet bgs.
- Southern lagoon:
  - 12 tree core samples.
  - 6 soil borings – 10 samples collected from 0.66 feet bgs to 13 feet bgs.

The tree core sample locations are shown on Figure 24 in Appendix F. The soil boring locations are shown on Figure 25 in Appendix F.

Based on all the investigation data, it does not appear that there is any contamination at the two former Sullivan sewage lagoons that is acting as a source for the TCE groundwater contamination found in OU1.

Based on discussions with the engineer for the city of Sullivan, there were two other former sewage treatment facilities in Sullivan. One was a 150 feet by 150 feet sewage catchment basin built in 1924 and the other was a sewage treatment unit built in 1931. The catchment basin was thought to be located near the intersection of Elmont Road and West Springfield Road. It was apparently closed when the new sewage treatment unit was built in 1931 and a sewer main was built from the catchment basin to the new sewage treatment unit.

The sewage treatment unit is thought to have been a trickling filter unit which had a “wheel” that sprayed the influent over a rock “filter bed” in a round tank. It was located near what is now the North Service Road West at Exit 225. The treatment unit was removed and covered during construction of the I-44 overpass and exit. Both of these units would have been downstream of the former TRW/Ramsey facility; however, the catchment basin was taken out of service before the former TRW/Ramsey facility was in operation. Neither of these locations have been investigated because they are currently located beneath the interstate.

6.1.5 Closed OGV Sewage Lagoon

The closed OGV sewage lagoon was built in approximately 1958. It received wastes from residences, businesses, industries, and manufacturing operations via the sanitary sewer system.

The lagoon had a clay bottom liner and any contamination introduced into the lagoon could have settled or precipitated out and accumulated on the lagoon bottom. Over time, this contamination could have leached out into the soil and migrated into the shallow groundwater. According to the Post-Phase II RI Report, the lagoon was closed in 1985; the dam was breached and the accumulated fluids were allowed to discharge, apparently untreated. MDNR noted that this is not considered proper closure (MDNR, 2007a). The accumulated solids/sediments remained undisturbed within the former lagoon basin. The report did not clarify if the fluids were discharged to some specific area or feature, and if the solids and sediments were removed after the lagoon was dewatered.

Tree core and/or soil samples were collected from the closed OGV sewage lagoon during both the Phase II and the Post-Phase II RIs. No TCE or other COPCs were detected in the samples. Sample results are summarized in Tables 4.1 and 4.3. A summary of the sampling is as follows:

- Phase II RI – sample locations shown on Figures 24 and 25 in Appendix F.
    - Tree core sampling - four tree core samples (TC-054 through TC-057) were collected along the perimeter and within the spillway of the former lagoon.
    - Soil sampling - six soil samples were collected from two soil borings (SB-13 and SB-14). Sample collection depths ranged from 0 to 16 feet bgs.
- Post-Phase II RI – tree core samples 6-1 to 8-1 (Figure 13 in Appendix G). It should be noted that the analytical results for tree core sample locations 9-1 and 10-1 are unknown. No analytical data or discussion for the samples is included in the Post-Phase II RI Report.

Based on the investigation data, it does not appear that there is any contamination from the closed OGV sewage lagoon that is acting as a source for the TCE contamination found in OU1.

6.1.6 Abandoned Drum Disposal Site

The abandoned drum disposal site was discovered on February 22, 2005, by a surveying team. The site is located in OGV, north of the Highway 185 South overpass, west of the St. Louis-San Francisco railroad tracks, and southeast of the closed OGV sewage lagoon (Figure 4.1).

According to the Post-Phase II RI report, it was determined that the drums had been there for a very long time due to their rusty condition, worn and faded labels, and vegetative overgrowth. The origin of the drums is unknown.

Tree core and soil samples were collected from the abandoned drum disposal site during the Phase II and the Post-Phase II RIs. No TCE or other COPCs were detected in the samples. Sample results are summarized in Tables 4.1 and 4.3. A summary of the sampling is as follows:

- Phase II RI - seven soil samples were collected from depths of 0.5 to 4.5 feet bgs. The exact locations of the borings are unknown. However, it is known that three of the borings (SB-01, SB-02, and SB-03) were completed in a triangular pattern along the perimeter of the site. SB-04 was in a gully wash that migrated from the site toward the closed OGV sewage lagoon. SB-05 and SB-06 were drilled within the boundaries of the drum disposal area (MDNR, 2007a).
- Post-Phase II RI – two tree core samples, 4-1 and 5-1, as shown on Figure 13 in Appendix F.

Based on the investigation data, it does not appear that there is any contamination from the abandoned drum disposal site that is acting as a source for the TCE contamination found in OU1.

6.1.7 Ditch Witch Facility

The Ditch Witch Sales, Inc. facility in OGV is located southwest of OGV02, as shown on Figure 4.1. It specialized in sales and on-site servicing of trenching equipment and was in operation for approximately 40 years. During that time, solvents were likely used to clean parts during equipment servicing. Structures at the facility included the main building, an old paint shop, a new paint shop, a machine shop, a closed sewage lagoon, and a closed pond.

At the time of the Post-Phase II RI, the Ditch Witch property was up for sale and a prospective purchaser completed a Phase I and Phase II Environmental Investigation, which included on-site sampling. Samples were nondetect for the constituents analyzed, although it is unknown what constituents were analyzed (MDNR, 2007a).

During the Post-Phase II RI, 21 soil borings were emplaced as shown on Figure 2 in Appendix G. Sample depths ranged from 2 feet bgs to 17 feet bgs. TCE was detected in three soil samples (SB-DW-009, DW-019, and DW-0021) collected at depths ranging from 2 to 5 feet bgs. All three of these borings are located near the rear door of the machine shop. TCE concentrations ranged from 5 µg/kg to 199 µg/kg. PCE was detected in two of the samples (SB-DW-009 and DW-019). Concentrations ranged from 16.9 µg/kg to 118 µg/kg. Cis-1,2-DCE and trans-1,2-DCE were detected at 105 µg/kg and 3.05 µg/kg, respectively, in the sample collected at SB-DW-19.

Based on the soil sampling completed during the Post-Phase II RI, it appears that the TCE and PCE contamination is localized in the area near SB-DW00-9 and DW-019, which are located outside the rear door of the machine shop. The depth of the contamination has not been defined.

MW-5 (also known as the Ditch Witch Well) was installed to determine whether the contaminated soil was impacting the shallow groundwater (Figure 4.2). During installation of MW-5, 7 split groundwater samples and 34 drill cutting samples were collected and analyzed by either the field GC or the MDNR lab. No TCE or PCE was detected in the groundwater or drill cutting samples (Tables 4-9 through 4-11 in Appendix F).

MW-5 has been sampled 17 times since its installation in 2006. No TCE or other COPCs have been detected in any of the groundwater samples collected during these sampling events.

The soil TCE contamination at the Ditch Witch facility, although observed above screening levels, appears to occur in only one localized area. Groundwater data and soil samples from MW-5 did not contain detectable amounts of TCE or other COPCs, also supporting the supposition that the contamination at the Ditch Witch facility does not occur at high enough levels to act as a source for the groundwater contamination found in OU1.

6.1.8 Winsel Creek Tributary near the Former TRW/Ramsey Facility

Process-generated wastewater from the former TRW/Ramsey facility was intermittently discharged to a Winsel Creek tributary from 1950 until 1964. The tributary received wastewater

from settling lagoons from 1964 until 1983, when chrome plating operations ceased. Discharges were regulated by an NPDES Permit from 1973 to 1983. The tributary is unlined, so the potential exists for any past and current contaminants that may have been introduced into the tributary to impact soils and the underlying groundwater.

As a part of the RFA, three sediment samples were collected from the tributary adjacent to the former TRW/Ramsey facility. No VOCs were detected in the sediment samples (Metcalf & Eddy, 1992).

Limited soil/sediment sampling was conducted at the Winsel Creek tributary as part of Post-Phase II RI in September 2006. Soil/Sediment samples were collected from three borings along the tributary near the former TRW/Ramsey facility as follows:

- Soil borings WC-1 and WC-2 were emplaced along the tributary just west of the former TRW/Ramsey facility. Soil samples were collected between 8 feet bgs and 10 feet bgs.
- Soil boring WC-3 was emplaced approximately 1/4 mile northwest of the former facility. The soil sample was collected between 17 feet bgs and 18.5 feet bgs.

No TCE or other organic COPCs were detected in any of the three soil/sediment samples; however, chromium and lead were detected. The metals concentrations found at depth in the soil samples seem to indicate that in the past metals, and possibly VOCs, migrated from the facility along the Winsel Creek tributary. The analytical results for VOCs are summarized in Table 4.1. The locations of the samples were not provided in the report copy made available to HGL.

One surface water sample was collected at the former TRW/Ramsey facility outfall into the Winsel Creek tributary. The water sample was analyzed for VOCs and total chromium and lead. Five VOCs were detected in the sample, although the VOCs detected are not COPCs for OU1. In addition, the same five VOCs were detected in the trip blank, making it likely the VOCs detected in the surface water sample were false positives (MDNR, 2007a). Chromium was also detected in the sample, but at low concentrations, which could indicate continued contaminant migration off site.

Based on the Post-Phase II RI data, it does not appear that there is current contamination along the Winsel Creek tributary that is acting as a source for the TCE contamination found in OU1. However, the low chromium concentration detected in the outfall from the lagoon could indicate continued contaminant migration off site. In addition, the metals concentrations found at depth in the soil samples seem to indicate that in the past metals, and possibly VOCs, migrated from the facility, implying that the Winsel Creek tributary could have been a pathway in the past.

6.1.9 Area 1–Former Machine Shop

Area 1 is the site of a former machine shop and welding shop that was located north of Highway 185 and west of the BNSF tracks (Figure 4.4). The area is located between three municipal wells at which TCE has been detected—OGV01/02, COS09, and COS10. According to USGS, the area looked disturbed in aerial photographs taken in 1965 and 1972.

Tree core and/or soil samples were collected from Area 1 in July 2010. No TCE or other COPCs were detected in the samples. Sample results are summarized in Tables 4.9 and 4.10. A summary of the sampling is as follows:

- Tree core sampling – six samples were collected in the northern portion of the site (no other trees were present).
- Soil sampling – 21 soil samples were collected from twelve soil borings in the area—two east-west transects each comprised of six borings. Sample collection depths ranged from 2.0 feet to 7.0 feet bgs.
    - 14 soil samples were collected for field screening by the field GC.
    - 6 soil samples were collected for laboratory analysis.

The locations of the soil borings are shown on Figure 4.6.

Based on the soil and tree core sampling, it does not appear that there is contamination in the soils in Area 1 that could be acting as a source for the TCE contamination found in OU1.

Additional investigations were undertaken at Area 1, including the installation of MW-6 and groundwater sampling. Drill cuttings from the installation of MW-6 were scanned for VOCs using a field GC. No TCE was identified in the cuttings to a depth of 365 feet. Low levels of TCE were identified in the cuttings from 385 feet to 525 feet bgs. Groundwater samples were collected at the well at depths of 310, 392, 430, and 450 feet bgs. Table 4.7 shows the TCE concentrations in groundwater samples collected at these different depths. The highest TCE concentration or 173 µg/L was observed at a depth of 450 feet bgs.

The elevated TCE concentrations detected only at depth in the drill cuttings and the high TCE concentrations observed in the groundwater both strongly suggest that the source of the TCE contamination is not in the immediate vicinity of MW-6.

6.1.10 Area 2–Possible Soil Borrow Area

An area of disturbed soil north of Highway 185 and east of the BNSF tracks was identified on aerial photos taken in 1965 and 1972. This area was designated as Area 2 by USGS. Like Area 1, it is located between OGV01/02, COS09, and COS10, which have all had detections of TCE. During the field investigation it was determined that the area was probably an old soil borrow area.

Tree core and/or soil samples were collected from Area 2 in July 2010. The results of the tree core sampling are summarized in Table 4.9. The results of the soil sampling are summarized in Table 4.10. A summary of the sampling is as follows:

- Tree core sampling – seven samples were collected from the only treed portions of the area. TCE was tentatively identified in three of the seven samples (TC02, TC03, and TC07).
- Soil sampling – 24 soil samples were collected from 12 soil borings in the area—two east-west transects each consisting of 6 borings. Sample collection depths ranged from 1.5 feet to 4.8 feet bgs.

- 17 soil samples collected for field screening by the field GC. No TCE was detected.
- 7 soil samples collected for laboratory analysis. No TCE or other COPCs were detected.

The locations of the soil borings and tree core samples are shown on Figure 4.7.

Based on the soil and tree core sampling, it does not appear that there is contamination in Area 2 that could be acting as a source for the TCE groundwater contamination found in OU1.

6.1.11 Area 3–Old Household Dump #1

Area 3 is a potential old, dry pond that has been used by the landowner as a dump. It is located west of the BNSF tracks (Figure 4.5).

Tree core and/or soil samples were collected from Area 3 in July 2010. The results of the tree core sampling are summarized in Table 4.9. The results of the soil sampling are summarized in Table 4.10. A summary of the sampling is as follows:

- Tree core sampling – 6 samples were collected.
- Soil sampling – 13 soil samples were collected from 6 trenches excavated to a maximum depth of 4 feet bgs. Sample collection depths ranged from 2 feet to 4.0 feet bgs.
  - 9 soil samples collected for field screening by the field GC. TCE was tentatively identified at a very low level in one sample (OGV-A3-T02 at a depth of 4 feet bgs).
  - 4 soil samples were collected for laboratory analysis. No TCE or other COPCs were detected.

The locations of the soil borings and tree core samples are shown on Figure 4.8.

Based on the soil and tree core sampling, it does not appear that there is contamination in the soils in Area 3 that could be acting as a source for the TCE groundwater contamination found in OU1.

6.1.12 Area 4–Sewer Junction Box/Disturbed Soil

Area 4 is an area of disturbed soil that was determined to be a sewer junction box during field reconnaissance of the area. It is located west of the BNSF tracks as shown on Figure 4.5. Tree core samples were collected from four trees in July and August 2010 (Figure 4.9). No TCE or PCE were detected. The results of the field screening are included in Table 4.9. No soil samples were collected for either field GC screening or laboratory analysis.

Based on the tree core sampling, it does not appear that there is contamination in Area 4 that could be acting as a source for the TCE groundwater contamination found in OU1.

6.1.13 Area 5–Old Household Dump #2

Area 5 is located in a wooded area and has been identified as an old household dump site. Its location is shown on Figure 4.5.

Tree core and soil samples were collected from Area 5 in 2010. The results of the tree core sampling are summarized in Table 4.9. The results of the soil sampling are summarized in Table 4.10. A summary of the sampling is as follows:

- Tree core sampling – 8 samples were collected. No TCE or PCE was detected.
- Soil sampling – 12 soil samples were collected from 6 trenches excavated to a maximum depth of 4 feet bgs. Sample collection depths ranged from 2 feet to 4.0 feet bgs.
    - 9 soil samples collected for field GC screening. TCE was tentatively identified at a very low level in one sample (OGV-A5-T05 at a depth of 2.0 feet bgs).
    - 3 soil samples collected for laboratory analysis. No TCE or other COPCs were detected.

The soil and tree core sample locations are shown on Figure 4.10.

Based on the soil and tree core sampling, it does not appear that there is contamination in Area 5 that could be acting as a source for the TCE groundwater contamination found in OU1.

6.1.14 Area 6–Trucking Facility

Area 6 is both a former and a current trucking facility located on the east side of Old Highway 66 (Figure 4.5). Tree core samples were collected at Area 6. Soil samples were not collected because the landowner denied permission to sample soils. TCE was tentatively identified in five of the tree core samples collected (Table 4.9) by a field GC; however, TCE was not detected by laboratory analysis of these same samples. Sample locations are shown on Figure 4.11.

Based on the tree core sampling, it does not appear that there is contamination in Area 6 that could be acting as a source for the TCE groundwater contamination found in OU1. However, tree core analysis is screening level data and soil samples were not collected at this site to support the tree core sampling results.

6.1.15 Area 8–Railroad Derailment Area

Area 8 is an area at which there was a train derailment involving several dozen rail cars (including tanker cars) that occurred in Sullivan in 1965 (see Section 4.5.5.7). Based on review of historical aerial photos and interviews, the derailment occurred between Church Street and Center Street.

The subsurface investigation at Area 8 was conducted in two phases. Phase 1 consisted of soil and tree core sampling outside the BNSF property boundaries in June 2011. Phase 2 consisted of soil sampling on the BNSF right-of-way both north and south of the tracks in December 2012.

Tree core samples were collected primarily from the trees in the northwest portion of the site. Due to the limited number of trees, only a few tree core samples were collected in the area of the former open ditch that carried the spill from the tanker(s). A total of 19 tree core samples were collected as shown on Figure 4.12. No TCE or PCE were detected. The results are included in Table 4.9.

A total of 45 soil borings were completed in Area 8. TCE was tentatively identified by field GC in eight borings. TCE was not detected in any of the 16 laboratory samples; however, PCE was detected at low levels in six borings. The laboratory analytical results are included on Table 4.10.

Based on the laboratory results for soil and tree core sampling, it does not appear that there is contamination in Area 8 that could be acting as a source for the TCE groundwater contamination found in OU1.

6.2 KNOWN SOURCE AREAS

6.2.1 Closed Sullivan Landfill

The closed Sullivan Landfill is owned by the city of Sullivan and is located approximately 3,000 feet northeast of OGV01/02 (Figure 4.1). Landfill records indicate that drums of barium chlorate and TCE/oil and grease mixtures may have been deposited in the landfill. A landfill cap and leachate collection system were completed in 1995 (ABB-ES, 1996). MDNR approved closure of the landfill in 1996. The site history is discussed in detail in Section 4.6.1.

The groundwater COCs identified for the closed Sullivan Landfill are Freon compounds, PCE, TCE, and breakdown products of PCE and TCE. Past investigations at the closed landfill were discussed in Section 4.6 and are summarized below:

- USGS investigation in 1990 - Three seeps were sampled for VOCs. The locations of these three seeps are shown on Figure 1 in Appendix J. These seep samples contained TCE concentrations ranging from 150 µg/L to 370 µg/L. PCE, degradation products of TCE and PCE, and Freon compounds were also detected at elevated concentrations in these samples (ABB-ES, 1992).
- The potential of the presence of perched groundwater was evaluated in March and May 1993. Several borings were advanced and test pits were excavated. It was determined that no significant perched zones were found to exist at the site; and therefore, perched water did not represent a viable migration pathway at the site (ABB-ES, 1993). The sample locations are shown on Figure 2 in Appendix J.
- Subsurface Investigation Report prepared in 1994 to document the collection of leachate and sediment at seven seeps from the landfill (see Figure 2 in Appendix J) (ABB-ES, 1994). TCE was not detected in any of the leachate or sediment samples (Tables 3 and 4 in Appendix J).
- Multimedia investigation in 2005, which included sampling of the passive vent system, geophysics, and soil sampling of the materials above and below the synthetic cap, and liquid and gas sampling of material encountered under the synthetic cap (MDNR, 2006).
    - 34 MIP borings - 7 borings indicated VOCs in the subsurface. One boring also indicated the presence of leachate in the subsurface.
    - 18 soil samples - TCE and PCE were detected at SB-22 at concentrations of 8.43 µg/kg and 36.1 µg/kg, respectively. SB-22 is located along the northern border of the landfill (Figure 2 in Appendix J).

  - Leachate samples were collected at SB-21 located near the sinkhole and SB-24 located along the northern border of the landfill (Plate 1 in Appendix J). Low concentrations of TCE, PCE, and Freon compounds were detected in both samples collected from SB-24, but not at SB-21.
  - Gas samples were collected at SB-19B, SB-20B, SB-24C, and SB-35. Freon compounds were detected at all 4 locations. TCE and PCE were detected only at SB-35.
- Geophysical logging of GWS003 indicates that the well has a strong downward gradient and that conductivity values generally decreased with depth, indicating that fresher, less contaminated water enters the well with depth (see Section 4.3.2.1).
- On-going groundwater monitoring:
  - The latest round of sampling in 2018 showed no TCE levels above the MCL. The contaminant detected with the most frequency during this sampling was Freon 11. Concentrations of Freon 11 ranged from nondetect to 130 µg/L.
  - TCE concentrations have historically been highest at shallow monitoring wells MW-104 and MW-105 and at the private Voss well (GWS003). The highest TCE concentrations at these wells was observed over 10 years ago (Table 4.15).
  - At MW-1, TCE and other contaminants were detected in samples collected from 185 feet bgs and 250 feet bgs where the flow was documented to be downward and no contaminants were detected in the samples collected at 415 feet bgs and 480 feet bgs where the flow was documented to be upward (see Section 4.3.3.1).
  - The primary contaminants found at the closed landfill are Freon compounds. During the latest sampling events, Freon 11 concentrations ranged from nondetect to 130 µg/L (Table 4.14). Historically, Freon 11 concentrations have exceeded the RAO of 100 µg/L in two shallow monitoring wells (MW-103 and MW-105). The highest concentration of 197 µg/L was observed at MW-105 in 1996. More recently, it was observed at MW-103 at 150 µg/L in 2006 and at 130 µg/L in 2012. At GWS003 (Voss well), Freon 11 concentrations have ranged from nondetect to 120 µg/L.

According to the available data, it does not appear that the closed Sullivan Landfill is acting as a large source area for the contamination at OGV02 because:

- Concentrations of TCE and other COPCs in the most recent groundwater samples from all the wells associated with the landfill were all below the MCLs.
- Historically, the highest TCE concentrations have been observed at MW-104, MW-105, and the Voss well (GWS003). The highest TCE concentration was 6.9 µg/L and occurred over 10 years ago.
- The TCE concentrations observed in groundwater at the closed landfill are relatively low compared to the high concentrations observed at OGV01/02.
- Soil and soil gas sampling do not indicate the presence of high concentrations of TCE in the soils at the landfill that could be acting as a continuing source for TCE in groundwater.

- The TCE groundwater plume appears to follow the regional groundwater flow direction toward the northeast, regardless of the karst conditions known to exist at the site.
- The primary contaminants at the closed landfill are Freon compounds and only trace amounts (less than 2 µg/L) have been detected at OGV01/02.

However, given that Freon compounds have been found in OGV01/02 (albeit minimal) and at the LJSCC, the closed Sullivan Landfill may be contributing to contamination in OU1.

6.2.2 Former TRW/Ramsey Facility

The former TRW/Ramsey facility is located at 300 Ramsey Street in Sullivan (Figure 4.1). The site history is discussed in detail in Section 4.7. Following is a brief summary of the facility investigations regarding pertinent information:

- RFA - 11 soil borings and 3 sediment samples. The analytical results are summarized in Table 4.19. TCE was detected at two boring locations, B-10 and B-11, which are both located in AOC 1, the TCE/mineral spirits storage area (Figure 3-3 in Appendix L). The highest concentration observed was 1800 µg/kg at B-10 at a depth of 1 to 3 feet bgs. No COPCs were detected in the sediment samples (Table 4.19 and Figure 3-5 in Appendix L).
- RFI - 42 soil samples were collected at depths ranging from 1 to 112 feet bgs. The results are summarized in Table 4.19. TCE was detected in 22 of the samples. The highest concentration of TCE of 317 µg/kg was observed in the deep soil boring designated DSB at a depth of 102 to 104 feet bgs (Figure 3-3 in Appendix L). DSB is located between the drum storage area (SWMU 2) and the TCE/mineral spirits storage area (AOC 1).

The high TCE concentrations observed in the soils at the facility indicate that these areas are likely acting as a source area for the TCE groundwater contamination found at the facility. The highest past and current concentrations of TCE detected in groundwater sitewide are observed at the former TRW/Ramsey facility. Concentrations of TCE in groundwater beneath the facility have been as high as 4.6 percent of the solubility limit of TCE. Concentrations of 1 percent of the solubility limit are deemed by EPA to be indicative of the presence of DNAPL.

There is a groundwater monitoring network consisting of 43 wells with 20-foot screens at three general depths across the former TRW/Ramsey facility. The 20-foot sample intervals at the three general sample depths leave a significant portion of the aquifer beneath the former TRW/Ramsey facility unmonitored. Though sampling of monitoring wells at the facility is ongoing, only a few of the 43 monitoring wells continue to be monitored regularly. However, in February 2019, the entire monitoring well network was sampled to set a baseline before startup of a new GETS. The results are shown in Table 4.20. The historical analytical results for the monitoring wells at the facility are included as Tables 5, 6, and 7 in Appendix L.

There are 26 monitoring wells in the TRW monitoring network that are completed in the shallow groundwater between 120 to 150 feet bgs, with a 20 feet screen. TCE concentrations in 16 of these shallow monitoring wells have consistently exceeded the MCL (Table 4.21). Historically, the highest concentrations of TCE occurred at OBG-2S, OBG-5S, OBG-6S, TRW-MW-3, and TRW-MW-4 which have all had concentrations exceeding 11,000 µg/L. As discussed previously, concentrations of TCE exceeding 11,000 µg/L indicate the probable presence of DNAPL. TCE concentrations at two monitoring wells (OBG-2S and OBG-5S) have consistently been greater

than 11,000 µg/L. OBG-2S is located between the TCE/mineral spirits storage area and the drum storage area. OGB-5S is located in the former lagoon area. The location of these wells is shown on Figure 1 in Appendix L. The TCE concentration trends for these wells are discussed in detail in Section 5.2.3.3 and shown on Figure 5.10. As can be seen on Figure 5.10, most of the wells show a downward or stable trend, except for two wells (OBG-13S and OBG-18S). The downward trend is to be expected given that these wells are screened at or near the levels of the recovery wells. OBG-13S, which shows a definite upward trend, is located southeast of the facility (Figure 4.2). OBG-18S shows an apparent upward trend as TCE had been nondetect at this well until 2019 when the TCE concentration was 6.4 µg/L. OBG-18S is located approximately 2,000 feet northeast of the former TRW/Ramsey facility. The upward trends at these wells may indicate that the GETS is not providing full hydraulic capture in these areas.

Thirteen monitoring wells in the TRW network are completed in the shallow/intermediate aquifer. All are approximately 315 to 350 feet deep and have 20-foot screens. TCE has consistently been detected in seven of these monitoring wells at concentrations exceeding the MCL, with concentrations ranging from 5 µg/L to 3,000 µg/L (Table 4.21). The highest TCE concentrations have occurred at OBG-1D, OBG-8D, OBG13D, and TRW-MW-24D. Concentrations at three of these wells have been consistently above 1,000 µg/L. The TCE concentration trends for these wells are discussed in detail in Section 5.2.3.3 and shown on Figure 5.11. As can be seen on this figure, the majority of the wells show an increasing trend until about 2008 when TCE concentrations started a downward trend. OBG-01D, OBG-8D, OBG-13D, and OBG-18D appear to be an exception to this as all four wells show an overall upward trend in TCE concentrations. OBG-01D is located along the northeastern boundary of the facility. OBG-8D is located adjacent to the former plating operations area. As discussed previously, OBG-13S is located southeast of the facility and OBG-18S is located approximately 2,000 feet northeast of the former TRW/Ramsey facility (Figure 4.2). The upward trends at these wells may indicate that the GETS is not providing full hydraulic capture in these areas.

There are four monitoring wells in the TRW network completed in the deep groundwater. The deep wells are approximately 540 to 550 feet deep with 20 feet screens. TCE has consistently been detected in two of the deep monitoring wells (Table 4.21). Concentrations at OBG-1DD have ranged from 23 µg/L to 540 µg/L. OBG-1DD is located in the northeast portion of the property, downgradient of the TCE/mineral spirits storage area (AOC 1). Concentrations of TCE at OBG-20DD have ranged from nondetect to 4.7 µg/L. OBG-20DD is located north of COS02. The TCE concentration trends for these wells are discussed in detail in Section 5.2.3.3. Figure 5.12 shows the trend graphs for these two wells. Concentrations at OBG-1DD, remained steady, fluctuating around 40 µg/L, until 1999 when concentrations increased to peak at 540 µg/L in 2005. Since 2005, concentrations appear to be on a downward trend. However, concentrations at this well during the third quarter of 2019 were again above 100 µg/L. Concentrations at OBG-20DD have shown a consistent upward trend from 2003 through 2016. Concentrations have been nondetect or at very low levels during sampling in 2017 and 2019, possibly due to the change in the sampling protocols. Detection of TCE in OBG-20DD indicates that COS02 is not providing adequate capture of the TCE at deep groundwater depths to prevent migration of the plume.

A GETS was installed at the facility in 1995. The original remediation system consisted of three 150-foot deep recovery wells (RW-1, RW-2 and RW-3) completed in the shallow groundwater

and an air stripper treatment system. The air stripper removes TCE and associated VOCs and the treated water is discharged to the city of Sullivan POTW. RW-3 has been shut off since 2000 due to lower influent concentrations and low productivity and RW-2 was permanently taken off-line in March 2019 due to low productivity and elevated iron content. Between February 21 and March 27, 2019, the GETS was expanded to accommodate new intermediate depth groundwater recovery well RW-4. The recovery well locations are shown on Figure 1 in Appendix L.

Both the intermediate and the deep wells are screened below the level of the original GETS wells. The upward trend in TCE concentrations in some of the monitoring wells indicates that the original GETS was not providing hydraulic capture. However, the new recovery well RW-4 is installed at the intermediate groundwater depth and the enhanced GETS came online in March 2019, after the first quarter 2019 sampling concluded.

The former TRW/Ramsey facility lies within the cone of capture of COS02. According to the RCRA EI, the migration of contaminated groundwater is under control at the former TRW/Ramsey facility and COS02 acts as a containment mechanism that stops the majority of contaminated groundwater from migrating farther out of the immediate vicinity of the former TRW/Ramsey facility (EPA, 2007). Under an agreement between TRW and the city of Sullivan dated April 28, 2004, the City is responsible for maintaining a minimum output flow rate from Well COS02 to ensure hydraulic containment is maintained. However, the upward trend in TCE concentrations at OBG-13S, OBG-18S, and OBG-12D and the detection of TCE in OBG-20DD may indicate that COS02 is not providing adequate capture of the TCE migrating off site.

There are a limited number of wells between the former TRW/Ramsey facility and the OGV municipal wells: monitoring wells OBG-18S, MW-4, and MW-5, and three private wells that are completed in the shallow groundwater. TCE has not been detected in any of the shallow wells. Four wells are completed in the intermediate/deep groundwater: OBG-18D, MW-3, MW-6, and COS03 (Figure 5.4). TCE has been detected in each of these wells except MW-3.

MW-6 was installed in 2010. Since that time, MW-6 has been sampled 10 times, including both discrete and wellhead samples. Excluding field GC samples, TCE concentrations in samples collected from MW-6 have exceeded the RAO eight times, with the highest concentration of 162.5 µg/L reported in a discrete sample collected at a depth of 450 feet bgs.

COS03 is 905 feet deep and has an open interval of approximately 550 feet extending from 361 feet bgs to its total depth. The well has a low specific capacity compared to other municipal supply wells and was acidified several times after construction in an effort to increase production. TCE concentrations in this well have ranged from nondetect to 2.8 µg/L (Table 5.2). MDNR concluded that COS03 is likely not hydraulically connected to the other wells (MDNR, 2007a). The drillers log (Appendix B) indicates that there was no flow in the well below approximately 615 feet bgs. This means that the well produces the majority of water from the Eminence Formation (Figure 5.5). This could account for the lack of TCE contamination in this well.

The absence of TCE in the shallow wells located between the facility and the OGV municipal wells does not preclude the possibility of a deep TCE plume extending out past the former TRW/Ramsey facility to the OGV area. The lack of TCE contamination in shallow monitoring and

private wells near OGV, and absence of TCE in the upper 350 to 450 feet of OGV01, and MW6 support this possibility. Given the large downward hydraulic gradients documented at the site, the unknown karst conditions, and the fact that TCE is denser than water, TCE simply could have migrated downward beneath the facility faster than it has migrated downgradient. This could explain the absence of TCE at OBG-18S and its presence at OBG-18D. It should be noted that both of these wells have 20-foot screens, which also could mean that the small screened intervals (20 feet) are simply missing the zones of TCE contamination. This would also explain the presence of TCE contamination in the intermediate/deep groundwater at MW-6 and COS03.

As discussed in Section 4.5.7, similarities in CSIA fingerprints for TCE from former TRW/Ramsey facility monitoring wells and off-site locations are not diagnostic by themselves because of their complex nature. But they do provide analytical data that suggests a common origin of the TCE. The CSIA fingerprints for TCE from former TRW/Ramsey facility monitoring wells fell into all three groups recognized during the study. A similar complex pattern was observed in the off-site results. These complex CSIA patterns in groundwater on site and off site are not inconsistent with the large volumes of TCE used at the former facility. A 1983 EPA compliance report (Metcalf & Eddy, 1992) estimated the facility generated 8.3 metric tons of TCE waste annually.

The analytical data is consistent with the former TRW/Ramsey facility being a large contributor to TCE found in groundwater in the Sullivan area. This evidence includes:

- the absence of TCE contamination found at other facilities in the area that could contribute substantial amounts of TCE to groundwater;
- the large quantities of TCE in groundwater beneath the former TRW/Ramsey facility and the 274 metric tons (nearly 50,000 gallons) of TCE waste generated at this facility during its operation;
- the relationship between TCE concentrations and pumping in Sullivan municipal wells;
- the overall regional groundwater flow to the northeast;
- the dye traces that indicate complex transport in the subsurface;
- the general deep TCE contamination at OGV01 and nearby MW-6, which are overlain by TCE-free groundwater; and
- the CSIA fingerprints for TCE.

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7.0 SUMMARY AND DATA GAPS

OU1 incorporates an area including the OGV municipal wells, private residential wells along Highway AF, LJSCC, and the area west and south of the OGV municipal wells. OU2 consists of the closed Sullivan Landfill and wherever contamination from the landfill has come to be located. LJSCC, located approximately 3 miles northeast of OGV, is currently included in both OU1 and OU2.

The primary COC for the OU1 is TCE. The EPA drinking water MCL and the MWQS for TCE are both 5 µg/L. The COPCs include PCE, the degradation products of TCE and PCE, and Freon compounds. TCE concentrations above the MCL have been found in two OGV municipal wells, two Sullivan municipal wells (only one of which is still active), and four private residential wells in OU1 along Highway AF. Measures have been taken to ensure a clean water supply to the residents of Sullivan and OGV whether they are on a public water supply or have a private well. Numerous investigations have been conducted throughout the area as described in Section 4.0.

The contamination at the OGV Well Site is found in six areas (1) the Highway AF well area, (2) OGV municipal wells, (3) the closed Sullivan Landfill, (4) the LJSCC, (5) Sullivan municipal wells, and (6) the former TRW/Ramsey facility. Contamination is found in the shallow groundwater in only three areas: the Highway AF well area, the closed Sullivan Landfill, and the former TRW/Ramsey facility. Contamination is found in the deep groundwater zone in all areas except the Highway AF area. It should be noted that no deep wells were available for sampling in the Highway AF area, so it is unknown whether there is contamination in the deep groundwater in this area.

To adequately characterize the contamination in OU1, an understanding of the areawide hydrogeology and groundwater flow behavior is critical to informing the discussion of the additional data needed to fully characterize contamination in OU1. This section provides an overview of hydrogeologic conditions, provides a broad discussion of overall contaminant trends, and discusses identified data gaps as derived from the past investigations evaluated for this Data Evaluation Report.

7.1 OVERVIEW OF SITE HYDROGEOLOGY AND GROUNDWATER FLOW

Based on surface features such as caves, sinkholes, and springs, the Ozark aquifer in the site region is indicative of karst terrain. Drilling logs for wells installed in OGV and the city of Sullivan, show numerous voids were recorded at depth. Also, several faults have been mapped in the site area. Groundwater movement will be heavily influenced by secondary porosity developed by weathering of the carbonate bedrock along fractures/joints, bedding planes, and presence of karst features, faults, and their resultant fractures.

Site investigations outside of the former TRW/Ramsey facility have measured water levels in private water wells and long-screen monitoring wells to determine groundwater flow directions Horizontal groundwater flow in the shallow groundwater is generally northeastward beneath the site area, except around the landfill where it was more easterly. At the former TRW/Ramsey facility, shallow monitoring wells with only 20-foot screens showed convergent groundwater flow from the east and west moving in a northwesterly direction. This local shallow groundwater flow

may be the result of pumping at COS02 and the presence of an inferred northwest to southeast fault zone transecting the site. Groundwater flow in the intermediate groundwater at the former TRW/Ramsey facility is northeastward, and consistent with the other datasets.

In the deep groundwater, water levels from deep water wells measured in 1987 and from deep monitoring wells in 2005 showed deep groundwater flow also was to the northeast. These water levels, as with the shallower levels, are averaged over screens that are over 300 feet long (monitoring wells) or are mostly unknown (private wells). However, these data still give an approximate indication of the direction of groundwater.

Based on the various hydrogeological discussions in reports for previous investigations, the Meramec River is a primary discharge zone for intermediate and deep portions of the Ozark aquifer in the site region. This should result in a natural groundwater flow direction in an easterly to northeasterly direction from the site area located to the west. The flow directions discussed above corroborate this element of the conceptual site model.

Dye trace studies conducted in the site area show that reaches of northward-flowing losing stream Winsel Creek and tributaries are hydraulically connected to the LJSCC. This is typical in karst terrain. Mapping efforts indicate that the cave complex is within the Eminence Formation. Therefore, some surface recharge is migrating to intermediate and deep groundwater around the site area as it flows eastward toward the primary discharge area along the Meramec River. The recharge area for the LJSCC may include a sizable portion of the site area, and the dye trace studies support that hypothesis. This hypothesis is further supported by potentiometric maps showing a trough extending towards the cave complex and an east-west pattern of sinkholes mapped between the LJSCC and the site area.

Beyond natural groundwater flow in a karst setting, further complexity is added to the conceptual site model by the pumping of the Sullivan and OGV municipal wells. The influence of these municipal wells on groundwater flow is emphasized by the pumping test discussed in Section 5.1.2.1. During this study, water level data was collected from well COS02 while select other municipal wells were pumped in a systematic manner. Pumping at well COS11 located 0.9 miles north of COS02, had a dramatic effect in lowering the water level in COS2. Pumping at COS03 and COS07 also lowered the water level in COS02, although to less effect than COS11. COS03 and COS07 are located approximately 0.75 miles and 2.6 miles from COS02, respectively. Depending on which wells are pumping and for how long, deep groundwater flow in particular will be considerably influenced by groundwater extracted for municipal use.

The influence that municipal well pumping has on groundwater flow is probably more critical to the conceptual site model for the site, than for determining more precise groundwater flow directions in the aquifer. For instance, pumping at COS08 from 1986 to 1998 may explain why the deep monitoring wells at the former TRW/Ramsey facility, which is located north of COS08, showed a southerly flow direction during the RFI completed in 1997. Considering the known regional flow direction and the more site-specific measurements, it is unlikely that deep groundwater was naturally flowing to the south.

Vertical groundwater flow is likely dependent on location, pumping effects of nearby municipal wells, and nearby fracture systems or karst features that locally affect groundwater flow. At the former TRW/Ramsey facility, TRW has advocated that shallow groundwater is isolated from intermediate and deep groundwater, even though calculated vertical gradients were downward across all three monitored groundwater depths. Contamination attributable to the former facility extends to more than 550 feet bgs beneath the former facility and the lower limits of the contamination have not been determined. This would seem to refute the notion that shallower groundwater is isolated from deeper groundwater in any meaningful way. In addition, the 2010 TRW monitoring report shows capture of the shallow groundwater by COS02, which has an open interval starting at 345 feet bgs in the intermediate groundwater. Shallow groundwater monitoring wells at the facility are completed at about 140 feet bgs. This also shows a hydraulic connection between shallow and deeper portions of the aquifer.

7.2 OVERALL CONTAMINANT TRENDS

TCE contamination is present in the OGV Well Site OU1 in three areas: OGV and Sullivan municipal wells, the Highway AF well area, and the former TRW/Ramsey facility. The TCE contamination at the Highway AF well area is below the RAO and has been since 1998 and concentrations have continued to decline through 2018. The source of the TCE is unknown.

The TCE contamination at the former TRW/Ramsey facility is well documented in the shallow, intermediate, and deep monitoring wells and extends to more than 550 feet deep. Groundwater controls at the facility consist of a GETS in the shallow groundwater and COS02, which operates in conjunction with an air stripper. An additional recovery well in the intermediate groundwater became operational in 2019. It appears that the original GETS and COS02 have not been providing adequate capture of the TCE. Both the intermediate and the deep wells are screened below the level of the original recovery wells. The upward trend in TCE concentrations in these wells until about 2008 indicates that the system was not providing hydraulic capture in the shallow groundwater. In addition, the detection of TCE in OBG-20DD (which is located north of COS02) indicates that COS02 is not providing adequate capture of the TCE at deep groundwater depths to prevent migration of the plume.

The natural groundwater flow in the Ozark aquifer is generally northeastward in the area encompassing the former TRW/Ramsey facility and the OGV Well Site. Because no other source area for TCE contamination was documented upgradient of the OGV municipal wells, migration of TCE from the known source area at this former piston ring manufacturing facility is likely to have occurred. Other potential contaminant source areas have been investigated and discounted. No other contaminant source area was discovered during the numerous potential source investigations that showed TCE in groundwater considerably above the RAO from the top to near the base of the Ozark aquifer.

The temporal trends in contaminant concentrations as a result of municipal well pumping discussed in Section 5.2.3.3 seem to support this supposition. TCE was first detected in OGV01, which according to the regional groundwater flow, is downgradient of the former TRW/Ramsey facility. After OGV01 was taken out of service in 1994, TCE levels began to increase in COS08, which is upgradient of the former TRW/Ramsey facility. After COS08 was taken offline in 1998, the TCE levels began to increase in COS02, especially with COS11 also online. When OGV02 began

production in 2005, and with COS11 no longer in use, TCE levels in COS02 began to decline and become stable, hovering between approximately 20 µg/L and 40 µg/L.

The following factors prevent uniform distribution of TCE as observed in monitoring and water supply wells in groundwater downgradient of the source area:

- the presence of karst hydrogeology, and conduit flow through preferential pathways,
- the influence of municipal well pumping at variable times and locations on natural groundwater flow,
- the variable depth of monitoring point open intervals, particularly the long open intervals of the private and municipal water supply wells, and
- the potential for DNAPL to be lodged in fractures, joints and karst features at the source area. Based on TCE concentrations observed in select monitoring wells at the former TRW/Ramsey facility, it is possible that DNAPL is present.

Given these factors, the lack of TCE contamination in COS03 and MW-3, which are located between the former TRW/Ramsey facility and the OGV wells, does not refute the most likely hypothesis for contamination of the OGV wells, which is that the high levels of TCE observed in groundwater at a known source area, the former TRW/Ramsey facility, have migrated generally downgradient and contaminated OGV01 and OGV02.

As discussed in Section 4.5.7, similarities in CSIA fingerprints for TCE from former TRW/Ramsey facility monitoring wells and off-site locations indicate a complex pattern of 2-D and 3-D CSIA patterns at the former TRW/Ramsey site with no single unique fingerprint of TCE in groundwater at the facility. The complex 2-D and 3-D fingerprints also were found at the offsite sampling locations. The absence of a unique CSIA fingerprint at the former TRW/Ramsey site limits the use of CSIA to readily link TCE at the facility to off-site locations and thus the CSIA data are not diagnostic by themselves; however, the complex CSIA patterns in groundwater at the facility is consistent with the complex patterns in off-site locations.

Given the analytical data provided by the 2-D and 3-D CSIA analysis, combined with the absence of a TCE source area for OU1, the large quantities of TCE in groundwater beneath the former TRW/Ramsey facility, the relationship between TCE concentrations and pumping in Sullivan public water supply wells, the dye traces that indicate complex transport in the subsurface, and the general deep source of TCE at OGV01 and nearby MW-6, the former TRW/Ramsey facility appears to be a large contributor of TCE found in groundwater in the Sullivan area.

7.3 ADDITIONAL INFORMATION/SAMPLING NEEDED TO ADDRESS DATA GAPS

This section discusses data gaps identified during the assessment of data obtained during past and ongoing investigations at the OGV Well Site. The data gaps generally are related to the fact that the groundwater systems at the site are not well understood due to the presence of karst conditions.

One data gap is the lack of contemporaneous analytical data from groundwater monitoring points. Select wells that provide sitewide coverage, both horizontally and vertically, should be selected for sampling for COPCs during a single sampling event. It is difficult to draw conclusions using

results from samples that were not collected concurrently. Site conditions (water levels, pumping conditions) were likely different during each event. Ideally, each sampling event would be conducted in conjunction with the collection of water levels for potentiometric maps.

The lack of deep wells in the Highway AF well area is considered a data gap because deep groundwater analytical data would help confirm the source of the TCE. The presence of TCE in deep groundwater would more likely indicate that the contamination is related to the TCE in the deep groundwater found at OGV01/02 and the former TRW/Ramsey facility, rather than a small localized source.

Another data gap is the lack of data regarding the two closed sewage treatment units discussed in Section 6.1.4. However, the 1924 catchment basin was closed and a sewer main put in to tie this location to a new sewage treatment unit built in 1931. The location of the "new" sewage treatment unit was near the North Service Road West at Exit 225. This area would have undergone extensive disturbance during the construction of the I-44 exit and overpass. In addition, the Sullivan sanitary sewer system was investigated in 2005 (Section 4.3.2.7) and results did not indicate any potential source areas.

The former TRW/Ramsey facility is the only known location of TCE contamination in soils that could be acting as a continuing source for the TCE contamination in groundwater in the OU1 area. TCE contamination in the soils was documented during the RFI and RFA. B-10 and B-11, which are both located in the TCE and mineral spirits storage area (AOC 1). The highest concentration of TCE in soil at the site was 1,800 µg/kg in the TCE and mineral spirits storage area (AOC 1) at a depth of 1 to 3 feet bgs. In addition, the area beneath and around the former vapor degreasing unit (identified as SWMU 17 in the RFA) facility was not fully investigated during the previous investigations at that site. Although borings were completed outside the building near the area where the parts degreasing unit was apparently positioned inside the building, no soil borings were completed through the building floor beneath the degreaser. The RFA stated that EPA representatives estimated that 8.3 metric tons of TCE wastes were generated every year at this facility (Metcalf & Eddy, 1992). Over its 33 years of operation, this translates to 274 metric tons of TCE waste. The incomplete assessment of the contamination beneath the degreasing unit and the TCE and mineral spirits storage area results in a large data gap at the likely source area property, particularly since TCE concentrations in most wells at the former TRW/Ramsey facility are increasing.

Hydraulic testing, borehole flowmeter testing, and discrete sampling at Sullivan municipal wells, especially COS02 and COS03, could inform the understanding of the complex groundwater flow and help determine TCE plume migration between the former TRW Ramsey facility and OGV wells. COS03 is 905 feet deep and has an open interval of approximately 550 feet (from 361 to 905 feet bgs). TCE concentrations in this well have ranged from nondetect to 2.8 µg/L. MDNR concluded that COS03 is likely not hydraulically connected to the other wells (MDNR, 2007a). This could account for the lack of TCE contamination. Profiling this well would provide data to determine if COS03 is indeed in a separate flow path than the OGV wells farther to the northeast, or if a large volume of water is entering COS03 in the Eminence dolomite, diluting the TCE. Profiling would also help determine at what depth TCE is detected in the aquifer at this location. The drillers log (Appendix B) indicates that there was no flow in the well below approximately

615 feet bgs. This means that the well produces the majority of water from the Eminence Formation.

In addition, pump testing involving OGV02 and COS02, and COS03 may more adequately characterize the hydraulic connectivity of these three wells. The declining TCE levels in COS02 after OGV02 became operational appear to indicate a hydraulic connection between OGV02 and COS02. Pump tests to adequately characterize this connection would be beneficial in determining the source of the contamination at OGV02.

A fault trace/lineament study within the site area would also help to define the complex groundwater system. The thick residuum of the Roubidoux Formation tends to obscure fault traces; and therefore, the fault system in the OGV and Sullivan area is poorly understood. Faults have been identified in close proximity to and in all directions from the site, although none have been mapped directly through the site. According to past studies, faults on the Salem Plateau affect groundwater movement in different ways, depending on their age. It has been reported that in general older faults trend northwest and tend to act as groundwater conduits, and younger faults trend northeast and tend to act as aquitards (Harvey, et al., 1983 and MDNR, 1998b). TRW inferred a fault zone running beneath the site (O'Brien and Gere, 1996).

Additional groundwater tracer studies appear to be warranted. Based on the data from the previous dye trace studies, the recharge area for the LJSCC may include a sizable portion of the site area. Additional dye trace data would be useful in helping to define the complex groundwater flow systems.

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TABLE(S)

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Table 2.1
Chronology of the OGV Well Site OU1
Franklin County, Missouri

Date	Event
1964	OGV municipal well OGV01 constructed
June 1986	Routine Sampling by MDNR detects contaminants in groundwater
June 1987	Potential Hazardous Waste Site Preliminary Assessment issued by MDNR
August 1987	Report of Investigation Oak Grove Village Area Wells issued by DEQ
December 1987	Hydrogeologic Report on the Oak Grove Village Well Contamination issued by DGLS
May 1988	Site Investigation Report issued by DEQ
July 1988	Addendum to OGV Public Water Supply Well PA/SI issued by DGLS
October 1988	Site Inspection issued by MDNR
November 1990	USGS investigations for the city of Sullivan
December 1990	MDNR issues a Notice of Violation (NOV) for OGV01
July 1991	OGV01 taken out of service
September 1992	OGV01 reopened
December 1992	Summary of Dye Traces in the Sullivan Vicinity by DGLS
January 1994	MDNR issues a second NOV for OGV01
February 1994	OGV01 again taken out of service
September 1994	Expanded Site Inspection Report issed by Jacobs under contract to EPA
March 1998	Additional Site Assessment completed by MDNR and EPA
November 1998	Hydrogeologic Report for the Highway AF Wells Site issued by MDNR
September 2001	OGV Well site proposed for NPL
March 2002	Phase I RI completed by Jacobs under contract to MDNR
September 2002	OGV Well Site added to NPL
December 2002	OGV02 drilled/installed
February 2004	Bedrock Geology of OGV/Sullivan Area issued by GSRAD
August 2004	3-D Analyst Addendum for Bedrock Geology of OGV/Sullivan Area issued by GSRAD
2004	Geophysical Logging and Packer Testing to Determine Depth of TCE Contamination in the Vicinity of OGV01 issued by USGS
April 2005	OGV02, with an air stripper in place, begins distribution to residents of OGV
June 2005	Final Human Health Risk Assessment completed by DHSS
August 2005	Phase II RI completed by Benham under contract to MDNR
May 2007	Post-Phase II RI completed by MDNR
September 2007	ROD for Interim Action for OU1 is signed
September 2008	Remedial Design Plan for Interim Action at OU1 submitted by HGL under contract to EPA. EPA begins Interim Remedial Action
January 2009	Final Baseline Groundwater Monitoring Report submitted by HGL under contract to EPA
February 2009	Abandonment of OGV01 and MW-2 completed
March 2009	Interim Remedial Action is complete and declared operational and functional

Table 2.1
Chronology of the OGV Well Site OU1
Franklin County, Missouri

Date	Event
April 2009	Final Quarterly Groundwater Monitoring Report, First Quarter 2009 Sampling Event submitted by HGL under contract to EPA
July 2009	Final Semiannual Monitoring Report, May 2009 Sampling Event submitted by HGL under contract to EPA
November 2009	Final Quarterly Monitoring Report, August 2009 Sampling Event submitted by HGL under contract to EPA
February 2010	Final Semiannual Monitoring Report, November 2009 Sampling Event submitted by HGL under contract to EPA
April 2010	Final Quarterly Monitoring Report, February 2010 Sampling Event submitted by HGL under contract to EPA
July 2010	Final Semiannual Monitoring Report, May 2010 Sampling Event submitted by HGL under contract to EPA
August 2010	Final O&M Plan submitted by HGL under contract to EPA
August 2010	Final Remedial Action Report submitted by HGL under contract to EPA
May 2010 - Present	Ongoing Investigations by USGS under contract to EPA

Notes:
DEQ = MDNR Department of Environmental Quality
DGLS = MDNR Department of Geology and Land Survey
DHSS = Department of Health and Senior Services
EPA = Environmental Protection Agency
GSRAD = MDNR Geolgical Survey and Resource Assessment Division
HGL = HydroGeoLogic, Inc.
MDNR = Missouri Department of Natural Resources
NOV = Notice of Violation
NPL = National Priorities List
OGV = Oak Grove Village
OGV01 = Oak Grove Village Municipal Well #1
OGV02 = Oak Grove Village Municipal Well #2
RI = Remedial Investigation
ROD = Record of Decision
USGS = U.S. Geological Survey

Table 2.2
Summary of Investigations (Grouped by Investigation Phase/Type)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Investigation Phase/Type	Report	Report Author/Date	Activities
MDNR Lead			
Pre-remedial Investigations	Potential Hazardous Waste Site Preliminary Assessment	MDNR/1987	Groundwater sampling - OGV and Sullivan municipal wells
	Report of Investigation	MDNR/1987	Seven groundwater samples - OGV01 and surrounding private wells
	Site Investigation	MDNR/1988	Groundwater sampling - OGV and Sullivan municipal wells and two private wells
	Complaint Investigation Report	MDNR/1990	Surface water and sediment sampling - tributary to Winsel Creek
Remedial Investigations	Phase I Remedial Investigation	Jacobs/2002	Groundwater sampling - OGV01, 98 private wells, and 9 springs
			Sediment samples collected at sink holes and stream beds
	Phase II Remedial Investigation	Benham /2005	Drilling and groundwater sampling of 3 deep monitoring wells - MW-1, MW-2, and MW-
			Groundwater sampling - OGV01, OGV02, 138 private wells, and 14 springs
			Water levels measured at 40 private wells
			Air samples collected at La Jolla Spring Cave Complex
			Six surface water and four sediment samples from Meramec River
			Investigation of potential source areas - wastewater, tree core and soil sampling.
			Geophysical investigation of OGV01 and GWS003 (Voss well)
			Baseline Human Health Risk Assessment and Screening Level Ecological Risk
	Multi-Media Investigation of the Closed Sullivan	MDNR/2006	Investigations included soil gas and groundwater sampling at the closed landfill
	Post-Phase II Remedial Investigation	MDNR/2007	Completion of deep monitoring wells (MW-1 and MW-3)
			Installation of shallow monitoring wells MW-4 and MW-5
			Groundwater sampling - OGV02, Sullivan municipal wells, private wells
			Geophysical investigation of private wells PH062 and PH068
			Investigation of potential source areas - tree core and soil sampling.
EPA Lead			
Pre-remedial Investigations	Final Expanded Site Inspection Report	Jacobs /1994	Investigation of two potential source areas - 10 soil samples collected from the Sohn and Blanton properties
	Additional Site Assessment	MDNR/1998	Groundwater sampling - OGV01 and six private wells
Interim Remedial Action	Interim Remedial Action Report	HGL/2010	Semiannual groundwater sampling - Sullivan municipal wells, MW-3, MW-4, MW-5, and 108 private wells
			Quarterly groundwater sampling - OGV02
			Abandonment of municipal well OGV01 and monitoring well MW-2
Post-Interim Remedial Action	Administrative Letter, Subsurface Investigation of the Train Derailment Area	USGS/2012	Tree core and soil sampling
	Administrative Letter, Investigation of Potential Source Areas	USGS/2012	Tree core and soil sampling
	Administrative Letter, Installation of MW-6	USGS/2012	Installation and groundwater sampling at MW-6
	Administrative Letter, Sampling Test of MW-3	USGS/2012	Pump testing and sampling at MW-3

Table 2.2
Summary of Investigations (Grouped by Investigation Phase/Type)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Investigation Phase/Type	Report	Report Author/Date	Activities
PRP Lead - Closed Sullivan Landfill/OU2			
Landfill Closure	Letter Report - Phase I Investigation	USGS/1991	1990 Leachate sampling
	Subsurface Investigation	ABB-ES/1994	Collection of leachate, surface water, and sediment at landfill seeps
Remedial Investigations	Monthly Progress Report - November 2010	ARCADIS/2010	Groundwater sampling - La Jolla Spring Cave Complex
	Monthly Progress Report - October 2011	ARCADIS/2011	Geophysical logging of MW-107 and MW-108
	Monthly Progress Report - March 2012	ARCADIS/2012	Groundwater sampling - landfill monitoring wells
LTM	Biennial Groundwater Monitoring Reports	ERM	Groundwater sampling and landfill inspection.
PRP Lead - Former TRW/Ramsey Facility			
RCRA Investigations	RCRA Facility Assessment	Metcalf & Eddy/1992	Identification of SWMUs and AOCs
			Summary of Phase I Site Investigation Data
	RCRA Facility Investigation	O'Brien & Gere/1996	Soil boring and sampling
			Monitoring well installation
			In situ hydraulic conductivity and aquifer testing
			Surface water and sediment samples collected from Winsel Creek Tributary
	Annual Groundwater Monitoring Reports	ARCADIS	Groundwater sampling at select monitoring wells

Notes:
Only those investigations from which analytical data was evaluated and included in the Data Evaluation Report are included in this table.
AOC = area of concern
Benham = Benham Companies, LLC
EPA = U.S. Environmental Protection Agency
HGL = HydroGeoLogic, Inc.
Jacobs = Jacobs Engineering Group
LTM = long-term monitoring
MDNR = Missouri Department of Natural Resources
PRP = potentially responsible party
RCRA = Resource Conservation and Recovery Act
SWMU = solid waste management unit
USGS = U.S. Geological Survey

Table 3.1
Water Levels at Select Wells – May/June 2010
Oak Grove Village Well Site, OU1
Franklin County, Missouri

Well [1]	Ground Surface Elevation (feet amsl)[2]	Casing Depth (feet)	Water level Depth (feet bgs)	Water Level Elevation (feet amsl)[3]
COS04	985	440	180.95	804.05
MJ001	925	355	161.09	763.91
MJ002	928	--	158.16	769.84
MJ003	901	--	168.83	732.17
MJ004	998	223	135.6	862.40
MJ005	919	--	92.2	826.80
MJ006	921	--	126.5	794.50
MJ007	881	--	122.14	758.86
MJ008	882	--	177.67	704.33
MJ009	822	140	130.3	691.70
MJ010	965	--	228.53	736.47
MJ011	965	--	183.85	781.15
MJ012	870	--	139.46	730.54
MJ013	908	--	163.56	744.44
MJ014	965	--	222.98	742.02
MJ015	882	--	87.5	794.50
MJ017	881	180	127.34	753.66
MJ018	895	--	113.43	781.57
MJ019	850	--	96.52	753.48
MJ020	838	--	86.95	751.05
MJ021	903	--	138.81	764.19
MJ022	879	--	112.67	766.33
MJ023	938	--	143.53	794.47
MJ024	978	--	128.5	849.50
PH002	902	--	174.67	727.33
PH006	885	--	137.34	747.66
PH021	898	--	112.61	785.39
PH039	922	--	150.24	771.76
PH061	899	84	122.62	776.38
PW022	886	--	118.01	767.99
PW031	886	273	169.73	716.27
PW033	922	--	197.09	724.91
PW035	906	--	143.77	762.23
PW047	886	300	117.07	768.93
PW053	920	80	169.33	750.67
PW057	978	--	192.94	785.06
PW075	846	140	144.44	701.56
PW080	925	--	178.19	746.81
PW089	910	--	160.08	749.92
PW106	935	--	180.64	754.36
PW203	855	--	120.52	734.48
PW212	873	240	124.51	748.49
PW303	978	--	106.98	871.02
PW401	862	--	110.5	751.50
PW406	921	--	183.76	737.24
PW410	862	--	106.42	755.58
OBG-01S	949.64	--	128.85	820.79
OBG-02S	954.25	--	127.93	826.32
OBG-03S	941	--	102.81	838.05

Table 3.1
Water Levels at Select Wells – May/June 2010
Oak Grove Village Well Site, OU1
Franklin County, Missouri

Well [1]	Ground Surface Elevation (feet amsl)[2]	Casing Depth (feet)	Water level Depth (feet bgs)	Water Level Elevation (feet amsl)[3]
OBG-04S	939	--	89.92	849.22
OBG-05S	942.15	--	110.9	831.25
OBG-06S	950.38	--	123.37	827.01
OBG-07S	952.31	--	128.79	823.52
OBG-09S	943.87	--	122.6	821.27
OBG-10S	942.77	--	127.89	814.88
OBG-11S	947.88	--	131.42	816.46
OBG-12S	970.26	--	98.82	871.44
OBG-13S	956.1	--	128.75	827.35
OBG-14S	948.34	--	76.95	871.39
OBG-15S	936.96	--	86.88	850.08
OBG-16S	940.06	--	88.35	851.71
OBG-17S	949.15	--	85.11	864.04
OBG-18S	971.60	--	93.86	877.74
OBG-19S	968.76	--	142.22	826.54
OBG-20S	962.15	--	144.99	817.16
OBG-21S	954.68	--	128.28	826.40
OBG-22S	891.62	--	34.52	857.10
OBG-23S	953.56	--	118.03	835.53
OBG-01D	949.43	--	178.5	770.93
OBG-04D	939.67	--	132.00	807.67
OBG-08D	952.40	--	182.4	770.00
OBG-11D	947.58	--	190.3	757.28
OBG-12D	970.06	--	188.64	781.42
OBG-13D	955.98	--	168.4	787.58
OBG-14D	948.16	--	125.6	822.56
OBG-17D	949.74	--	138.3	809.86
OBG-18D	971.61	--	192.45	799.16
OBG-19D	968.42	--	170.02	798.40
OBG-21D	954.46	--	166.56	787.90
OBG-01DD	949.83	--	193.54	756.29
OBG-14DD	948.33	--	177.07	771.26
OBG-18DD	971.88	--	215.26	756.62
OBG-20DD	962.02	--	213.45	748.57

Notes:

[1] Water level data for private wells and COS04 was collected May 2010 by USGS.
Water level data for the Former TRW/Ramsey wells (OBG series wells) were collected in June 2010.

[2] Ground Surface Elevations for private wells estimated from USGS topographic map; +/- 10 feet.
For former TRW/Ramesy wells (OBG series), the casing elevation, rather than the ground surface elevation, is given.

[3] For private wells, the water level elevation accuracy is dependent on ground surface accuracy; +/- 10 feet.

bgs = below ground surface

amsl = above mean sea level

Table 3.2
Summary of Municipal Well Construction Details
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Well Completion Date	Active Well	Well Diameter (inches)	Ground Elevation (feet amsl)	Top of Casing Elevation (feet amsl)	Well Depth (feet bgs)	Open Interval (feet bgs)	Open Interval Elevation (feet amsl)
Oak Grove Village Municipal Wells								
OGV01	1964	Decommissioned/Plugged	NA	964	NA	805	350–805	614–159
OGV02	2002	No	NA	964[1]	NA	900	450–900	514–64
OGV03	2018	Yes	17	931[2]	NA	620	420-620	511-311[2]
Sullivan Municipal Wells								
COS01	1923	Capped	NA	987	NA	805	NA	NA
COS02	1947	Yes	10	959	955	850	345–850	614–109
COS03	1954	Yes	10	993	990	905	361–905	632–88
COS04	1962	Nonoperational	10	972	991	810	440–810	532–162
COS05	1963	Yes	10	969	970	655	287–655	682–314
COS06	1969	Yes	6	972	972	850	500–850	472–122
COS07	1974	Yes	10	943	946	665	252–665	691–278
COS08	1977	Decommissioned/Plugged	12	964	960	964	532–964	432–0
COS09	1984	Yes	10	905	905	775	314–775	591–130
COS10	1996	Yes	12	940	938	1,840	400–1,840	540–-900[4]
COS11	1998	No	12	916	918	890	403–430[3]	513–486
COS12	2016	Yes	17	901[2]	NA	1,000	420-1,000	481–-99[2,4]

Notes:
[1] Ground surface elevation is estimated based on elevation at OGV01.
[2] Estimated.
[3] Prior to collapse, the open interval was 403-890 feet bgs.
[4] The negative elevation indicates that the bottom of the borehole is below mean sea level.

amsl = above mean sea level
bgs = below ground surface
NA = not available

Table 3.3
Summary of Monitoring Well Construction Details
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Well Completion Date	Well Diameter (inches)	Ground Elevation (feet amsl)	Top of Casing Elevation (feet amsl)	Well Depth (feet bgs)	Open/Screened Interval (feet bgs)	Open/Screened Interval Elevation (feet amsl)
MW–1	2006	10	858.9	861.1	505	349–505	509.9–353.9
MW–2[1]	2005	6	934	936.9	631	146.5–631	787.5–303
MW–3	2005	6	939.1	938.63	580	327–580	612.1–359.1
MW–4	2006	4	944.7	946.83	225	160–225	784.7–719.7
MW–5	2006	4	952.9	955.46	240	178–240	774.9–712.9
MW–6[2]	2010	6	920	922	525	335–525	585–395

Notes:
[1] Abandoned in 2009.
[2] Ground elevation was estimated on the construction details diagram for MW-6.
amsl = above mean sea level
bgs = below ground surface

Table 4.1
Summary of Soil Sample Analytical Results – Potential Source Areas (1994-2005)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Source Area Location	Location ID:	Sample Depth (feet bgs)	Sample Date	TCE	PCE	cis-1,2-DCE[1]	trans-1.2-DCE	Vinyl Chloride	Investigation
				(µg/kg)					
Background	1	1.0-1.5	Jul-94	6 U	6 U	6 U	NA	19 U	ESI
	2	3.0-3.5	Jul-94	8 U	8 U	8 U	NA	24 U	
	SB-12	3.0-4.0	Aug-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Phase II RI
Blanton Oil Company[4]	1S	4.0-4.5	Jul-94	8 U	8 U	8 U	NA	24 U	ESI
	2S	5.5-6.0	Jul-94	9 U	9 U	9 U	NA	26 U	
	4S	1.5-2.0	Jul-94	9 U	9 U	9 U	NA	28 U	
		4.0-4.5[2]	Jul-94	11 U	11 U	11 U	NA	34 U	
			Jul-94	11 U	11 U	11 U	NA	34 U	
	North of Pad		Mar-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Post-Phase II RI
				2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
				2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	25 ft. North of G4-1		Mar-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	25 ft. North of Slab		Mar-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SW Side of Back		Mar-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	Back of Building		Mar-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	Back of Building		Mar-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	Loading Dock		Mar-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	Loading Dock		Mar-06	12.5 U	12.5 U	12.5 U	12.5 U	12.5 U	
	Loading Dock at 6 ft.		Mar-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
Sohn Property/Hwy 185 Garage	5S	1.5-2.0	Jul-94	11 U	11 U	11 U	NA	33 U	ESI
	6S	1.5-2.0	Jul-94	8 U	8 U	8 U	NA	25 U	
	7S	1.0-1.5	Jul-94	7 U	7 U	7 U	NA	20 U	
	9S	1.0-1.5	Jul-94	**28**	**16**	**8**	NA	24 U	
		2.0-4.0	Jul-94	14 U	**80**	**33**	NA	44 U	
	SB-15	1.0-2.0	Aug-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Phase II RI
	SB-15	7.0-8.0	Aug-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	BH1-1	0-4	Apr-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Post-Phase II RI
	BH1-2	5	Apr-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	BH2-1	0-4	Apr-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	BH2-2	4-7	Apr-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	BH3-1	0-4	Apr-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	BH3-2	4-8	Apr-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	BH3-3	8-12	Apr-06	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	
	BH4-1	0-4	Apr-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	BH4-2	7-8	Apr-06	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	
	BH5-1	0-4	Apr-06	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	
	BH5-2	4-5	Apr-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	BH6-1	0-4	Apr-06	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	
	BH6-2	4-7	Apr-06	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	
Wal-Mart	WAL-1	8-9	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Post-Phase II RI
	WAL-2[2]	21-22	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
				2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	WAL-3	3-4	Nov-06	2.50 U	**29.9**	2.50 U	2.50 U	2.50 U	
	WAL-4	11-12	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	WAL-5	7-8	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	WAL-6	13-14	Nov-06	2.50 U	**4.16 E**	2.50 U	2.50 U	2.50 U	
	WAL-7	11-12	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	WAL-8	14-15	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	WAL-10	6-7	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	WAL-11	3-4	Nov-06	12.5 U	12.5 U	12.5 U	12.5 U	12.5 U	
	WAL-12	18-19	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	WAL-13	6-7	Nov-06	2.50 U	**2.64 E**	2.50 U	2.50 U	2.50 U	
	WAL-14	4-5	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	WAL-15	12-13	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	WAL-16	10-11	Nov-06	2.50 U	**23.6**	2.50 U	2.50 U	2.50 U	
	WAL-17	13-14	Nov-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	

Table 4.1
Summary of Soil Sample Analytical Results – Potential Source Areas (1994-2005)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Source Area Location	Location ID:	Sample Depth (feet bgs)	Sample Date	TCE	PCE	cis-1,2-DCE[1]	trans-1.2-DCE	Vinyl Chloride	Investigation
				(µg/kg)					
Closed Sullivan "North" Sewage Lagoon	SB-09	10.5-11.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Phase II RI
	SB-10	2.0-2.5	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-11[2]	4.0-5.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
				2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-11	4.5-15.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
Closed Sullivan "South" Sewage Lagoon	SB-01	7.6-8.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Phase II RI
	SB-01	9.5-10.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-01	12.5-13.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-02[2]	11.5-12.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
				2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-03	11.5-12.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-04	0.33-0.83	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-04	1.5-2.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-05	0.66-1.16	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-06	12.5-13.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
Closed Oak Grove Village Sewage Lagoon	SB-13	0.0-1.0	Aug-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Phase II RI
	SB-13[2]	7.0-8.0	Aug-04	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	
				5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	
	SB-13	15.0-16.0	Aug-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-14	0.0-1.0	Aug-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-14	14.5-15.0	Aug-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
Abandoned Drum Area	SB-DA-01[3]	2.5-3.0	Mar-05	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Phase II RI
	SB-DA-02[3]	4.0-4.5	Mar-05	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DA-03[2,3]	1.0-2.0	Mar-05	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
				2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DA-04[3]	0.5-1.5	Mar-05	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DA-05[3]	0.5-1.5	Mar-05	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DA-06[3]	4.0-4.5	Mar-05	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
Ditch Witch	SB-DW-001	12	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Post-Phase II RI
	SB-DW-002	16-17	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-003[2]	8.5-9.5	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
				2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-004	10-11	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-005	3-4	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-006	5-6	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-007	7-8	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-008	5-6	Aug-06	2.50 U	2.50 U	NA	NA	NA	
	SB-DW-009	2-3	Aug-06	**199**	**118**	25.0 U	25.0 U	25.0 U	
	SB-DW-010	6-7	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-011	7-8	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-012	7-8	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-013	11-12	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-014	7-8	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-015	13-14	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-016	10	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-DW-017	14-15.5	Aug-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	DW-018	4-5	Sep-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	DW-019	4-5	Sep-06	**153**	**16.9**	**105**	**3.05 E**	2.50 U	
	DW-020	4-5	Sep-06	**4.86 E**	2.50 U	2.50 U	2.50 U	2.50 U	
	DW-021	4-5	Sep-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
Highway AF Well Area - Peterson Property Northernmost	SB-07	4.5-5.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Phase II RI
	SB-07	14.5-15.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-08	4.5-5.0	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	SB-08	7.0-7.5	Jun-04	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	

Table 4.1
Summary of Soil Sample Analytical Results – Potential Source Areas (1994-2005)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Source Area Location	Location ID:	Sample Depth (feet bgs)	Sample Date	TCE	PCE	cis-1,2-DCE[1]	trans-1.2-DCE	Vinyl Chloride	Investigation
				(µg/kg)					
Winsel Creek	WC-1	8-10	Sep-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	Post-Phase II RI
	WC-2	8-10	Sep-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	
	WC-3	17-18.5	Sep-06	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	

Notes:

[1] total 1,2-DCE when trans-1,2-DCE is reported as NA

[2] regular and duplicate sample

[3] Results reported on a dry weight basis.

[4] Sample names shown on Figure 14 could not be correlated to sample IDs given on Table 4-13 in the Post-Phase II Remedial Investigation Report.

bgs = below ground surface
ID = identification
DCE = dichloroethene
NA = not analyzed or not available
PCE = tetrachloroethene
RSL = regional screening level
TCE = trichloroethene

Table 4.2
Summary of Tree Core Sample Analytical Results – Potential Source Areas (2004-2005)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Source Area Location	Sample ID:	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Investigation
			µg/kg				
Sohn Property	TC-001	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-002	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
Closed Sullivan "North" Sewage Lagoon	TC-003	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-004	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-005	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-006	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-007	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-008	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-009	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-010	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-011	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-012	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-013	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-014	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-015	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-016	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-017	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-018	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-019	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-020	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-021	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-022	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-023	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-024	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
Closed Sullivan "South" Sewage Lagoon	TC-025	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-026	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-027	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-028	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-029	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-030	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-031	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-032	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-033	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-034	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-035	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-036	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II

Table 4.2
Summary of Tree Core Sample Analytical Results – Potential Source Areas (2004-2005)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Source Area Location	Sample ID:	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Investigation
			µg/kg				
Closed OGV Sewage Lagoon	TC-054	25-Aug-04	0.1 U	NA	0.1 U	0.1 U	Phase II
	TC-055	25-Aug-04	0.1 U	NA	0.1 U	0.1 U	Phase II
	TC-056	25-Aug-04	0.1 U	NA	0.1 U	0.1 U	Phase II
	TC-057	25-Aug-04	0.1 U	NA	0.1 U	0.1 U	Phase II
	6-1	27-Sep-04	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	7-1	27-Sep-04	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	8-1	27-Sep-04	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	9-1	27-Sep-04	ND*	ND*	ND*	NA	Post-Phase II
Abandoned Drum Burial Site	4-1	27-Sep-04	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	5-1	27-Sep-04	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
Closed Sullivan Landfill	TC-044	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-045	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-046	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-047	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
Peterson Property Southernmost Pond	TC-037	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-038	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-039	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-040	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-041	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-042	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-043	22-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
Peterson Property Northernmost Pond	TC-048	25-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-049	25-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-050	25-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-051	25-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-052	25-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II
	TC-053	25-Jun-04	0.10 U	NA	0.10 U	0.10 U	Phase II

Table 4.2
Summary of Tree Core Sample Analytical Results – Potential Source Areas (2004-2005)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Source Area Location	Sample ID:	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Investigation
			µg/kg				
Highway AF Well Area	1AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	2AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	3AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	4AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	5AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	6AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	7AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	8AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	9AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	10AF	19-Oct-05	0.5 U	0.5 U	**0.51**	NA	Post-Phase II
	11AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	12AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	13AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	14AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	15AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	16AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	17AF	19-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	18AF	19-Oct-05	0.5 U	0.5 U	**1.10**	NA	Post-Phase II
	19AF	20-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	20AF	20-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	21AF	20-Oct-05	**0.08**	0.5 U	0.5 U	NA	Post-Phase II
	22AF	20-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	23AF	20-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	24AF	20-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	25AF	20-Oct-05	0.5 U	0.5 U	**2.00**	NA	Post-Phase II
	26AF	20-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II
	27AF	20-Oct-05	0.5 U	0.5 U	0.5 U	NA	Post-Phase II

Notes:

Estimated concentrations detected by portable gas chromatograph.

Bold results indicate a detection

* Reported as nondetect in the Post Phase II Report in text, however, results not included on tables.

ID = identification
DCE = dichloroethene
PCE = tetrachloroethene
TCE = trichloroethene

NA = not analyzed
ND = rnondetect
µg/kg = micrograms per kilogram
U = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

Table 4.3
Summary of Air Sample Analytical Results – La Jolla Spring Cave Complex (2002-2005)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Location	Sample ID	Lab ID	DATE	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 113	Freon 114
				(µg/m^3)									
Site 1 (background)	#3759	0210470-01A	8-Oct-02	4.4 U	5.6 U	3.2 U	13 U	**8.4 B**	2.1 U	4.6 U	**6.7**	6.3 U	5.7 U
Background	321223	030S140-01A	1-May-03	4.9 U	6.2 U	3.6 U	14 U	3.2 U	2.3 U	5.1 U	4.5 U	7.0 U	6.4 U
	321236	0310326.01A	9-Oct-03	4.6 U	5.8 U	3.4 U	14 U	3.0 U	2.2 U	4.8 U	4.2 U	6.5 U	6.0 U
Ballroom	#9571	0210470-02A	8-Oct-02	**100**	5.6 U	3.2 U	13 U	**6.5 B**	2.1 U	**6**	**4.4**	6.3 U	5.7 U
	321224	030S140-02A	1-May-03	**1000**	5.8 U	**8.3**	14 U	3.0 U	2.2 U	**200**	**24**	**9**	6.0 U
	321237	0310326-02A	9-Oct-03	**1100**	5.3 U	**11**	12 U	2.7 U	2.0 U	**120**	**12**	6.0 U	5.5 U
	410051	0402204-02A	4-Feb-04	**4.9**	5.2 U	3.1 U	12 U	2.7 U	2.0 U	4.3 U	**7.2**	5.9 U	5.4 U
	501729	0501424-02A	20-Jan-05	**5.2**	5.8 U	3.4 U	3.4 U	3.0 U	2.2 U	**5.8**	**4.8**	6.6 U	6.0 U
Gift Shop	321241	0310329-02A	9-Oct-03	**840**	5.9 U	**8.2**	14 U	3.0 U	2.2 U	**88**	**9.6**	6.7 U	6.1 U
	0410055	0402204-06A	4-Feb-04	**5.2**	5.2 U	3.1 U	12 U	2.7 U	2.0 U	4.3 U	**4.2**	5.9 U	5.4 U
	501733	0S01424-06A	20-Jan-05	4.8 U	6.1 U	3.5 U	3.5 U	3.1 U	2.3 U	**5.3**	4.4 U	6.8 U	6.2 U
Jungle Room	321226	030S140-04A	1-May-03	**1400**	**7**	**13**	14 U	3.0 U	2.2 U	**270**	**26**	**12**	6.1 U
	321226-FD	030S140-04AA		**1400**	**6.8**	**13**	14 U	3.0 U	2.2 U	**260**	**26**	**12**	6.1 U
	321239	0310326-04A	9-Oct-03	**1700**	7.4 U	**20**	17 U	3.8 U	2.8 U	**200**	**19**	8.3 J	7.6 U
	410053	0402204-04A	4-Feb-04	**23**	6.2 U	3.6 U	14 U	3.2 U	2.3 U	5.1 U	**5.1**	7.0 U	6.4 U
	501731	0501424-04A	20-Jan-05	**24**	5.7 U	3.3 U	3.3 U	2.9 U	2.1 U	**9.7**	4.2 U	6.4 U	5.9 U
Lassie	321225	030S140-03A	1-May-03	**1100**	5.8 U	**5.3**	14 U	3.0 U	2.2 U	**210**	**22**	**9.7**	6.60 U
	321238	0310328-03A	9-Oct-03	**900**	5.6 U	**7.5**	13 U	2.8 U	2.1 U	**95**	**10**	6.3 U	5.7 U
	410052	0402204-03A	4-Feb-04	**18**	5.9 U	3.4 U	14 U	3.0 U	2.2 U	4.9 U	**5.4**	6.7 U	6.1 U
	501730	0S01424-03A	20-Jan-05	**22**	6.1 U	3.5 U	3.5 U	3.1 U	2.3 U	**9.5**	4.4 U	6.8 U	6.2 U
Loot Rock	0321242	0310329-03A	9-Oct-03	**1500**	11 U	**15**	25 U	5.5 U	4.0 U	**160**	**16**	12 U	11 U
	410056	0402204-07A	4-Feb-04	**7.8**	8.9 U	5.2 U	21 U	4.6 U	3.4 U	7.4 U	6.5 U	10 U	9.2 U
	501734	0S01424-07A	20-Jan-05	**9.8**	5.8 U	3.4 U	3.4 U	3.0 U	2.2 U	**7.1**	4.2 U	6.6 U	6.0 U
Theater Room	321240	0310329-01A	9-Oct-03	**340**	6.0 U	**3.9**	14 U	3.1 U	2.3 U	**35**	**6.2**	6.8 U	6.2 U
	410054	04022044-05A	4-Feb-04	**5.1**	5.9 U	3.4 U	14 U	3.0 U	2.2 U	4.9 U	**6.6**	6.7 U	6.1 U
	501732	0S01424-05A	20-Jan-05	4.9 U	6.2 U	3.6 U	3.6 U	3.2 U	2.3 U	**5.6**	4.5 U	7.0 U	6.4 U
Pavillion/ Parking Lot	501728	0501424-01A	20-Jan-05	3.7 U	4.7 U	2.8 U	2.8 U	2.4 U	1.8 U	3.9 U	3.4 U	5.3 U	4.8 U
Site 3 (Slot 1)	#4062	0210470-03A	8-Oct-02	**450**	6.3 U	**6.6**	15 U	**7.5 B**	2.4 U	**19**	**5.1**	7.1 U	6.5 U
Site 4 (Slot 2)	#4282	0210470-04A	8-Oct-02	4.2 U	5.3 U	3.1 U	12 U	**13 B**	2 U	4.4 U	**5.2**	6 U	5.5 U
Site 5 (Slot 3)	#2987	0210470-05A	8-Oct-02	**6.5**	5.1 U	3 U	12 U	**22 B**	1.9 U	4.2 U	**32**	5.8 U	5.3 U
Trip Blank	321243	0310329-04A	9-Oct-03	2.7 U	3.4 U	2.0 U	8.0 U	1.8 U	1.3 U	2.8 U	2.5 U	3.9 U	3.6 U

Table 4.3
Summary of Air Sample Analytical Results – La Jolla Spring Cave Complex (2002-2005)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Location	Sample ID	Lab ID	DATE	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 113	Freon 114
				(µg/m^3)									
Unknown Locations	321227	0305140-05A	1-May-03	2.7 U	3.4 U	2.0 U	8.0 U	1.8 U	1.3 U	2.8 U	2.5 U	3.9 U	3.6 U
	410050	0402204-01A	4-Feb-04	4.4 U	5.6 U	3.2 U	13 U	2.8 U	2.1 U	4.6 U	4.0 U	6.3 U	5.7 U
	410050-FD	0402204-01AA	4-Feb-04	4.4 U	5.6 U	3.2 U	13 U	2.8 U	2.1 U	4.6 U	4.0 U	6.3 U	5.7 U
	410057	0402204-08A	4-Feb-04	2.7 U	3.4 U	2.0 U	8.0 U	1.8 U	1.3 U	2.8 U	2.5 U	3.9 U	3.6 U
	504370	0509087-01A	29-Aug-05	12,000 U	15,000 U	8,600 U	8,600 U	**2,700,000**	5,500 U	12,000 U	11,000 U	**51,000**	15,000 U
	504374	0509087-02A	29-Aug-05	33 U	42 U	24 U	24 U	**5,200**	**24**	35 U	**2,600**	**64**	**5,600**
	504374	0509087-02AA	29-Aug-05	33 U	42 U	24 U	24 U	**5,300**	**24**	35 U	**2,400**	**64**	**5,500**
	504375	0509087-3A	29-Aug-05	**170**	110 U	63 U	63 U	**950**	**82**	**1600**	**4,100**	120 U	**2,000**
	504378	0509087-04A	29-Aug-05	34 U	43 U	25 U	25 U	**5,200**	**28**	36 U	**440**	**75**	**710**
	504379	0509087-05A	29-Aug-05	**230**	**140**	**610**	**180**	**1,000**	**3,400**	**390**	**6,200**	130 U	**1,000**

Notes:

Bolded results indicate a detection.

DCE = dichloroethene

NA = not available

PCE = tetrachloroethene

TCE = trichloroethene

U = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

µg/m^3 = micrograms per cubic meter

Table 4.4
Summary of OGV02 Analytical Results –
Interim Remedial Action Quarterly Sampling (2008-2010)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Location	Quarterly Sampling Event	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 113
		µg/L								
OGV02-I (Untreated, Before Air Stripper)	Nov-08	**49**	0.5 U	**1.2**	0.5 U	0.5 U	0.5 U	**1.7**	0.5 U	0.5 U
	Feb-09	**66**	0.5 U	**1.5**	0.5 U	0.5 U	0.5 U	**1.5**	0.5 U	0.5 U
	May-09	**42**	0.5 U	**0.89**	0.5 U	0.5 U	0.5 U	**1.6**	0.5 U	0.5 U
	Aug-09	**44**	0.5 U	**0.86 J**	0.5 U	0.5 U	0.5 U	**1.3**	0.5 U	0.5 U
	Nov-09	**79**	0.5 U	**1.4**	0.5 U	0.5 U	0.5 U	**2.2**	0.5 U	0.5 U
	Feb-10	**64**	0.5 U	**1.6**	0.5 U	0.5 U	0.5 U	**3**	0.5 U	0.5 U
	May-10	**160**	1.0 U	**2.6**	1.0 U	1.0 U	1.0 U	**7.2**	1.0 U	1.0 U
OGV02-E (Treated, After Air Stripper)	Nov-08	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	Feb-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-09	0.50 U	0.5 U	0.50 U	0.5 U	0.5 U	0.5 U	0.50 U	0.5 U	0.5 U
	Aug-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	Nov-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	Feb-10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	May-10	**0.61**	0.5 U	0.50 U	0.5 U	0.5 U	0.5 U	0.50 U	0.5 U	0.5 U

Notes:

Bolded results indicate a detection.

Shaded results indicate that the reported concentration is greater than the MCL/RAO for TCE (5 µg/L).

Samples were not analyzed for Freon 21.

E = effluent

DCE = dichloroethene

I = Influent

J = The identification of the analyte is acceptable; the reported value is an estimate.

MCL = maximum contaminant level

OGV02 = Oak Grove Village Municipal Well #2

RAO = remedial action objective

TCE = trichloroethene

U = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

µg/L = micrograms per liter

Table 4.5
Summary of City of Sullivan Municipal Well Analytical Results –
Interim Remedial Action Semiannual Sampling (2008-2010)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 113
		µg/L								
COS02	Nov-08	**14**	0.5 U	**0.75**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-09	**17**	0.5 U	**0.63**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		16	0.5 U	**0.67**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	Nov-09	**35**	0.5 U	**1.2**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-10	**34**	0.5 U	**1.1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
COS03	Nov-08	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	Nov-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
COS05	Nov-08	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	Nov-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
COS06	Nov-08	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	Nov-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
COS07	Nov-08	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	Nov-09	**0.7**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-10	**1.6**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
COS09	Nov-08	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	May-10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
COS10	May-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	Nov-09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:
Bolded results indicate a detection.
Shaded results indicate the MCL/RAO has been exceeded.
ID = identification
TCE =trichloroethene
DCE = dichloroethene
MCL = maximum contaminant level
PCE = tetrachloroethene
RAO = remedial action objective
µg/L = micrograms per liter
U = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

Table 4.6
Summary of Private Well Analytical Results –
Interim Remedial Action Semiannual Sampling (2008-2010)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 113
		µg/L								
PH011	11/5/08	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U
	5/14/09	**0.67**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	11/5/09	**1.1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	5/10/10	**1.6**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PH015	11/5/08	**1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	5/14/09	**0.55**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	11/5/09	**0.98**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		0.98	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	5/10/10	**0.55**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PH041	11/5/08	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	5/14/09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	11/5/09	**0.54**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	5/10/10	**0.74**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PW067	11/5/08	**1.8**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	5/14/09	**1.5**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	11/5/09	**2.7**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	5/10/10	**2.1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		2.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PW106	11/5/08	**0.67**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		0.66	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	5/14/09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	11/5/09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	5/10/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:
Bolded results indicate a detection.
Only those wells that had detections of TCE during the Interim Remedial Action are shown.
Samples were not analyzed for Freon 21.
U = The analyte was not detected at or above the reporting limit.
The associated numerical value is the reporting limit.

DCE = dichloroethene
ID = identification
PCE = tetrachloroethene
TCE = trichloroethene
µg/L = micrograms per liter

Table 4.7
Summary of TCE Results – MW-6
Oak Grove Village Well Site OU1
Franklin County, Missouri

Date	Time	Hole Depth	Casing Depth	Sample Type (feet bgs)	Sample Depth (feet bgs)	Status	Field GC TCE (µg/L)	Lab TCE (µg/L)
8/17/10	1035	250	55	Grab	Wellhead	Pumping	ND	1 U
9/27/10	1423	335	115	Turned pump on				
	1428	335	115	Grab	Wellhead	Pumping	ND	NA
	1453	335	115	Grab	Wellhead	Pumping	ND	NA
	1523	335	115	Grab	Wellhead	Pumping	ND	NA
	1552	335	115	Discrete	310	Pumping	ND	1 U
	1553	335	115	Grab	Wellhead	Pumping	ND	NA
	1618	335	115	Grab	Wellhead	Pumping	ND	NA
10/5/10	905	405	332	Turned pump on				
	920	405	332	Grab	Wellhead	Pumping	**18**	NA
	940	405	332	Grab	Wellhead	Pumping	**17**	NA
	1010	405	332	Grab	Wellhead	Pumping	**27**	NA
	1040	405	332	Grab	Wellhead	Pumping	**37**	NA
	1120	405	332	Grab	Wellhead	Pumping	**39**	**42**
10/6/10	905	405	332	Turned pump on				
	948	405	332	Grab	Wellhead	Pumping	**20**	NA
	1115	405	332	Grab	Wellhead	Pumping	**23**	NA
	1140	405	332	Discrete	392	Pumping	**66**	**154**
	1230	405	332	Grab	Wellhead	Pumping	**50**	NA
10/7/10	1025	465	332	Turned pump on				
	1035	465	332	Grab	Wellhead	Pumping	**42**	NA
	1105	465	332	Grab	Wellhead	Pumping	**53**	NA
	1135	465	332	Grab	Wellhead	Pumping	**50**	NA
	1205	465	332	Grab	Wellhead	Pumping	**52**	NA
	1235	465	332	Grab	Wellhead	Pumping	**45**	NA
	1305	465	332	Grab	Wellhead	Pumping	**34**	NA
	1335	465	332	Grab	Wellhead	Pumping	**35**	NA
	1350	465	332	Discrete	430	Pumping	**111**	**130**
	1405	465	332	Grab	Wellhead	Pumping	**57**	NA
10/26/10	953	465	332	Turned pump on				
	958	465	332	Grab	Wellhead	Pumping	**19**	NA
	1030	465	332	Grab	Wellhead	Pumping	**73**	NA
	1100	465	332	Grab	Wellhead	Pumping	**64**	NA
	1118	465	332	Discrete	450	Pumping	**173**	NA
	1130	465	332	Grab	Wellhead	Pumping	**104**	NA
	1150	465	332	Discrete	420	Pumping	**110**	NA
	1200	465	332	Grab	Wellhead	Pumping	**80**	NA
	1210	465	332	Discrete	450	Pumping	**173**	**163**
	1235	465	332	Grab	Wellhead	Pumping	**105**	

Table 4.7
Summary of TCE Results – MW-6
Oak Grove Village Well Site OU1
Franklin County, Missouri

Date	Time	Hole Depth	Casing Depth	Sample Type (feet bgs)	Sample Depth (feet bgs)	Status	Field GC TCE (µg/L)	Lab TCE (µg/L)
11/1/10	1145	525	332	Turned pump on				
	1200	525	332	Grab	Wellhead	Pumping	**74**	NA
	1230	525	332	Grab	Wellhead	Pumping	**103**	NA
	1246	525	332	Discrete	515	Pumping	**26**	NA
	1300	525	332	Grab	Wellhead	Pumping	**80**	NA
	1330	525	332	Grab	Wellhead	Pumping	**80**	NA
	1330	525	332	Discrete	485	Pumping	**31**	NA
	1400	525	332	Grab	Wellhead	Pumping	**67**	NA
	1420	525	332	Discrete	450	Pumping	**61**	NA
	1430	525	332	Grab	Wellhead	Pumping	**66**	NA
	1500	525	332	Grab	Wellhead	Pumping	**83**	NA
	1500	525	332	Discrete	515	Pumping	**43**	NA
	1530	525	332	Grab	Wellhead	Pumping	**94**	NA
11/2/10	1345	525	332	Discrete	350	Ambient	**48**	NA
	1415	525	332	Discrete	392	Ambient	**75**	**59**
	1440	525	332	Discrete	440	Ambient	**49**	**51**
	1500	525	332	Discrete	490	Ambient	**38**	NA
	1530	525	332	Discrete	515	Ambient	**16**	**24**
11/3/10	1230	525	332	Turned pump on				
	1515	525	332	Grab	Wellhead	Pumping	**81**	NA

Notes:
Bolded results indicate a detection.
Shaded results indicate that the reported concentration is greater than the MCL/RAO for TCE (5 µg/L).
bgs = below ground surface
GC = gas chromatograph
MCL = maximum contaminant level
NA = not analyzed in the laboratory
ND = not detected
µg/L = micrograms per liter
RAO = remedial action objective
U = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

Table 4.8
Summary of Analytical Results – USGS Groundwater Investigations, 2010-2019
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Date	Analyte in µg/L									
		TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 21	Freon 113
Private Wells in OU1											
JM-10	12/9/10	0.16 U	0.20 U	0.15 U	0.15 U	0.32 U	0.40 U	0.29 U	0.31 U	NA	NA
PH011	12/8/10	**1.3**	0.20 U	0.15 U	0.15 U	0.32 U	0.40 U	0.29 U	0.31 U	NA	NA
	2/4/13	**0.84 J**	0.20 U	0.15 U	0.15 U	0.32 U	0.10 U	0.29 U	0.31 U	NA	NA
PH015	12/9/10	**0.87 J**	0.20 U	0.15 U	0.15 U	0.32 U	0.40 U	0.29 U	0.31 U	NA	NA
	5/4/16	**0.61**	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA
	3/8/17	**0.55**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH041	12/9/10	**0.72 J**	0.20 U	0.15 U	0.15 U	0.32 U	0.40 U	0.29 U	0.31 U	NA	NA
PH054	3/13/17[1]	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA
		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA
PH058	3/14/17	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA
PH060	4/27/16	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA
PH062	2/20/13	**0.70 J**	0.20 U	0.15 U	0.15 U	0.32 U	0.10 U	0.29 U	0.31 U	NA	NA
PW023	12/7/10	**0.41**	**0.046**	0.022 U	0.018 U	0.04 U	0.06 U	**0.067**	0.1 U	NA	**0.18 J**
	2/4/13	**0.55**	**0.07**	0.022 U	0.018 U	0.04 U	0.06 U	**0.09**	0.1 U	NA	0.022 U
	5/4/16	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA
	3/8/17	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA
	8/13/18	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA
PW028	12/9/10[1]	**0.18 J**	0.20 U	0.15 U	0.15 U	0.32 U	0.40 U	0.29 U	0.31 U	NA	NA
		0.16 J	0.20 U	0.15 U	0.15 U	0.32 U	0.40 U	0.29 U	0.31 U	NA	NA
PW067	12/9/10	**2.9**	0.20 U	0.15 U	0.15 U	0.32 U	0.40 U	0.29 U	0.31 U	NA	NA
	2/4/13	**2.5**	0.20 U	0.15 U	0.15 U	0.32 U	0.10 U	0.29 U	0.31 U	NA	NA
	3/13/17	**1.3**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
	8/13/18	**1.2**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PW106	12/9/10	0.16 U	0.20 U	0.15 U	0.15 U	**0.5 J**	0.40 U	0.29 U	0.31 U	NA	NA
PW109	12/9/10	0.16 U	0.20 U	0.15 U	0.15 U	0.32 U	0.40 U	0.29 U	0.31 U	NA	NA
PW116	12/6/10	0.16 U	0.20 U	0.15 U	0.15 U	**0.33 J**	0.40 U	0.29 U	0.31 U	NA	NA
PW119	2/4/13	0.16 U	0.20 U	0.15 U	0.15 U	0.32 U	0.10 U	0.29 U	0.31 U	NA	NA
Municipal Wells and Monitoring Wells											
OGV02[2]	12/8/10	**43.36**	**0.014 J**	**1.03**	**0.011 J**	0.04 U	0.06 U	**1.717**	0.1 U	NA	**0.07**
	2/13/13	**53.20**	**0.02**	**1.25**	**0.02**	0.04 U	0.06 U	**3.17**	0.1 U	NA	**0.12**
	02/13/13	**51.97**	**0.02**	**1.223**	**0.017**	NA	0.06 U	**3.206**	0.1 U	0.1 U	**0.127**
	07/09/14	**43.1**	**0.01**	**1.15**	**0.01**	NA	0.06 U	**3.82**	0.1 U	0.1 U	**0.14**
	05/24/16	**52**	0.5 U	**1.2**	0.5 U	0.5 U	0.5 U	**5.9**	0.5 U	NA	NA
	03/14/17	**21**	0.5 U	**0.66**	0.5 U	0.5 U	0.5 U	**1.7**	0.5 U	NA	NA
	09/17/19	**71**	0.5 U	**1.2**	0.5 U	0.5 U	0.5 U	**9.0**	0.5 U	NA	NA
	10/15/19	**65**	0.5 U	**1.4**	0.5 U	0.5 U	0.5 U	**8.0 J**	0.5 U	NA	NA
OGV03	09/17/19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
	10/16/19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
COS02[2]	07/09/14	**24**	0.03	**1.24**	0.01	NA	0.06 U	**0.42**	0.1 U	0.1 U	**0.26**
	05/24/16	**36**	0.5 U	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
	03/14/17	**29**	0.5 U	**1.40**	0.5 U	0.5 U	0.5 U	**.56**	0.5 U	NA	NA
COS03	12/17/10	**0.077**	0.026 U	0.022 U	0.018 U	0.04 U	0.06 U	0.06 U	0.1 U	NA	0.034 U
	08/01/11	**0.04**	0.026 U	0.022 U	0.018 U	NA	0.06 U	0.06 U	0.1 U	NA	0.034 U
COS09	12/17/10	**0.31**	0.026 U	0.022 U	0.018 U	0.04 U	0.06 U	0.06 U	0.1 U	NA	0.034 U
COS10	12/17/10	**0.016**	0.026 U	0.022 U	0.018 U	0.04 U	0.06 U	0.06 U	0.1 U	NA	**0.039**
COS12	10/15/19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
MW-3	02/16/11	0.022 U	0.026 U	0.022 U	0.018 U	NA	0.06 U	0.06 U	0.1 U	NA	0.03 U
MW-6	12/6/10	**54.27**	**0.01315 J**	**2.36**	**0.021 J**	0.04 U	0.06 U	**0.028**	0.1 U	NA	0.034 U
	7/16/14	**36**	5 U	**1.1 J**	5 U	5 U	5 U	10 U	10 U	NA	5 U
Private Wells in OU2											
GWS003	2/6/13[1]	**2.28**	**1.06**	**0.22**	**0.02**	**.51**	0.06 U	**45.8**	**6.34 J**	**103**	**2.31**
		2.319	**1.07**	**0.216**	**0.015**	NA	0.06 U	**49.32**	**6.34**	**108.1**	**2.527**
MSPW2	4/29/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
MSPW3	4/29/16	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH002	12/8/10	**0.56**	0.026 U	0.022 U	0.018 U	0.04 U	0.06 U	**0.028**	0.1 U	NA	0.034 U
	2/6/13	**0.42 J**	0.20 U	0.15 U	0.15 U	0.32 U	0.10 U	0.29 U	0.31 U	NA	NA
PH008	5/3/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH013	2/6/13	**3.40**	**0.47**	**0.21**	0.018 U	**0.07**	0.06 U	**29.30**	**3.14 J**	**51.8**	**1.12**
	3/6/17	**2.30**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**30 J**	**1.70**	NA	NA

Table 4.8
Summary of Analytical Results – USGS Groundwater Investigations, 2010-2019
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Date	Analyte in µg/L									
		TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 21	Freon 113
Private Wells in OU2 (Continued)											
PH016	2/8/13	**5.58**	**0.06**	0.022 U	0.018 U	0.04 U	0.06 U	**4.79**	**1.02 J**	NA	**0.27**
	7/9/14	**6.02**	**0.05**	0.02 U	0.018 U	NA	0.06 U	**4.63**	**0.71**	0.1 U	**0.21**
	5/2/16	**8.7**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**5.6**	**0.52**	NA	NA
	8/10/18	**5.2**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**4.6**	0.5 U	NA	NA
PH017	5/2/16	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**21**	**2.3**	NA	NA
	3/6/17	**1.10**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**24 J**	**2.0**	NA	NA
PH030	4/26/16[1]	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH031	4/26/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH032	4/26/16	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	N/A R	0.5 U	0.5 U	NA	NA
PH042	2/8/13	**3.40**	0.20 U	0.15 U	0.15 U	0.32 U	0.10 U	**3.70**	0.31 U	NA	NA
	5/2/16	**6.1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**6.5**	**0.52**	NA	NA
	7/13/16	**4.2**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.9**	0.5 U	NA	NA
	3/6/17	**4.70**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**5.2**	0.5 U	NA	NA
	8/10/18	**4.60**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**3.1**	0.5 U	NA	NA
PH050	8/10/18	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
	9/17/19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
	10/15/19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH061	3/7/17	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH090	4/22/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH091	4/22/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH092	4/22/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH093	4/22/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
	3/7/17	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH095	4/23/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH096	4/25/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH098	4/25/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH099	4/25/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH100	4/27/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH102	4/29/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
	3/7/17	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PH103	4/22/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PW003	2/8/13	0.022 U	0.026 U	0.022 U	0.018 U	0.04 U	0.06 U	**0.25**	**0.061 J**	NA	**0.01**
PW008	2/6/13	0.16 U	0.20 U	0.15 U	0.15 U	0.32 U	0.10 U	**1.3 J**	0.31 U	NA	NA
PW010	5/3/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PW012	2/13/13	**1.26**	0.026 U	0.022 U	0.018 U	0.04 U	0.06 U	**1.32**	**0.144 J**	NA	**0.04**
	3/6/17	**3.50**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**5.90**	0.5 U	NA	NA
	8/10/18	**2.20**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**3.60**	0.5 U	NA	NA
PW013	3/7/17	**3.70**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**5.40**	**0.58**	NA	NA
PW014	3/7/17	**3.90**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.50**	0.5 U	NA	NA
PW015	3/8/17	**0.65**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.50**	0.5 U	NA	NA
PW016	2/13/13	0.16 U	0.20 U	0.15 U	0.15 U	0.32 U	0.10 U	**0.34 J**	0.31 U	NA	NA
	3/13/17	**0.96**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.30**	0.5 U	NA	NA
PW017	3/6/17	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PW018	5/3/16	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**22**	**2.1**	NA	NA
PW019	2/8/13	**4.76**	**0.68**	**0.31**	0.018 U	**0.18**	0.06 U	**46.30**	**4.74 J**	**82.80**	**1.93**
	06/20/13	**3.5**	**0.52**	**0.2268**	0.018 U	NA	0.06 U	**61.14**	**4.532 J**	**74.96**	**1.525**
	4/29/16	**3.3**	**0.58**	0.5 U	0.5 U	0.5 U	0.5 U	**40**	**2.5**	NA	NA
	3/6/17	**3.80**	**0.70**	0.5 U	0.5 U	0.5 U	0.5 U	**59 J**	**3.2**	NA	NA
	8/10/18	**3.10**	**0.57**	0.5 U	0.5 U	0.5 U	0.5 U	**41**	**2.3**	NA	NA
PW045	3/13/17	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PW048	3/13/17	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PW072	4/23/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
PW094	2/6/13	NA	0.20 U	0.15 U	0.15 U	0.32 U	0.10 U	**14.00**	**1.3 J**	NA	NA
	3/6/17	**1.60**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**17.0**	**1.20**	NA	NA
PW095	2/8/13	**0.84**	**0.16**	**0.07**	0.018 U	0.04 U	0.06 U	**14.00**	**3.91 J**	**22.30**	**0.80**
PW403	12/6/10	0.16 U	0.20 U	0.15 U	0.15 U	0.32 U	0.40 U	0.29 U	0.31 U	NA	NA
	8/10/18	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
	9/17/19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
	10/16/19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA

Table 4.8
Summary of Analytical Results – USGS Groundwater Investigations, 2010-2019
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Date	Analyte in µg/L									
		TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 21	Freon 113
Private Wells in OU2 (Continued)											
PW409	12/7/10	0.16 U	0.20 U	0.15 U	0.15 U	**0.32 J**	0.40 U	0.29 U	0.31 U	NA	NA
PW419	8/13/18	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
	9/17/19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
USGS-02	12/7/10	0.16 U	0.20 U	0.15 U	0.15 U	**0.32 J**	0.40 U	0.29 U	0.31 U	NA	NA
OU2 Monitoring Wells											
MW-1	03/13/12	0.022 U	0.026 U	0.022 U	0.018 U	NA	0.06 U	0.06 U	0.1 U	NA	0.022 U
MW-1A	03/14/12	**0.8596**	**0.34**	**0.5235**	0.018 U	NA	0.06 U	**6.039**	**0.795**	**7.135**	**0.1048**
MW-101	03/07/12	**2.754**	**0.33**	**0.739**	0.018 U	NA	0.06 U	**20.94**	**3.605**	**31.52**	**0.6906**
MW-104	06/20/12	**3.03**	**0.34**	**0.3601**	0.018 U	NA	0.06 U	**35.04**	**2.914**	**40.07**	**0.5267**
MW-107D	03/05/12	**0.6085**	**.0813**	**0.02901**	0.018 U	NA	0.06 U	**6.837**	**0.4915**	**10.25**	**0.2163**
MW-107S	09/11/12	**3.516**	**0.58**	**0.2226**	**0.01614**	NA	0.06 U	**47.41**	**2.654**	**57.82**	**1.276**
MW-108D	06/20/12	**2.364**	**0.55**	**0.4331**	**0.008**	NA	0.06 U	**28.61**	**2.61**	**33.59**	**0.9294**
MW-108S	09/11/12	**2.39**	**1.04**	**0.8096**	0.018 U	NA	0.06 U	**21.22**	**3.28**	**53.31**	**0.9955**
Springs											
PH020	10/13/10	**1.14**	0.026 U	**.017**	0.018 U	0.04 U	0.06 U	**0.04**	0.1 U	NA	0.034 U
PH078	5/27/10	**1.17**	**0.019 J**	**0.027 J**	0.018 U	0.038 U	0.06 U	**0.33 J**	0.1 U	**0.826 J**	0.034 U
	10/13/10	**6.44**	0.026 U	**0.117**	0.018 U	0.04 U	0.06 U	**0.28**	0.1 U	**0.73 J**	0.034 U
	8/30/12[1]	**6.29**	0.026 U	**0.125**	0.018 U	0.04 U	0.06 U	**0.17**	0.1 U	**0.33**	NA
		5.2	1.0 U	1.0 U	1.0 U	10 U	0.50 U	10 U	1.0 U	NA	10 U
	1/29/13	**9.78**	**0.02**	**0.16**	0.018 U	0.04 U	0.06 U	**0.25**	0.10 U	**0.64**	0.022 U
	1/31/13	**3.60**	0.026 U	**0.07**	0.018 U	0.04 U	0.06 U	**0.14**	0.10 U	**0.40**	0.022 U
	3/13/13	**2.44**	0.026 U	**0.05**	0.018 U	0.04 U	0.06 U	**0.14**	0.10 U	NA	0.022 U
	08/27/13	**2.48**	0.025 U	**0.05**	0.018 U	NA	0.06 U	**0.17**	0.1 U	**0.68**	0.022 U
	01/14/14	**5.614**	0.026 U	**0.1051**	0.018 U	NA	0.06 U	**0.1301**	0.1 U	**0.4512**	0.022 U
	03/24/14	**2.99**	0.026 U	**0.0619**	0.018 U	NA	0.06 U	**0.101**	0.1 U	**0.4394**	0.022 U
	06/02/14	**3.65**	**0.01**	**0.06**	0.02 U	NA	0.06 U	**0.19**	0.1 U	**0.36**	0.022 U
	08/04/14	**4.03**	0.026 U	**0.99**	0.018 U	NA	0.06 U	**0.13**	0.1 U	**0.286**	0.022 U
	07/12/16	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.5 U**	0.5 U	NA	NA
PH082	07/12/16	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.5 U**	0.5 U	NA	NA
PH083	5/27/10	**1.15**	**0.018 J**	**0.021 J**	0.018 U	0.038 U	0.06 U	**0.32 J**	0.1 U	**0.81 J**	0.034 U
	10/13/10	**5.99**	0.026 U	**0.1084**	0.018 U	0.04 U	0.06 U	**0.28**	0.1 U	NA	0.034 U
GWS013	5/26/10	0.022 U	0.026 U	0.022 U	0.018 U	0.038 U	0.06 U	0.08 U	0.1 U	NA	0.034 U
Former TRW/Ramsey Facility Monitoring Wells											
OBG-01S	7/9/14	**24**	**0.49 J**	**1.3 J**	0.18 U	NA	0.43 U	**57**	0.45 U	NA	0.25 U
OBG-01D	7/17/14	**25,000**	7 U	**65**	4.5 U	NA	11 U	5.5 U	11 U	NA	11 U
OBG-01DD	7/17/14	**277**	0.26 U	**4.69**	0.18 U	NA	0.6 U	**0.65**	1 U	1 U	0.22 U
OBG-02S	7/18/14	**16,560**	26 U	**1,292**	18 U	NA	60 U	80 U	10 U	10 U	22 U
OBG-03S	7/11/14	**1,400**	0.28 U	**92**	**1.7 J**	NA	0.43 U	NA	0.45 U	NA	0.25 U
OBG-05S	7/18/14	**2,051**	2.6 U	**323**	**1.8**	NA	**28.6**	6 U	10 U	1 U	4 U
		2,048	2.6 U	**311**	**1.73**	NA	**26.6**	6 U	10 U	1 U	4 U
OBG-07S	7/16/14	**194**	0.26 U	**26**	**0.19**	NA	0.6 U	**1.02**	1 U	1 U	**0.76**
OBG-09S	7/11/14	**1,300**	0.28 U	**51**	**0.31 J**	NA	0.43 U	**240**	0.45 U	NA	**330**
OBG-11D	7/8/14	**8.20**	0.28 U	0.16 U	0.18 U	NA	0.43 U	**2.8 J**	0.45 U	NA	0.25 U
OBG-15S	7/10/14	**16.20**	**7.43**	**27.8**	**0.91**	NA	**3.62**	**100.8**	1 U	**46.2**	1.1 U
OBG-16S	7/15/14	**942**	**2.60**	**169**	**0.73**	NA	6 U	**3.14**	10 U	10 U	4 U
OBG-18D	7/18/14	**1.7 J**	0.28 U	0.16 U	0.18 U	NA	0.43 U	**0.28**	0.45 U	NA	0.25 U
OBG-21D	7/9/14	**21**	0.28 U	**0.8 J**	0.18 U	NA	0.43 U	0.22 U	0.45 U	NA	0.25 U
OBG-21S	7/10/14	**110**	0.28 U	**11**	0.18 U	NA	0.43 U	0.22 U	0.45 U	NA	0.25 U
OBG-24D	7/17/14	**1,300**	5.6 U	**39 J**	3.6 U	NA	8.6 U	4.4 U	9 U	NA	5 U

Notes:
Bolded results indicate a detection.
Shaded results indicate that the reported concentration is greater than the MCL/RAO.
[1] regular and duplicate sample
[2] influent

DCE = dichloroethene
ID = identification
J = The reported value is an estimate.
MCL = maximum contaminant level
NA = not analyzed
PCE = tetrachloroethene

RAO = remedial action objective
TCE = trichloroethene
µg/L = micrograms per liter
U = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

Table 4.9
Summary of USGS Tree Core Analytical Results – Potential Source Areas (2010-2012)
Oak Grove Village Well Site OU1
Frankin County, Missouri

Sample ID	Latitude	Longitude	Sample Date	Sample Time	Field GC TCE (ppbV)	Field GC PCE (ppbV)	Lab GC TCE (ppt)	Lab GC PCE (ppt)	Comments
Area 1									
OU1-A01-TC01	38.223247	-91.147096	7/6/10	1106	ND	ND	-	-	18-in oak on fence next to cell tower
OU1-A01-TC02	38.223255	-91.147009	7/6/10	1109	ND	ND	-	-	8-in walnut on fence line10 ft NW of tower propane tank
OU1-A01-TC03	38.223221	-91.146897	7/6/10	1112	ND	ND	-	-	20-in oak on SW comer of cell tower fence
OU1-A01-TC04	38.223231	-91.147217	7/8/10	1044	ND	ND	-	-	8-in post oak on NW comer of cell tower fence line
OU1-A01-TC05	38.223279	-91.146858	7/8/10	1055	ND	ND	-	-	8-in post oak 25 ft S of propane tank fence
OU1-A01-TC06	38.223259	-91.146779	7/8/10	1058	ND	ND	-	-	14-in post oak 50 ft S of propane tank fence
Area 2									
OU1-A02-TC01	38.223256	-91.145192	7/12/10	1405	ND	ND	-	-	3-in oak
OU1-A02-TC02	38.223279	-91.145045	7/12/10	1408	**408**	ND	-	-	10-in cedar
OU1-A02-TC03	38.223219	-91.144773	7/12/10	1413	**407**	ND	-	-	12-in cedar
OU1-A02-TC04	38.223309	-91.144809	7/12/10	1417	0	ND	-	-	8-in persimmon
OU1-A02-TC05	38.223265	-91.144439	7/12/10	1422	0	ND	-	-	10-in wild cherry
OU1-A02-TC06	38.223263	-91.144119	7/12/10	1427	0	ND	-	-	8-in cedar
OU1-A02-TC07	38.22309	-91.144102	7/12/10	1432	**776**	ND	-	-	12-in cedar
Area 3									
OU1-A03-TC01	38.224833	-91.145268	7/18/10	1225	ND	ND	-	-	10-in birch on north fork of trunk
OU1-A03-TC02	38.22484	-91.145176	7/18/10	1228	ND	ND	-	-	2-in maple
OU1-A03-TC03	38.225033	-91.145166	7/18/10	1235	ND	ND	-	-	5-in persimmon
OU1-A03-TC04	38.225092	-91.145203	7/18/10	1238	ND	ND	-	-	10-in wild cherry
OU1-A03-TC05	38.224966	-91.145418	7/8/10	1243	ND	ND	-	-	8-in mulberry
OU1-A03-TC06	38.224968	-91.145145	7/8/10	1252	ND	ND	-	-	6-in bradford pear
Area 4									
OU1-A04-TC01	38.223998	-91.145529	7/8/10	1315	ND	ND	-	-	maple sapling cutting
OU1-A04-TC02	38.223981	-91.145606	7/8/10	1320	ND	ND	-	-	maple sapling branch
OU1-A04-TC03	38.224126	-91.145883	8/2/10	1140	ND	ND	-	-	
OU1-A04-TC04	38.22411	-91.146016	8/2/10	1145	ND	ND	-	-	
Area 5									
OU1-A05-TC01	38.227804	-91 .146966	7/22/10	1355	ND	ND	-	-	
OU1-A05-TC02	38.227812	-91.147092	7/22/10	1403	ND	ND	-	-	
OU1-A05-TC03	38.227783	-91.147221	7/22/10	1412	ND	ND	-	-	

Table 4.9
Summary of USGS Tree Core Analytical Results – Potential Source Areas (2010-2012)
Oak Grove Village Well Site OU1
Frankin County, Missouri

Sample ID	Latitude	Longitude	Sample Date	Sample Time	Field GC TCE (ppbV)	Field GC PCE (ppbV)	Lab GC TCE (ppt)	Lab GC PCE (ppt)	Comments
OU1-A05-TC04	38.227874	-91.147237	7/22/10	1417	ND	ND	-	-	
OU1-A05-TC05	38.227895	-91.147167	7/22/10	1425	ND	ND	-	-	
OU1-A05-TC06	38.227845	-91.14731	7/22/10	1430	ND	ND	-	-	
OU1-A05-TC07	38.227806	-91 .147147	8/3/10	1320	ND	ND	-	-	
OU1-A05-TC08	38.227757	-91.1 47222	8/3/10	1330	ND	ND	-	-	
Area 6									
OU1-A06-TC01[1]	38.229008	-91.148793	7/6/10	910	ND	ND	<1	<1	8-in oak
OU1-A06-TC02[1]	38.229012	-91.148685	7/6/10	915	ND	ND	<1	<1	20-in oak
OU1-A06-TC03[1]	38.229004	-91.148582	7/6/10	918	**67**	ND	<1	<1	10-in oak
OU1-A06-TC04	38.229095	-91.148602	7/6/10	921	**209**	ND	-	-	5-in cedar
OU1-A06-TC05[1]	38.229032	-91.148564	7/6/10	924	ND	ND	<1	<1	18-in oak
OU1-A06-TC06[1]	38.228998	-91.148487	7/6/10	927	ND	ND	<1	<1	20-in oak
OU1-A06-TC07[1]	38.229003	-91.148411	7/6/10	930	**674**	ND	<1	<1	8-in cedar, 20ft SE of power pole
OU1-A06-TC08[1]	38.229011	-91.148391	7/6/10	933	**64**	ND	<1	<1	10-in pin oak
OU1-A06-TC09	38.229019	-91.148355	7/6/10	936	ND	ND			5-in scotch pine. Not sampled in Sept-12, the tree was dead
OU1-A06-TC010	38.229036	-91.148178	7/6/10	940	ND	ND	<1	<1	20-in oak , dirt pile in front
OU1-A06-TC11	38.229040	-91.148143	7/6/10	943	ND	ND	-	-	5-in walnut
OU1-A06-TC012	38.229031	-91.148116	7/6/10	946	ND	ND	<1	<1	16-in oak
OU1-A06-TC012	38.229019	-91.148040	7/6/10	948	ND	ND	<1	<1	22-in oak
OU1-A06-TC014	38.228988	-91.147867	7/6/10	951	ND	ND	<1	<1	8-in oak
OU1-A06-TC15	38.228910	-91.147887	7/6/10	954	ND	ND	-	-	7-in cherry
OU1-A06-TC16	38.228901	-91.147930	7/6/10	956	ND	ND	-	-	18-in ash
OU1-A06-TC17	38.228822	-91.147973	7/6/10	959	ND	ND	-	-	5-in hickory or walnut
OU1-A06-TC18	38.228755	-91.147975	7/6/10	1001	ND	ND	-	-	10-in hickory or walnut
OU1-A06-TC19	38.228713	-91.148016	7/6/10	1004	ND	ND	-	-	16-in oak with two 33 gal drums near, SW property comer
OU1-A06-TC20	38.228666	-91.148068	7/6/10	1009	**230**	ND	-	-	8-in cedar
OU1-A06-TC21	38.228889	-91.148120	7/6/10	1011	ND	ND	-	-	2-in mulberry
OU1-A06-TC22	38.229036	-91.148344	7/8/10	1136	ND	ND	-	-	elm sapling growing from E side of ABF building
OU1-A06-TC23	38.228888	-91.148059	7/8/10	1138	ND	ND	-	-	poplar sapling directly W of propane tank
OU1-A06-TC24	38.228835	-91.148151	7/8/10	1140	ND	ND	-	-	elm sapling on SW comer of side dock

Table 4.9
Summary of USGS Tree Core Analytical Results – Potential Source Areas (2010-2012)
Oak Grove Village Well Site OU1
Frankin County, Missouri

Sample ID	Latitude	Longitude	Sample Date	Sample Time	Field GC TCE (ppbV)	Field GC PCE (ppbV)	Lab GC TCE (ppt)	Lab GC PCE (ppt)	Comments
OU1-A06-TC25	38.229021	-91.148352	9/27/12	-	-	-	<1	<1	#9 5-in walnut 8 ft W #8
OU1-A06-TC26	38.229069	-91.148079	9/27/12	-	-	-	<1	<1	#13 6-in oak 8' S of #12
OU1-A06-TC27	38.229054	-91.148164	9/27/12	-	-	-	<1	<1	#11 5-in ash/elm boulder
OU1-A06-TC28	38.229001	-91.148935	9/27/12	-	-	-	<1	<1	#17 8-in oak along road RoW 12ft from NE pcor
OU1-A06-TC29	38.228925	-91.148930	9/27/12	-	-	-	<1	<1	#16 5-in oak along road RoW 40ft NE pcor
OU1-A06-TC30	38.229083	-91.148725	9/27/12	-	-	-	<0.001	<0.001	#18 10-in s-maple by house adjacent parcel to E
OU1-A06-TC31	38.229008	-91.148780	9/27/12	-	-	-	<0.001	<0.001	#2 south leg 5-in double oak, 3 ft W TC-01
Area 8									
OG-A08-TC01	38.211738	-91.156903	6/9/11	1007	ND	ND	-	-	
OG-A08-TC02	38.211543	-91.157116	6/9/11	1016	ND	ND	-	-	
OG-A08-TC03	38.211437	-91.157346	6/9/11	1023	ND	ND	-	-	
OG-A08-TC04	38.211246	-91.157533	6/9/11	1028	ND	ND	-	-	
OG-A08-TC05	38.211184	-91.157608	6/9/11	1037	ND	ND	-	-	
OG-A08-TC06	38.211561	-91.158079	6/9/11	1048	ND	ND	-	-	
OG-A08-TC07	38.211594	-91.158011	6/9/11	1100	ND	ND	-	-	
OG-A08-TC08	38.212065	-91.158093	6/9/11	1107	ND	ND	-	-	
OG-A08-TC09	38.212189	-91.158033	6/9/11	1114	ND	ND	-	-	
OG-A08-TC10	38.212077	-91.15833	6/9/11	1120	ND	ND	-	-	
OG-A08-TC11	38.212101	-91.158385	6/9/11	1133	ND	ND	-	-	
OG-A08-TC12	38.212106	-91.158638	6/9/11	1140	ND	ND	-	-	
OG-A08-TC13	38.21203	-91.158846	6/9/11	1145	ND	ND	-	-	
OG-A08-TC14	38.211715	-91.158761	6/9/11	1150	ND	ND	-	-	
OG-A08-TC15	38.211807	-91.158865	6/9/11	1154	ND	ND	-	-	
OG-A08-TC16	38.211983	-91.159	6/9/11	1200	ND	ND	-	-	
OG-A08-TC17	38.211857	-91.159435	6/9/11	1205	ND	ND	-	-	
OG-A08-TC18a	38.211926	-91.159269	6/9/11	1210	ND	ND	-	-	
OG-A08-TC18b	38.211926	-91.159269	6/9/11	1213	ND	ND	-	-	same tree as TC-18a

Notes:

[1] Resampled in September 2012 for laboratory analy ND = not detected, the detection limit is unknown ppbV = parts per billion by volume of headspace

GC = gas chromatograph PCE = tetrachloroethene TCE = trichloroethene

ID = identification ppt = parts per trillion in core sample - = not available or not analyzed

Table 4.10
Summary of USGS Soil Sample Results – Potential Source Areas (2010-2011)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Boring Location		Field GC Results					Laboratory Results				
		Sample Depth (feet)	Sample Date	Sample Time	TCE (µg/kg)	PCE (µg/kg)	TCE (µg/kg)	PCE (µg/kg)	cis-1,2-DCE (µg/kg)	trans-1,2-DCE (µg/kg)	Vinyl Chloride (µg/kg)
Area 1	OGV-A1-BH01	4.0	7/30/10	944	20 U	20 U					
		7.0	7/30/10	1040	20 U	20 U					
	OGV-A1-BH02	4.0	7/30/10	1052	20 U	20 U					
		7.0	7/30/10	1055	20 U	20 U					
	OGV-A1-BH03	4.0	7/30/10	1111	20 U	20 U					
	OGV-A1·BH04	4.0	7/30/10	1128	20 U	20 U					
		5.7-6.0	7/30/10	1137			5.0 U	5.0 U	2.5 U	2.5 U	5.0 U
	OGV-A1-BH05	2.7-3.2	7/30/10	1150			6.4 U	6.4 U	3.2 U	3.2 U	6.4 U
		3.2	7/30/10	1223	20 U	20 U					
	OGV-A1-BH06	3.0	7/29/10	1237	20 U	20 U					
	OGV-A1-BH07	2.0	7/29/10	1228	20 U	20 U					
		2.2-2.6	7/29/10	1234			5.4 U	5.4 U	2.7 U	2.7 U	5.4 U
	OGV-A1-BH08	2.0	7/29/10	1242	20 U	20 U					
		2.6-3	7/29/10	1246			5.1 U	5.1 U	2.5 U	2.5 U	5.1 U
	OGV-A1-BH09	4.2-4.7	7/29/10	1312			5.1 U	5.1 U	2.5 U	2.5 U	5.1 U
		4.7	7/29/10	1310	20 U	20 U					
	OGV-A1-BH10	5.0	7/29/10	1335	20 U	20 U					
		6.4-6.8	7/29/10	1340			4.9 U	4.9 U	2.5 U	2.5 U	4.9 U
		6.4-6.8	7/29/10	1341*			4.8 U	4.8 U	2.4 U	2.4 U	4.8 U
	OGV-A1-BH11	4.0	7/30/10	853	20 U	20 U					
	OGV-A1-BH12	2.0	7/30/10	910	20 U	20 U					
Area 2	OGV-A2-BH01	2.0	7/15/10	1325	20 U	20 U					
		3.3	7/15/10	1327	20 U	20 U					
	OGV-A2-BH02	1.5	7/15/10	1415	20 U	20 U					
	OGV-A2-BH03	2.0	7/15/10	1437	20 U	20 U					
		3.8	7/15/10	1436	20 U	20 U					
	OGV-A2-BH04	3.5	7/27/10	1440	20 U	20 U					
		3.2-3.7	7/27/10	1445			4.7 U	4.7 U	2.3 U	2.3 U	4.7 U
	OGV-A2-BH05	2.0	7/27/10	1505	20 U	20 U					
		2.4-2.8	7/27/10	1510			5.7 U	5.7 U	2.8 U	2.8 U	5.7 U
	OGV-A2-BH06	3.6-4	7/29/10	1025			4.7 U	4.7 U	2.4 U	2.4 U	4.7 U
		4.0	7/29/10	1016	20 U	20 U					
	OGV-A2-BH07	2.0	7/15/10	1346	20 U	20 U					
		3.2	7/15/10	1340	20 U	20 U					
	OGV-A2-BH08	2.5	7/15/10	1405	20 U	20 U					
	OGV-A2-BH09	2.0	7/15/10	1450	20 U	20 U					
		4.0	7/15/10	1453	20 U	20 U					
		4.5	7/15/10	1455	20 U	20 U					
	OGV-A2-BH10	1.8 -2	7/27/10	1206			5.4 U	5.4 U	2.7 U	2.7 U	5.4 U
		2.0	7/27/10	1205	20 U	20 U					
	OGV-A2-BH11	4.0	7/29/10	930	20 U	20 U					
		4 .4-4.8	7/29/10	940			4.8 U	4.8 U	2.4 U	2.4 U	4.8 U
		4 .4-4.8	7/29/10	941*			4.8 U	4.8 U	2.4 U	2.4 U	4.8 U
	OGV-A2-BH12	3.6-4	7/29/10	1002			5.7 U	5.7 U	2.9 U	2.9 U	5.7 U
		4.0	7/29/10	1000	20 U	20 U					

Table 4.10
Summary of USGS Soil Sample Results – Potential Source Areas (2010-2011)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Boring Location		Field GC Results					Laboratory Results				
		Sample Depth (feet)	Sample Date	Sample Time	TCE (µg/kg)	PCE (µg/kg)	TCE (µg/kg)	PCE (µg/kg)	cis-1,2-DCE (µg/kg)	trans-1,2-DCE (µg/kg)	Vinyl Chloride (µg/kg)
Area 3	OGV-A3-T01	2.0	10/5/10	1350	20 U	20 U					
		4.0	10/5/10	1355	20 U	20 U					
	OGV-A3-T02	2.0	10/5/10	1328	20 U	20 U					
		4.0	10/5/10	1330	**0.4 E**	20 U	4.8 U	4.8 U	2.4 U	2.4 U	4.8 U
	OGV-A3-T03	2.4	10/5/10	1415	20 U	20 U	5.4 U	5.4 U	2.7 U	2.7 U	5.4 U
	OGV-A3-T04	2.0	10/5/10	1440	20 U	20 U					
	OGV-A3-T05	2.8	10/5/10	1517	20 U	20 U					
	OGV-A3-T06	2.0	10/5/10	1455	20 U	20 U					
	OGV-A3-T06	3.8	10/5/10	1600	20 U	20 U	5.0 U	5.0 U	2.5 U	2.5 U	5.0 U
		3.8	10/5/10	1601*			4.8 U	4.8 U	2.4 U	2.4 U	4.8 U
Area 5	OGV-A5-T01	2.0	10/5/10	1018	20 U	20 U					
		3.5	10/5/10	1015	20 U	20 U					
	OGV-A5-T02	2.5	10/5/10	1050	20 U	20 U	5.0 U	5.0 U	2.5 U	2.5 U	5.0 U
	OGV-A5-T03	2.0	10/5/10	1109	20 U	20 U					
		3.5	10/5/10	1114	20 U	20 U					
	OGV-A5-T04	3.0	10/5/10	1142	20 U	20 U	5.2 U	5.2 U	2.6 U	2.6 U	5.2 U
	OGV-A5-T05	2.0	10/5/10	1159	**0.4 E**	20 U					
		4.0	10/5/10	1200	20 U	20 U	5.5 U	5.5 U	2.8 U	2.8 U	5.5 U
	OGV-A5-T06	3.5	10/5/10	1225	20 U	20 U					
Area 8	OGV-A8-BH01	2.2	6/6/11	1206	20 U	20 U					
		3.9	6/6/11	1204	20 U	20 U					
		4.5	6/6/11	1212	20 U	20 U					
		7.0	6/6/11	1210	20 U	20 U					
	OGV-A8-BH02	3.0	6/6/11	1314	20 U	20 U					
		3.7	6/6/11	1306	20 U	20 U					
		6.8-7.2	6/6/11	1321			5.5 U	5.5 U	2.7 U	2.7 U	5.5 U
		7.0	6/6/11	1317	20 U	20 U					
		9.0	6/6/11	1325	20 U	20 U					
	OGV-A8-BH03	4.0	6/6/11	1341	20 U	20 U					
		7.3	6/6/11	1352	20 U	20 U					
		9.3	6/6/11	1406	20 U	20 U					
	OGV-A8-BH04	3.8	6/6/11	1520	20 U	20 U					
		6.8-7	6/6/11	1525			5.4 U	5.4 U	2.7 U	2.7 U	5.4 U
		6.8-7	6/6/11	1526*			5.5 U	5.5 U	2.8 U	2.8 U	5.5 U
		7.2	6/6/11	1527	20 U	20 U					
		9.5	6/6/11	1541	20 U	20 U					
		10.5	6/6/11	1539	20 U	20 U					
	OGV-A8-BH05	2.0	6/7/11	900	20 U	20 U					
		3.9	6/7/11	856	20 U	20 U					
		7.0	6/7/11	904	20 U	20 U					
		10.0	6/7/11	908	20 U	20 U					

Table 4.10
Summary of USGS Soil Sample Results – Potential Source Areas (2010-2011)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Boring Location		Field GC Results					Laboratory Results				
		Sample Depth (feet)	Sample Date	Sample Time	TCE (µg/kg)	PCE (µg/kg)	TCE (µg/kg)	PCE (µg/kg)	cis-1,2-DCE (µg/kg)	trans-1,2-DCE (µg/kg)	Vinyl Chloride (µg/kg)
Area 8	OGV-A8-BH06	2.0	6/7/11	810	20 U	20 U					
		3.8	6/7/11	805	20 U	20 U					
		6.8	6/7/11	815	20 U	20 U					
		8.6	6/7/11	820	20 U	20 U					
		9.8	6/7/11	822	20 U	20 U					
		12.4	6/7/11	838	20 U	20 U					
	OGV-A8-BH07	2.7	6/7/11	934	20 U	20 U					
		3.9	6/7/11	930	20 U	20 U					
		6.8	6/7/11	940	**166.4**	20 U					
		8.1-8.7	6/7/11	958			5.4 U	5.4 U	2.7 U	2.7 U	5.4 U
		8.2	6/7/11	951	20 U	20 U					
		9.7	6/7/11	947	**245.2**	20 U					
		11.1	6/7/11	956	20 U	20 U					
		12-12.7	6/7/11	1015			5.4 U	5.4 U	2.7 U	2.7 U	5.4 U
		13.0	6/7/11	1003	20 U	20 U					
	OGV-A8-BH08	1.2	6/7/11	1022	20 U	20 U					
		3.9	6/7/11	1019	20 U	20 U					
		9.4	6/7/11	1029	20 U	20 U					
	OGV-A8-BH09	2.0	6/7/11	1122	20 U	20 U					
		4.0	6/7/11	1120	20 U	20 U					
		6.8	6/7/11	1124	20 U	20 U					
	OGV-A8-BH10	2.4	6/7/11	1150	20 U	20 U					
		3.5	6/7/11	1146	20 U	20 U					
		7.0	6/7/11	1151	20 U	20 U					
		11.5	6/7/11	1230	20 U	20 U					
	OGV-A8-BH11	3.5	6/7/11	1353	20 U	20 U					
		5.0	6/7/11	1400	20 U	20 U					
		11.0	6/7/11	1410	20 U	20 U					
	OGV-A8-BH12	2.0	6/7/11	1243	20 U	20 U					
		4.0	6/7/11	1238	20 U	20 U					
	OGV-A8-BH13	4.0	6/6/11	1048	20 U	20 U					
		7.0	6/6/11	1059	20 U	20 U					
		8.0	6/6/11	1112	20 U	20 U					
	OGV-A8-BH13B	3.9	6/7/11	1315	20 U	20 U					
		5.8	6/7/11	1326	20 U	20 U					
		8.0	6/7/11	1334	20 U	20 U					
		9.0	6/7/11	1324	20 U	20 U					
	OGV-A8-BH14	3.9	6/6/11	1120	20 U	20 U					
		5.8	6/6/11	1127	20 U	20 U					
		7.4	6/6/11	1135	20 U	20 U					
		10.0	6/6/11	1145	20 U	20 U					
		10.7	6/6/11	1154	20 U	20 U					
	OGV-A8-BH15	3.7	6/6/11	1503	20 U	20 U					
		5.2	6/6/11	1512	20 U	20 U					

Table 4.10
Summary of USGS Soil Sample Results – Potential Source Areas (2010-2011)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Boring Location		Field GC Results					Laboratory Results				
		Sample Depth (feet)	Sample Date	Sample Time	TCE (µg/kg)	PCE (µg/kg)	TCE (µg/kg)	PCE (µg/kg)	cis-1,2-DCE (µg/kg)	trans-1,2-DCE (µg/kg)	Vinyl Chloride (µg/kg)
Area 8	OGV-A8-BH16	4.0	6/6/11	1429	20 U	20 U					
		6.8	6/6/11	1450	20 U	20 U					
	OGV-A8-BH17	4.0	12/8/11	1435	67 U						
		6.0	12/8/11	1432	67 U						
		7.0	12/8/11	1446	67 U						
		7.5-8	12/8/11	1431			5.3 U	**1.1 J**	2.7 U	2.7 U	5.3 U
		8.0	12/8/11	1429	**33.7E**						
		9.0	12/8/11	1449	20 U						
		9-9.5	12/8/11	1451			5.1 U	**.62 J**	2.6 U	2.6 U	5.1 U
		10.0	12/8/11	1454	20 U						
		10.5-11	12/8/11	1447			5.5 U	**.74 J**	2.8 U	2.8 U	5.5 U
		11.0	12/8/11	1446	**26.6E**						
		12.0	12/8/11	1443	20 U						
	OGV-A8-BH18	6.0	12/8/11	1526	40 U						
		7.0	12/8/11	1524	40 U						
		8.0	12/8/11	1522	67 U						
		9.0	12/8/11	1537	67 U						
		10.5	12/8/11	1535	67 U						
		11.6-12	12/8/11	1534			4.9 U	4.9 U	2.5 U	2.5 U	4.9 U
		12.0	12/8/11	1530	67 U						
	OGV-A8-A01	2.0	12/8/11	1200	40 U						
		4.0	12/8/11	1159	40 U						
		6.0	12/8/11	1207	40 U						
		8.0	12/8/11	1203	40 U						
	OGV-A8-A02	2 .0	12/8/11	1217	40 U						
		3.5-4	12/8/11	1216			5.4 U	**1.4 J**	2.7 U	2.7 U	5.4 U
		4.0	12/8/11	1214	**17.2E**						
	OGV-A8-A03	2.0	12/8/11	1224	40 U						
		4.0	12/8/11	1223	40 U						
		6.0	12/8/11	1230	40 U						
		8.0	12/8/11	1225	40 U						
	OGV-A8-A04	2.0	12/8/11	1242	40 U						
		4.0	12/8/11	1241	40 U						
	OGV-A8-A05	2.0	12/8/11	1257	40 U						
		4.0	12/8/11	1249	40 U						
		6.0	12/8/11	1256	40 U						
		8.0	12/8/11	1252	40 U						
	OGV-A8-A06	2.0	12/8/11	1305	40 U						
		4.0	12/8/11	1301	40 U						
	OGV-A8-A07	2.0	12/8/11	1315	40 U						
		4.0	12/8/11	1314	40 U						
		6.0	12/8/11	1321	40 U						
		8.0	12/8/11	1320	40 U						

Table 4.10
Summary of USGS Soil Sample Results – Potential Source Areas (2010-2011)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Boring Location		Field GC Results					Laboratory Results				
		Sample Depth (feet)	Sample Date	Sample Time	TCE (µg/kg)	PCE (µg/kg)	TCE (µg/kg)	PCE (µg/kg)	cis-1,2-DCE (µg/kg)	trans-1,2-DCE (µg/kg)	Vinyl Chloride (µg/kg)
Area 8	OGV-A8-A08	2.0	12/8/11	1322	40 U						
		3.5-4	12/8/11	1328			5.4 U	5.4 U	5.4 U	5.4 U	5.4 U
		4.0	12/8/11	1328	40 U						
	OGV-A8-B01	2.0	12/8/11	1041	40 U						
		4.0	12/8/11	1039	40 U						
		6.0	12/8/11	1044	40 U						
		8.0	12/8/11	1040	40 U						
	OGV-A8-B02	2.0	12/8/11	1011	67 U						
		4.0	12/8/11	1010	67 U						
		6.0	12/8/11	1014	67 U						
		8.0	12/8/11	1013	67 U						
		10.0	12/8/11	1023	40 U						
		12.0	12/8/11	1022	40 U						
	OGV-A8-B03	2.0	12/8/11	952	67 U						
		4.0	12/8/11	950	67 U						
		6.0	12/8/11	956	67 U						
		6-6.5	12/8/11	957			5.6 U	**.86 J**	2.8 U	2.8 U	5.6 U
		8.0	12/8/11	953	67 U						
	OGV-A8-B04	2.0	12/8/11	934	67 U						
		4.0	12/8/11	932	67 U						
		6.0	12/8/11	940	67 U						
		8.0	12/8/11	935	67 U						
	OGV-A8-B05	2.0	12/8/11	1510	40 U						
		4.0	12/8/11	1509	40 U						
		6.0	12/8/11	1516	**13.2 E**						
		8.0	12/8/11	1512	40 U						
	OGV-A8-B06	2.0	12/8/11	1459	40 U						
		4.0	12/8/11	1458	**12.0 E**						
		6.0	12/8/11	1456	40 U						
		7.5	12/8/11	1454	40 U						
	OGV-A8-B07	2.0	12/8/11	1405	40 U						
		4.0	12/8/11	1403	40 U						
		6.0	12/8/11	1440	40 U						
		8.0	12/7/11	1438	40 U						
	OGV-A8-B08	2.0	12/7/11	1348	40 U						
		4.0	12/7/11	1346	40 U						
		6.0	12/7/11	1353	40 U						
		6-6.5	12/7/11	1354			5.2 U	**1.3 J**	2.6 U	2.6 U	5.2 U
		8.0	12/7/11	1350	40 U						
	OGV-A8-C01	1.5	12/7/11	1111	67 U						
		4.0	12/7/11	1109	67 U						
		6.0	12/7/11	1125	67 U						
		8.0	12/7/11	1121	67 U						

Table 4.10
Summary of USGS Soil Sample Results – Potential Source Areas (2010-2011)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Boring Location		Field GC Results					Laboratory Results				
		Sample Depth (feet)	Sample Date	Sample Time	TCE (µg/kg)	PCE (µg/kg)	TCE (µg/kg)	PCE (µg/kg)	cis-1,2-DCE (µg/kg)	trans-1,2-DCE (µg/kg)	Vinyl Chloride (µg/kg)
Area 8	OGV·A8-C02	2.0	12/7/11	1055	67 U						
		2-2.5	12/7/11	1057			6.2 U	**5.6 J**	3.1 U	3.1 U	6.2 U
		4.0	12/7/11	1050	**39.2E**						
		6.0	12/7/11	1102	67 U						
		8.0	12/7/11	1100	67 U						
	OGV-A8-C03	1.0	12/7/11	1032	**49.9 E**						
		2.0	12/7/11	1031	67 U						
		4.0	12/7/11	1030	67 U						
		6.0	12/7/11	1043	**44.7E**						
		6-6.5	12/7/11	1045			5.4 U	5.4 U	2.7 U	2.7 U	5.4 U
		8.0	12/7/11	1040	**43.2E**						
	OGV-A8-C04	2.0	12/7/11	1140	67 U						
		2-2.5	12/7/11	1137			6.2 U	**9.4**	3.1 U	3.1 U	6.2 U
		2.7	12/7/11	1139	67 U						
		4.0	12/7/11	1135	67 U						
		6.0	12/7/11	1145	**49.3 E**						
		8.0	12/7/11	1142	67 U						
	OGV-A8-C05	1.8	12/7/11	1157	50 U						
		4.0	12/7/11	1155	67 U						
		6.0	12/7/11	1209	40 U						
		8.0	12/7/11	1205	40 U						
	OGV-A8-C06	2.0	12/7/11	1217	40 U						
		4.0	12/7/11	1215	40 U						
		6.0	12/7/11	1227	40 U						
		8.0	12/7/11	1223	40 U						
	OGV-A8-C07	2.0	12/7/11	1237	40 U						
		4.0	12/7/11	1215	40 U						
		6.0	12/7/11	1248	40 U						
		8.0	12/7/11	1244	40 U						
	OGV-A8-D01	1.0	12/8/11	1217	40 U						
		3.0	12/8/11	1208	40 U						
	OGV·A8-D04	1.0	12/8/11	1242	40 U						
		3.0	12/8/11	1321	40 U						
	OGV-A8-D08	2.0	12/8/11	1405	40 U						

Notes:
* indicates a duplicate sample
Bolded results indicate a detection.
DCE = dichloroethene
E = estimated
GC = gas chromatograph
PCE = tetrachloroethene
TCE = trichloroethene
µg/kg = micrograms per kilogram
U = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

Table 4.11
Summary of USGS Tree Core Analytical Results – October 2013
Oak Grove Village Well Site OU1
Frankin County, Missouri

Sample ID	Latitude	Longitude	CFC (ppt)	TCE (ppt)	PCE (ppt)	Tree Type	Tree Diameter
TC001	38.226457	-91.151394	ND	ND	1.83	white oak	20.75
TC002	38.226473	-91.152015	ND	ND	ND	white oak	14.75
TC003	38.226465	-91.152311	ND	ND	ND	white oak	24
TC004	38.226473	-91.152785	ND	ND	ND	elm	12
TC005	38.226577	-91.152583	ND	ND	ND	oak	18
TC006	38.22661	-91.152244	ND	ND	ND	elm	36
TC007	38.22665	-91.151837	ND	ND	ND	red oak	28
TC008	38.226754	-91.151817	ND	ND	ND	white oak	30
TC009	38.226942	-91.151814	ND	ND	ND	white oak	14
TC010	38.227181	-91.151691	ND	ND	ND	white oak	24
TC011	38.226794	-91.151542	ND	ND	ND	elm	20
TC012	38.22694	-91.151482	ND	ND	ND	white oak	29
TC013	38.227192	-91.151545	ND	ND	1.19	red oak	29
TC014	38.226994	-91.151982	ND	ND	ND	white oak	26
TC015	38.227145	-91.151944	153.27	ND	1.75	white oak	22
TC016	38.227468	-91.151397	ND	ND	ND	white oak	30
TC017	38.227778	-91.151574	76.15	ND	ND	red oak	32
TC018	38.227979	-91.151532	ND	ND	1.04	unknown	11
TC019	38.227812	-91.151706	154.50	ND	1.34	unknown	9
TC020	38.227686	-91.151771	507.32	ND	0.99	white oak	29
TC021	38.227551	-91.151896	79.11	ND	ND	white oak	29
TC022	38.227479	-91.151997	ND	ND	1.97	red oak	12
TC023	38.227272	-91.152191	ND	ND	ND	elm	11
TC024	38.227171	-91.152252	ND	ND	ND	red oak	9
TC025	38.227121	-91.152298	ND	ND	ND	red oak	12
TC026	38.227076	-91.152349	ND	ND	ND	red oak	16
TC027	38.227	-91.152427	ND	ND	ND	red oak	12
TC028	38.226846	-91.152516	ND	ND	1.03	red oak	6
TC029	38.226964	-91.152346	ND	ND	ND	red oak	24
TC030	38.227735	-91.149668	ND	ND	0.72	unk	5
TC031	38.227755	-91.14974	ND	ND	1.67	unk	7
TC032	38.227867	-91.149727	ND	ND	ND	cottonwood	7.5
TC033	38.228056	-91.149643	ND	ND	ND	maple	5
TC034	38.228101	-91.149542	ND	ND	ND	maple	5
TC035	38.227977	-91.1492	ND	ND	ND	elm	5
TC036	38.224222	-91.152148	80.07	ND	ND	elm	26
TC037	38.224144	-91.152256	ND	ND	0.50	white oak	20
TC038	38.224119	-91.152478	ND	ND	ND	maple	16
TC039	38.224178	-91.152879	ND	ND	ND	oak	29
TC040	38.224275	-91.15305	ND	ND	ND	white oak	25

Table 4.11
Summary of USGS Tree Core Analytical Results – October 2013
Oak Grove Village Well Site OU1
Frankin County, Missouri

Sample ID	Latitude	Longitude	CFC (ppt)	TCE (ppt)	PCE (ppt)	Tree Type	Tree Diameter
TC041	38.224336	-91.152896	ND	ND	ND	oak	20
TC042	38.224565	-91.154578	ND	ND	ND	willow	4
TC043	38.23999	-91.140416	348.16	ND	ND	white oak	16
TC044	38.239907	-91.138517	ND	ND	ND	white oak	14
TC045	38.240302	-91.136934	ND	ND	ND	white oak	12
TC046	38.241507	-91.136948	ND	ND	ND	white oak	12
TC047	38.221737	-91.153377	ND	ND	1.05	oak	15
TC048	38.221688	-91.153106	ND	ND	ND	oak	15.25
TC049	38.22164	-91.15293	ND	ND	ND	oak	10.5
TC050	38.221047	-91.153047	ND	ND	ND	maple	19.75
TC051	38.220769	-91.153167	ND	ND	ND	maple	31
TC052	38.222668	-91.15397	ND	ND	ND	elm	9.25
TC053	38.222687	-91.153993	ND	ND	ND	cedar	18
TC054	38.223077	-91.153937	ND	ND	ND	pine	10
TC055	38.222226	-91.151403	ND	ND	ND	oak	33
TC056	38.222262	-91.151554	ND	ND	ND	oak	35
TC057	38.221885	-91.152115	ND	ND	ND	unknown	11.5
TC058	38.221678	-91.151596	ND	ND	ND	tulip poplar	20.375
TC059	38.221583	-91.151216	ND	ND	ND	oak	18.125
TC060	38.22157	-91.151167	ND	56.59	ND	oak	27.75
TC061	38.221502	-91.150697	ND	ND	ND	tulip poplar	26.25
TC062	38.22191	-91.150473	ND	ND	ND	pine	22.75
TC063	38.222072	-91.150655	ND	ND	ND	pine	13.5
TC064	38.222195	-91.151099	ND	ND	ND	pine	26
TC065	38.222363	-91.150908	ND	ND	ND	pine	24
TC066	38.222434	-91.150553	ND	ND	ND	pine	24.5
TC067	38.223971	-91.14713	ND	ND	1.57	oak	10.25
TC068	38.223846	-91.146779	ND	ND	ND	oak	22.125
TC069	38.223587	-91.146701	ND	ND	ND	maple	9.75
TC070	38.223547	-91.146592	ND	ND	ND	maple	5.75
TC071	38.223233	-91.146568	ND	ND	ND	oak	20
TC072	38.223591	-91.14606	ND	ND	0.92	oak	24.5
TC073	38.223667	-91.146068	ND	ND	ND	oak	10.5
TC074	38.223678	-91.146018	ND	ND	ND	maple	23.75
TC075	38.223859	-91.146024	ND	ND	ND	unknown	14.375
TC076	38.223099	-91.1461	ND	ND	ND	oak	12
TC077	38.226416	-91.149764	ND	ND	ND	oak	23.5
TC078	38.226157	-91.14961	ND	ND	ND	oak	28
TC079	38.226233	-91.148989	ND	ND	0.69	oak	26
TC080	38.226062	-91.148743	ND	ND	ND	elm	6

Table 4.11
Summary of USGS Tree Core Analytical Results – October 2013
Oak Grove Village Well Site OU1
Frankin County, Missouri

Sample ID	Latitude	Longitude	CFC (ppt)	TCE (ppt)	PCE (ppt)	Tree Type	Tree Diameter
TC081	38.225986	-91.148986	ND	ND	1.46	elm	6
TC082	38.223858	-91.149535	ND	ND	ND	oak	16.125
TC083	38.22452	-91.149723	ND	ND	1.09	oak	11.75
TC084	38.224295	-91.153362	ND	ND	ND	oak	19.25
TC085	38.224363	-91.153356	168.01	ND	ND	elm	12.75
TC086	38.224351	-91.152521	ND	ND	ND	maple	25
TC087	38.224666	-91.154511	ND	ND	2.35	willow	5
TC088	38.240089	-91.138615	ND	ND	ND	oak	15.25
TC089	38.240049	-91.138146	ND	ND	ND	oak	22.5
TC090	38.240321	-91.137648	ND	ND	ND	oak	15.125
TC091	38.240706	-91.137279	ND	ND	ND	oak	14.25
TC092	38.240904	-91.136988	ND	ND	ND	oak	13.5
TC093	38.240937	-91.136755	ND	ND	ND	unknown	15.5
TC094	38.240411	-91.136728	ND	ND	ND	oak	18.375
TC095	38.225932	-91.149116	ND	ND	1.00	maple	2.5
TC096	38.225879	-91.150215	ND	ND	ND	elm	32
TC097	38.226204	-91.150171	ND	ND	ND	white oak	30
TC098	38.225834	-91.150491	ND	ND	ND	oak	24
TC099	38.225612	-91.150491	ND	ND	ND	oak	14
TC100	38.225404	-91.150475	ND	ND	ND	oak	13.5
TC101	38.225303	-91.150487	ND	ND	ND	oak	20
TC102	38.225094	-91.15048	ND	ND	ND	elm	8
TC103	38.225111	-91.150487	ND	ND	ND	elm	6.5
TC104	38.225239	-91.150724	NA	NA	NA	oak	36
TC105	38.224828	-91.150966	ND	ND	ND	silver maple	18
TC106	38.224769	-91.151114	ND	ND	ND	maple	18
TC107	38.224815	-91.151208	ND	ND	ND	oak	32
TC108	38.224574	-91.151238	ND	ND	ND	hard maple	12
TC109	38.224476	-91.151422	ND	ND	ND	oak	37
TC110	38.224235	-91.151354	ND	ND	ND	hard maple	11
TC111	38.224231	-91.151221	ND	ND	ND	silver maple	16
TC112	38.224188	-91.150992	ND	ND	ND	hard maple	14.75
TC113	38.224125	-91.150859	ND	ND	ND	hard maple	10.5
TC114	38.224053	-91.150614	67.69	ND	ND	oak	34
TC115	38.224983	-91.150559	ND	ND	ND	unknown	6.5
TC116	38.224955	-91.150455	ND	ND	ND	oak	18
TC117	38.224917	-91.150458	ND	ND	ND	elm	7
TC118	38.224301	-91.150474	141.09	ND	ND	oak	20
TC119	38.223935	-91.150447	ND	ND	ND	northern oak	18.5
TC120	38.223846	-91.150437	1647.43	ND	ND	oak	14

Table 4.11
Summary of USGS Tree Core Analytical Results – October 2013
Oak Grove Village Well Site OU1
Frankin County, Missouri

Sample ID	Latitude	Longitude	CFC (ppt)	TCE (ppt)	PCE (ppt)	Tree Type	Tree Diameter
TC121	38.223813	-91.150476	138.11	ND	ND	oak	5
TC122	38.223675	-91.150208	ND	ND	ND	oak	13.25
TC123	38.2235	-91.150419	ND	ND	ND	oak	17.5
TC124	38.223488	-91.150477	ND	ND	ND	oak	26
TC125	38.223464	-91.150427	ND	ND	ND	elm	18
TC126	38.223825	-91.149572	ND	ND	ND	oak	14
TC127	38.225234	-91.148549	ND	ND	1.41	maple	16
TC128	38.224975	-91.148521	ND	ND	ND	maple	36
TC129	38.224518	-91.148508	106.64	ND	ND	oak	18
TC130	38.224691	-91.148896	ND	ND	ND	oak	17.25
TC131	38.224487	-91.148794	ND	ND	ND	maple	36
TC132	38.223983	-91.148637	62.45	ND	ND	hickory	13.75
TC133	38.22395	-91.148439	ND	ND	ND	oak	8.5
TC134	38.223405	-91.148416	ND	ND	1.42	maple	4.5
TC135	38.223303	-91.148572	ND	ND	ND	elm	11
TC136	38.223507	-91.148908	ND	ND	ND	oak	34
TC137	38.223357	-91.149239	30.80	ND	ND	oak	30
TC138	38.223343	-91.149366	ND	ND	ND	maple	16.5
TC139	38.223235	-91.149354	ND	ND	0.72	oak	16
TC140	38.223466	-91.149387	ND	ND	1.12	oak	15.5
TC141	38.223305	-91.149578	144.62	ND	ND	oak	22
TC142	38.223227	-91.149838	ND	ND	2.37	oak	21.5
TC143	38.223893	-91.149997	314.30	ND	2.60	oak	17
TC144	38.240726	-91.139571	ND	ND	1.08	oak	19
TC145	38.241408	-91.139233	ND	ND	ND	oak	17
TC146	38.241357	-91.137989	ND	ND	ND	oak	6

Notes:
CFC = total chlorofluorcarbons
ID = identification
NA = not analyzed
ND = not detected, the detection limit is unknown
PCE = tetrachloroethene
ppt = parts per trillion in core sample
TCE = trichloroethene

Table 4.12
Summary of Analytical Results – 2014 CSIA Investigation
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 113	Isotope Analysis		
		µg/L									$\delta^{13}C$	$\delta^{37}Cl$	$\delta^{2}H$
Municipal Wells [1]													
OGV02	7/9/14	**42**	5.0 U	**0.89 J**	5.0 U	5.0 U	5.0 U	**2.6 J**	10 U	5.0 U	-24.7	0.38	159.3
COS02	7/9/14	**23**	5.0 U	**0.91 J**	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	-25.1	0.50	-29.0
		22	5.0 U	**0.89 J**	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	-25.1	0.74	-21.9
Monitoring Wells in OU1													
MW-6	7/16/14	**36**	5.0 U	**1.1 J**	5.0 U	5.0 U	5.0 U	10 U	10 U	5.0 U	-24.0	0.044	-21.6
Private Wells in OU2													
PH016	7/9/14	**4.5 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**4.6 J**	10 U	5.0 U	-26.0	1.56	223.1
Former TRW/Ramsey Facility Monitoring Wells													
OBG-01D	7/17/14	**2,500**	130 U	**65 J**	130 U	130 U	130 U	130 U	250 U	130 U	-24.6	0.41	-50.8
OBG-01DD	7/17/14	**220**	13 U	**4.1 J**	13 U	13 U	13 U	13 U	25 U	13 U	-24.5	-0.13	139.9
OBG-01S	7/9/14	**24**	**0.49 J**	**1.3 J**	5.0 U	5.0 U	5.0 U	**57**	10 U	5.0 U	-26.0	-0.30	230.9
OBG-02S	7/18/14	**11,000**	1000 U	**1200**	1000 U	1000 U	1000 U	1000 U	2000 U	1000 U	-26.3	0.86	-6.3
OBG-03S	7/11/14	**1,400**	5.0 U	**92**	**1.7 J**	5.0 U	5.0 U	**3.8 J**	10 U	5.0 U	-24.8	1.37	57.6
OBG-05S	7/18/14	**2,000**	50 U	**340**	50 U	50 U	**27 J**	50 U	100 U	50 U	-25.3	0.13	229.9
		1,700	50 U	**300**	50 U	50 U	**22 J**	50 U	100 U	4 U	-25.3	-0.08	234.0
OBG-07S	7/16/14	**210**	10 U	**25**	**2.1**	10 U	10 U	**1.3 J**	20 U	10 U	-25.8	0.12	190.2
OBG-09S	7/11/14	**1,300**	**1.1 J**	**51**	**0.31 J**	5.0 U	5.0 U	**240**	10 U	**330**	-25.6	0.94	98.3
OBG-11D	7/8/14	**8.2**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**2.8 J**	10 U	5.0 U	-24.9	2.02	-20.9
OBG-15S	7/10/14	**17**	**9.1**	**29**	**1.3 J**	**5.7**	**2.9 J**	**93**	10 U	5.0 U	-20.1	2.10	-156.4
OBG-16S	7/15/14	**840**	50 U	**170**	50 U	50 U	50 U	50 U	100 U	**7.5 J**	-24.3	0.40	265.6
OBG-18D	7/8/14	**1.7 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**0.28 J**	10 U	5.0 U	-22.8	2.65	-100.9
OBG-21D	7/9/14	**21**	5.0 U	**0.80 J**	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	-26.2	1.60	-56.0
OBG-21S	7/10/14	**110**	5.0 U	**11**	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	-26.9	1.35	-74.2
TRW-MW-24D	7/17/14	**1,300**	100 U	**39 J**	100 U	100 U	100 U	100 U	200 U	100 U	-24.1	0.58	-66.1
La Jolla Spring Cave Complex													
PH078	8/4/14	**4.03**	0.026 U	**0.099**	0.018 U	NA	0.06 U	**0.13**	0.1 U	0.022 U	-24.5	0.52	165.0

Notes:
[1] Influent samples only.
Bolded results indicate a detection.
Shaded results indicate the RAO has been exceeded.
Samples were not analyzed for for Freon 21.
CSIA = compound specific isotope analysis
ID = identification
DCE = dichloroethene
NA = not analyzed
PCE = tetrachloroethene
RAO = Remedial Action Objective
TCE = trichloroethene
µg/L = micrograms per liter
J = The result is less than the reporting limit but greater than or equal to the MDL. The concentration is an approximate value.
U = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

Table 4.13
Summary of Soil Sample Analytical Results – Closed Sullivan Landfill (July 2005) Oak Grove Village Well Site OU1 Franklin County, Missouri

Location ID:	Sample Depth (feet bgs)	TCE	PCE	cis-1,2-DCE[1]	trans-1.2-DCE	Vinyl Chloride
		µg/kg				
SB-28	8-9	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
	7-8	2.50 U	2.50 U	**4.62**	2.50 U	2.50 U
SB-34	7-8	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
SB-18	7-8	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
SB-19	8	12.5 U	12.5 U	12.5 U	12.5 U	12.5 U
	8	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
SB-21	12-13	25.0 U	25.0 U	25.0 U	25.0 U	25.0 U
SB-22	12-13	**8.43**	**36.1**	2.50 U	2.50 U	2.50 U
SB-23	12-14	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
SB-1	4	12.5 U	12.5 U	12.5 U	12.5 U	12.5 U
SB-2	5	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
	10	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
SB-3	4-5	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
SB-9	8	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
	9	12.5 U	12.5 U	12.5 U	12.5 U	12.5 U
SB-15	7-8	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
SB-16	7	12.5 U	12.5 U	12.5 U	12.5 U	12.5 U
	28	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U

Notes:

Bolded results indicate a detection.

bgs = below ground surface

ID = identification

DCE = dichloroethene

PCE = tetrachloroethene

TCE = trichloroethene

µg/kg = micrograms per kilogram

Table 4.14
Summary of Analytical Results in OU2 Groundwater Monitoring – 2010-2018
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 21	Freon 113
		(µg/L)									
OU2 Monitoring Wells											
GWS003/ Voss Well	3/9/12	**1.8**	**0.76 J**	1.0 U	1.0 U	1.0 U	1.0 U	**40**	**3.1**	**68**	NA
	6/21/12	**2.0**	**0.91 J**	ND	ND	ND	ND	**43**	**3.7**	**91**	NA
	5/1/14	**1.4**	**0.88 J**	ND	ND	ND	ND	**38**	**2.8**	**76**	NA
	5/9/16	**1.5**	**1.2**	1.0 U	1.0 U	1.0 U	1.0 U	**32**	**2.8**	**65**	NA
MW-1	3/1/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.022 U
	3/13/12	0.022 U	0.026 U	0.022 U	0.018 U	NA	0.06 U	0.06 U	0.1 U	NA	0.022 U
MW-1A	3/14/12	**0.86**	**0.34**	**0.52**	0.018 U	NA	0.06 U	**6.0**	**0.80**	**7.1**	**0.10**
MW-101	3/13/12	**2.2**	1.0 U	**0.73 J**	1.0 U	1.0 U	1.0 U	**22**	**2.5**	**24**	NA
	6/21/12	**1.8**	**0.33 J**	**0.58 J**	ND	ND	ND	**18**	**2.8**	**20**	NA
	5/28/14	**2.0**	**0.38 J**	ND	NA	ND	NA	**13**	**1.4**	**20**	NA
	5/10/16	**0.87 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.9**	**0.93 J**	**6.9**	NA
	5/16/18	**1.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**12**	**1.0**	1.0 U	NA
MW-102A	3/6/01	**0.77 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**11**	**1.6**	**21**	NA
MW-102B	3/6/12	**0.52 J**	**0.37 J**	1.0 U	1.0 U	1.0 U	1.0 U	**12**	**1.5**	**27**	NA
MW-103	3/8/12	**0.77 J**	**1.3**	1.0 U	1.0 U	1.0 U	1.0 U	**130**	**5.9**	**150**	NA
	6/21/12	**0.69 J**	**1.2**	ND	NA	ND	NA	**130**	**10**	**130**	NA
	5/1/14	**0.80 J**	**1.8**	ND	NA	ND	NA	**90**	**4.3**	**120**	NA
	5/9/16	**0.74 J**	**1.7**	1.0 U	1.0 U	1.0 U	NA	**50**	**3.5**	**98**	NA
	5/17/18	3.3 U	**1.4 J**	3.3 U	3.3 U	3.3 U	NA	**69**	**2.2 J**	3.3 U	NA
MW-104	3/9/12	**3.5**	**0.6 J**	**0.35 J**	1.0 U	1.0 U	1.0 U	**34**	**3.2**	**51**	NA
	6/21/12	**3.1**	**0.42 J**	ND	ND	ND	ND	**39**	**4.8**	**71**	NA
	5/1/14	**3.1**	**1.3**	ND	NA	ND	NA	**24**	**1.8**	**82 J**	NA
	5/9/16	**2.6**	**1.1**	0.28	1.0 U	1.0 U	1.0 U	**18**	**1.9**	**39**	NA
	5/17/18	**2.9**	**1.3**	**0.32 J**	1.0 U	1.0 U	1.0 U	**28**	**2.4**	1.0 U	NA
MW-105	3/7/12	**1.1**	**0.42 J**	**0.28 J**	1.0 U	1.0 U	1.0 U	**8.4**	**1.7**	**45**	NA
	6/21/12	**1.0**	**0.37 J**	ND	NA	ND	ND	**7.6**	**1.4**	**40**	NA
	5/1/14	**1.2**	**0.52 J**	ND	NA	ND	ND	**6.4**	**0.99 J**	**42**	NA
	5/9/16	**1.0**	**0.42 J**	1.0 U	1.0 U	**0.48 J**	1.0 U	**5.5**	**1.1**	**29**	NA
	5/16/18	**0.98 J**	**0.49 J**	1.0 U	1.0 U	1.0 U	1.0 U	**6.8**	**1.0**	1.0 U	NA
MW-107	6/17/11	**3.2**	**0.54**	**0.27**	0.018 U	NA	0.06 U	**29**	**2.1**	**64**	**0.77**
MW-107D	3/1/12	**0.49 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**7.7**	**0.34 J**	**7.2**	NA
	3/5/12	**0.61**	**0.08**	**0.03**	0.018 U	NA	0.06 U	**6.8**	**0.49**	**10.3**	**0.22**
MW-107S	3/5/12	**2.8**	**0.42 J**	1.0 U	1.0 U	1.00 U	1.0 U	**55**	**3.1**	**67**	NA
		3.0	**0.41 J**	1.0 U	1.0 U	**0.35 J**	1.0 U	**58**	**3.2**	**65**	NA
	9/11/12	**3.5**	**0.58**	**0.22**	0.01614	NA	0.06 U	**47.4**	**2.7**	**58**	**1.3**
MW-108	12/17/10	**1.6**	**1.5**	**0.43**	0.018 U	NA	0.06 U	9.37 U	**2.7**	**59**	**0.48**
	3/16/11	**1.8**	**0.89**	**0.61**	0.018 U	NA	0.06 U	**8.7**	**1.5**	**50**	**0.41**
MW-108D	3/1/12	**2.9**	**0.89 J**	**0.58 J**	1.0 U	1.0 U	1.0 U	**38**	**3.1**	**96**	NA
	6/20/12	**2.4**	**0.55**	**0.43**	0.008	NA	0.06 U	**29**	**2.6**	**34**	**0.93**
MW-108S	3/1/12	**1.4**	**0.57 J**	**0.59 J**	1.0 U	1.0 U	1.0 U	**10**	**1.6**	**71**	NA
	9/11/12	**2.4**	**1.0**	**0.81**	0.018 U	NA	0.06 U	**21**	**3.3**	**53**	**1.00**

Table 4.14
Summary of Analytical Results in OU2 Groundwater Monitoring – 2010-2018
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 21	Freon 113
		(µg/L)									
Spring Locations											
SW-CH01	5/26/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
	10/13/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
SW-FC01[1]	5/26/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
	10/14/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
SW-FC02[2]	5/26/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
	10/14/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
SW-FC03[2]	5/26/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
	10/14/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
SW-TC01	5/26/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
	10/13/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
PH083	5/27/10	**1.0**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
	10/13/10	**5.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
PH078	5/27/10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA
	10/13/10	**5.0**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA

Notes:

[1] Entrance to Fisher Cave

[2] Unknown location Fisher Cave

Bolded results indicate a detection.

Shaded results indicate that the reported concentration is greater than the MCL/RAO for TCE (5 µg/L).

J = The analyte was detected above the method detection limit but below the reporting limit.
The associated numerical value is an estimate.

U = The analyte was not detected at or above the reporting limit.
The associated numerical value is the reporting limit.

DCE = dichloroethene

NA = not analyzed

PCE = tetrachloroethene

TCE =trichloroethene

µg/L = micrograms per liter

Table 4.15
Summary of TCE Detections – OU2 Monitoring Wells
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well/ Location ID	Number of Samples	Number of Samples that were Nondetect	Number of Detections Less than RAO	Number of Detections Exceeding RAO	Highest TCE Level Recorded (µg/L)	Date of Highest TCE Level	Time Frame of Recorded Data in Database
OU2 Monitoring Wells							
MW-1	26	19	7	0	**1.68**	12/16/05	2005-2006, 2012
MW-1A	2	0	2	0	**1.71**	04/27/06	2006, 2012
MW-101	26	4	22	0	**4.2**	08/30/93	1992-2000, 2002,2004,2006, 2008, 20012, 2014, 2016, 2018
MW-102A	11	10	1	0	**0.77**	03/06/12	1992-1995, 2012
MW-102B	15	11	4	0	**2.0**	03/24/95	1992-1995, 2012
MW-103	24	14	10	0	**1.0**	07/23/98	1992-2000, 2002,2004,2006, 2008, 20012, 2014, 2016
MW-104	16	3	10	3	**6.8**	05/14/02	1992-1993, 2000, 2002, 2004, 2006, 2012, 2014, 2016, 2018
MW-105	25	4	18	3	**6.90**	09/13/95	1992-2000, 2002,2004,2006, 2008, 20012, 2014, 2016, 2018
MW-107	4	0	4	0	**3.15**	06/17/11	2011
MW-107S	3	0	3	0	**3.52**	09/11/12	2012
MW-107D	2	0	2	0	**0.61**	03/05/12	2012
MW-108	7	0	7	0	**3.3**	10/05/11	2010-2011
MW-108S	2	0	2	0	**2.4**	09/11/12	2012
MW-108D	2	0	2	0	**2.9**	03/06/12	2012
Other Wells							
GWS003/ Voss Well	64	6	56	2	**6.5**	10/16/92	1987-2008, 2012-2014, 2016
Landfill Seeps							
L-1, L-9, and L-13[1]	3	0	1	2	**370**	1990	1990

Notes:

[1] Only 3 seeps were analyzed for TCE.

Bolded results indicate a detection

Shaded results indicate that the concentration is greater than the MCL/RAO for TCE (5 µg/L).

ID = identification

NA = not applicable

RAO = Remedial Action Objective

TCE = trichloroethene

µg/L = micrograms per liter

Table 4.16
Summary of Air Sample Analytical Results – La Jolla Spring Cave Complex (2013-2015)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Location	Sample ID	DATE	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 113
			(µg/m^3)								
Ballroom	6750-2	2/25/15	**8**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**2.92**	3.83 U
	6750-11	2/25/15	**7.68**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.26**	3.83 U
	6768-2	4/28/15	**44.5**	**0.881**	1.98 U	1.98 U	8.7 U	0.16 U	**9.44**	**2.77**	3.83 U
	6787-2	6/24/15	**127**	**1.22**	1.98U	1.98U	8.7U	0.16U	**59.4**	**3.16**	3.83U
Ballroom Behind Stage	6021-2	3/13/13	**5.16**	**0.746**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U
	6129-2	8/27/13	**138**	**1.42**	1.98 U	1.98 U	8.7 U	0.16 U	**49.3**	**3.36**	3.83 U
	6273-2	1/13/14	**20**	0.41 U	1.98 U	1.98 U	**12.8**	1.28 U	2.81 U	2.47 U	2.81 U
	6359-2	3/24/14	**4.51**	0.41 U	1.98 U	1.98 U	**13.3**	0.16 U	2.81 U	**3.02**	3.83 U
	6360-2	6/2/14	**169**	**1.22**	1.98 U	1.98 U	8.7 U	0.16 U	**48.3**	2.47 U	3.38 U
	6361-2	8/5/14	**133**	**0.542**	1.98 U	1.98 U	8.7 U	0.16 U	**29**	2.47 U	3.38 U
Ballroom Stage	6021-3	3/13/13	**4.57**	**0.746**	1.98 U	1.98 U	**11**	0.16 U	NA	NA	3.83 U
	6787-13	6/24/15	**24**	**0.475**	1.98U	1.98U	**11.4**	0.16U	**13.5**	**2.67**	3.83U
Bat Cave	6768-11	4/28/15	0.43 U	0.41 U	1.98 U	1.98 U	**64.9**	0.16 U	2.81 U	**3.07**	3.83 U
	6787-10	6/24/15	0.43U	0.41U	1.98U	1.98U	8.7U	0.16U	2.81U	2.47U	3.83U
Fallout Shelter	6768-8	4/28/15	**76.8**	**0.746**	1.98 U	1.98 U	**13.2**	0.16 U	**23.3**	**2.82**	3.83 U
	6787-4	6/24/15	**130**	**1.63**	1.98U	1.98U	8.7U	0.16U	**92.4**	**5.83**	**4.9**
	6750-5	2/25/15	**10.4**	0.41 U	1.98 U	1.98 U	**66.7**	0.16 U	**3.43**	**3.02**	3.83 U
Conference Room	6750-9	2/25/15	0.43 U	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.61**	3.83 U
	6768-10	4/28/15	**7.57**	0.41 U	1.98 U	1.98 U	**31.1**	0.16 U	**2.92**	**2.92**	3.83 U
	6787-9	6/24/15	**125**	**1.49**	1.98U	1.98U	8.7U	0.16U	**76.5**	**5.19**	3.83U
	6787-15	6/24/15	**142**	**2.03**	1.98U	1.98U	8.7U	0.16U	**93.2**	**5.54**	**4.14**
Gazebo	6359-8	3/24/14	0.43 U	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.26**	3.83 U
	6360-9	6/2/14	**1.18**	0.41 U	1.98 U	1.98 U	**110**	0.16 U	2.81 U	2.47 U	3.38 U
	6361-10	8/5/14	**0.698**	0.41 U	1.98 U	1.98 U	**16.8**	0.16 U	2.81 U	2.47 U	3.38 U
	6750-8	2/25/15	0.86 U	0.82 U	3.96 U	3.96 U	17.4 U	0.32 U	2.81 U	2.47 U	7.66 U
	6768-9	4/28/15	0.43 U	0.41 U	1.98 U	1.98 U	**31.4**	0.16 U	2.81 U	**3.11**	3.83 U
	6787-8	6/24/15	0.43U	0.41U	1.98U	1.98U	**8.82**	0.16U	2.81U	**2.87**	3.83U

Table 4.16
Summary of Air Sample Analytical Results – La Jolla Spring Cave Complex (2013-2015)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Location	Sample ID	DATE	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 113
			(µg/m^3)								
Gift Shop	6021-1	3/13/13	1.2 U	**1.42**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U
	6129-1	8/27/13	**97.5**	**1.56**	1.98 U	1.98 U	8.7 U	0.16 U	**41.8**	**2.77**	3.83 U
	6273-1	1/13/14	**5.37**	**1.56**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	2.47 U	2.81 U
	6359-1	3/24/14	**1.13**	**1.42**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**2.97**	3.83 U
	6360-1	6/2/14	**125**	**1.29**	1.98 U	1.98 U	8.7 U	0.16 U	**33.4**	**3.02**	3.38 U
	6361-1	8/5/14	**143**	**1.22**	**2.22**	1.98 U	**20.3**	0.16 U	**31.7**	2.47 U	3.38 U
	6750-1	2/25/15	**1.56**	**1.15**	1.98 U	1.98 U	**11.8**	0.16 U	2.81 U	**2.87**	3.83 U
	6750-10	2/25/15	**1.67**	**1.36**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.76**	3.83 U
	6768-1	4/28/15	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6787-14 FD	6/24/15	**9.78**	0.82U	3.96U	3.96U	17.4U	0.32U	**3.09**	2.47U	7.66U
	6787-14	6/24/15	**8.11**	**0.475**	1.98U	1.98U	**64.2**	0.16U	**5.22**	2.47U	3.83U
	6787-1 FD	6/24/15	**95.7**	**1.42**	1.98U	1.98U	8.7U	0.16U	**46.4**	**3.51**	3.83U
	6787-1	6/24/15	**100**	**1.49**	1.98U	1.98U	8.7U	0.16U	**49.3**	**3.76**	3.83U
Jungle Room	6021-7	3/13/13	**22.4**	**0.61**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U
	6129-6	8/27/13	**177**	**1.36**	**2.3**	1.98 U	8.7 U	0.16 U	**59.9**	**3.76**	3.83 U
	6273-6	1/13/14	**64.8**	0.41 U	1.98 U	1.98 U	8.7 U	1.28 U	**3.26**	2.47 U	2.81 U
	6359-6	3/24/14	**17.4**	**0.475**	1.98 U	1.98 U	8.7 U	**0.179**	**2.98**	**3.46**	3.83 U
	6360-7	6/2/14	**252**	**1.36**	**3.21**	1.98 U	**42.2**	0.16 U	**4.14**	**3.92**	**4.14**
	6361-8	8/5/14	**0.806**	0.41 U	1.98 U	1.98 U	**37.3**	0.16 U	2.81 U	2.47 U	3.38 U
	6750-6	2/25/15	**14.8**	0.82 U	3.96 U	3.96 U	17.4 U	0.32 U	2.81 U	2.47 U	7.66 U
	6750-15	2/25/15	**16.5**	**0.61**	1.98 U	1.98 U	8.7 U	0.16 U	**3.37**	**3.51**	3.83 U
	6768-6	4/28/15	**111**	**1.22**	1.98 U	1.98 U	8.7 U	0.16 U	**27.1**	**2.97**	3.83 U
	6787-6	6/24/15	**147**	**1.63**	1.98U	1.98U	8.7U	0.16U	**76.9**	**5.14**	3.83U
	6787-12	6/24/15	**137**	**2.17**	1.98U	1.98U	8.7U	0.16U	**99.4**	**5.78**	**4.29**

Table 4.16
Summary of Air Sample Analytical Results – La Jolla Spring Cave Complex (2013-2015)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Location	Sample ID	DATE	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 113
			(µg/m^3)								
Lassie Room	6021-6	3/13/13	**18.2**	**0.61**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U
	6129-5	8/27/13	**117**	**1.29**	1.98 U	1.98 U	**101**	0.16 U	**42.1**	**3.31**	3.83 U
	6273-5	1/13/14	**48.8**	0.41 U	1.98 U	1.98 U	**11.4**	1.28 U	**3.09**	2.47 U	2.81 U
	6768-5	4/28/15	**79.7**	**0.814**	1.98 U	1.98 U	**41.1**	0.16 U	**18.5**	**2.87**	3.83 U
	6787-5	6/24/15	**120**	**1.42**	1.98U	1.98U	8.7U	0.16U	**76.9**	**4.15**	**3.91**
	6359-5	3/24/14	**21.4**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	**3.48**	**3.36**	3.83 U
	6360-5	6/2/14	**196**	**1.22**	1.98 U	1.98 U	**38.9**	0.16 U	**51.8**	**4.05**	3.38 U
	6361-5	8/5/14	**176**	**1.15**	**2.77**	1.98 U	**107**	0.16 U	**43.5**	2.47 U	3.38 U
	6750-4	2/25/15	**11**	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**2.82**	3.83 U
	6750-14	2/25/15	**12.4**	**0.542**	1.98 U	1.98 U	**9.93**	0.16 U	**3.2**	**3.46**	3.83 U
Loot Rock	6021-5	3/13/13	**7.09**	**0.814**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U
	6129-3	8/27/13	**153**	**1.36**	1.98 U	1.98 U	**10.4**	0.16 U	**54.8**	**3.56**	3.83 U
	6129-4	8/27/13	**164**	**1.29**	**2.06**	1.98 U	8.7 U	0.16 U	**54.8**	**3.76**	3.83 U
	6273-3	1/13/14	**33.8**	0.41 U	1.98 U	1.98 U	**43.2**	1.28 U	2.81 U	2.47 U	2.81 U
	6273-3-FD	1/13/14	**40.1**	0.41 U	1.98 U	1.98 U	8.7 U	1.28 U	2.81 U	2.47 U	2.81 U
	6359-3	3/24/14	**14**	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.21**	3.83 U
	6359-3FD	3/24/14	**13.9**	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.21**	3.83 U
	6360-3	6/2/14	**220**	**1.42**	1.98 U	1.98 U	**27.4**	0.16 U	**55.4**	**2.77**	3.38 U
	6360-3-FD	6/2/14	**217**	**1.83**	1.98 U	1.98 U	8.7 U	0.16 U	**62.9**	**4.25**	**4.14**
	6361-3	8/5/14	**224**	**1.02**	**3.61**	1.98 U	**44.3**	0.16 U	**46.3**	2.47 U	3.38 U
	6361-3-FD	8/5/14	**189**	**1.15**	**3.41**	1.98 U	**120**	0.16 U	**45.8**	2.47 U	3.38 U
	6750-3	2/25/15	**9.83**	0.41 U	1.98 U	1.98 U	**41.9**	0.16 U	2.81 U	**3.31**	3.83 U
	6750-12 FD	2/25/15	**11.9**	**0.542**	1.98 U	1.98 U	8.7 U	0.16 U	**3.09**	**3.46**	3.83 U
	6750-12	2/25/15	**14.1**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	**3.54**	**3.66**	3.83 U
	6768-3 FD	4/28/15	**77.1**	**0.678**	1.98 U	1.98 U	**10.3**	0.16 U	**14.4**	**2.67**	3.83 U
	6768-3	4/28/15	**79.1**	**0.542**	1.98 U	1.98 U	**16.2**	0.16 U	**14.4**	**2.62**	3.83 U
	6787-3	6/24/15	**114**	**1.36**	1.98U	1.98U	8.7U	0.16U	**73.8**	**4.15**	3.83U

Table 4.16
Summary of Air Sample Analytical Results – La Jolla Spring Cave Complex (2013-2015)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Location	Sample ID	DATE	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12	Freon 113
			(µg/m^3)								
Mud Alley	6768-12	4/28/15	**117**	**1.29**	1.98 U	1.98 U	**11.5**	0.16 U	**28.5**	**3.95**	3.83 U
Riverboat Tour Shelter	6021-8	3/13/13	1.2 U	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U
	6129-8	8/27/13	**0.483**	0.41 U	1.98 U	1.98 U	**74.6**	0.16 U	2.81 U	2.47 U	3.83 U
	6273-8	1/13/14	0.43 U	0.41 U	1.98 U	1.98 U	**41.9**	1.28 U	2.81 U	2.47 U	2.81 U
Theater Room	6021-4	3/13/13	**4.19**	**0.746**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U
	6129-7	8/27/13	0.43 U	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	2.47 U	3.83 U
	6273-7	1/13/14	**12.3**	0.41 U	1.98 U	1.98 U	**9.13**	1.28 U	2.81 U	2.47 U	2.81 U
	6359-7	3/24/14	**4.35**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.21**	3.83 U
	6360-6	6/2/14	**1.29**	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	2.47 U	3.38 U
	6361-6	8/5/14	**240**	**1.22**	**4.44**	1.98 U	**30.6**	0.16 U	**52.9**	2.47 U	3.38 U
	6750-7	2/25/15	**4.83**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**2.87**	3.83 U
	6750-16	2/25/15	**5.32**	**0.542**	1.98 U	1.98 U	**28.7**	0.16 U	2.81 U	**3.56**	3.83 U
	6768-7	4/28/15	**31.8**	0.41 U	1.98 U	1.98 U	**56.3**	0.16 U	**8.48**	**2.57**	3.83 U
	6787-7	6/24/15	0.43U	0.41U	1.98U	1.98U	**55.6**	0.16U	2.81U	**2.47**	3.83U
Ticket counter	6359-9	3/24/14	**4.83**	**0.542**	1.98 U	1.98 U	8.7 U	**0.256**	2.81 U	**4.2**	3.83 U
	6360-8	6/2/14	**183**	**1.08**	1.98 U	1.98 U	8.7 U	0.16 U	3.83 U	**2.72**	3.38 U
	6361-9	8/5/14	**193**	**0.881**	**2.81**	1.98 U	**59**	0.16 U	**42.9**	2.47 U	3.38 U

Notes:

Bolded results indicate a detection.

DCE = dichloroethene

NA = not aanalyzed

PCE = tetrachloroethene

TCE = trichloroethene

µg/m^3 = micrograms per cubic meter

U = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

Table 4.17
Compliance Air Monitoring and Spring Water TCE Results - La Jolla Spring Cave Complex (2016-2019)
Oak Grove Village Well Site OU1
Franklin County, Missouri

TCE in Air (µg/m^3)						TCE in Spring Water (µg/L)		
Date	Gift Shop	Ballroom	Theater	Loot Rock	Jungle Room	Date	PH078 Loot Rock	PH082 Jungle Room
5/10/16	**1.56**				**398**	5/10/16		
5/12/16	**1.07**					5/12/16		
5/16/16	**0.75**				**101**	5/16/16		
5/23/16	**4.35**	**11.5**			**316**	5/23/16		
5/31/16	**3.06**	**4.94**			**66.3**	5/31/16		
6/5/16	**4.6**	**6.4**	1.1 U		**33**	6/5/16		
6/13/16	**1.18**	**3.92**	0.43 U		**88.7**	6/13/16		
6/20/16	**1.72**	**4.14**	0.43 U		**21.9**	6/20/16		
6/28/16	**1.1**	**3.1**	1.1 U / **2.5**	**15**	**15**	6/28/16		
7/6/16	**11 J**	**3.1**	**0.44 J**	**28**	**17 / 17**	7/6/16		
7/12/16	**4.0**	**3.1 / 2.8**	1.1 U	**19**	**14**	7/12/16		
7/13/16						7/13/16		
7/19/16	**3.7 / 3.7**	**2.7**	1.1 U	**14**	**14**	7/19/16		
7/20/16						7/20/16		
7/26/16	**1.7 / 1.7**	**1.7**	1.1 U	**13**	**13**	7/26/16		
7/27/16						7/28/16	**1.5 / 1.5**	**1.6**
8/3/16	**3.6 / 3.5**	**3.7**	1.1 U	**12**	**15**	8/3/16		
8/9/16	**3.4 / 2.9**	**3.0**	1.1 U	**12**	**14**	8/9/16		
8/16/16	**3.4 / 2.9**	**4.5**	1.1 U	**11**	**14**	8/16/16		
8/23/16	**2.3 / 2.5**	**6.1**	**0.28 J**	**14**	**11**	8/23/16		
8/29/16	**2.2 / 2.4**	**2.1**	1.1 U	**16**	**15**	8/29/16		
9/13/16	**3.2/3.3**	**8.9**	**0.55 J**	**13**	**11**	9/13/16		
9/27/16	**0.99 J / 0.91 J**	**6.1**	**1.6**	**13**	**13**	9/27/16		
9/29/16		**3.0**				9/29/16	**2.5**	**2.1 / 1.8**
10/4/16	**1.3**	**7.1**				10/4/16		
10/11/16	**4.2**	**6.4**	**4.5**		**18**	10/11/16		
10/12/16		**4.4**			**16**	10/12/16		
10/13/16	**0.74 J/0.59 J**	**14**	**1.2**	**28**	**19**	10/13/16		
10/19/16	**1.0 J**	**5.6**	1.1 U	**26**	**15**	10/19/16		
10/19/16		**2.5**				10/19/16		
10/23/16	**3.4**	**3.4**	**1.7**	**32**	**21**	10/23/16		
10/26/16	**4.8/4.6**	**3.1**	**3.9**	**39**	**27**	10/26/16		
10/27/16	**4.7**	**1.5**	**1.2**	**35**	**30**	10/27/16		
11/2/16	**2.4 / 2.4**	**4.5**	1.1 U	**27**	**19**	11/2/16	**2.3**	**2.2**
11/8/16	**1.6 / 1.3**	**14**	**0.76 J**	**29**	**20**	11/8/16		
11/9/16	**1.4**	**16**	**9.1**	**21**	**14**	11/10/16	**2.5**	**2.6 / 2.6**
11/16/16	**0.53 J / 0.56 J**	**19**	**9.9**	**34**	**26**	11/17/16	**2.4 / 2.4**	**2.6**
11/23/16	**0.60 J**	**0.33 J**	**1.9**	**8.8**	**12**	11/23/16		
11/29/16	**1.2 / 1.1**	**0.63 J**	**1.1**	**22**	**19**	11/29/16	**3.5**	
11/30/16	**1.5 / 1.5**	**0.77 J**	**1.1**	**1.1**	**11**	11/30/16		
12/6/16	**1.9 / 2.1**	**0.95 J**	**1.1**	**22**	**23**	12/6/16		
12/13/16	**1.2 / 1.7**	**0.64 J**	**0.89 J**	**18**	**17**	12/13/16		
12/19/16	**2.7 / 1.9**	**1.9**	**1.8**	**11**	**7.5**	12/19/16		
1/3/17	**1.2 / 1.2**	**0.56 J**	**0.55 J**	**27**	**35**	1/3/17		
1/17/17	**0.74 J / 0.76 J**	**1.2**	**0.89 J**	**32**	**24**	1/19/17	**5.1. / 5.1**	**5.4**
1/30/17	**1.8 / 2.7**	**0.86 J**	**0.45 J**	**23**	**20**	1/30/17		
2/13/17	**3.1 / 2.8**	**2.8**	**1.2**	**24**	**27**	2/14/17	**6.1 / 5.9**	**6.5**
2/20/17	**0.58 J / 0.57 J**	**0.50 J**	**0.54 J**	**17**	**22**	2/20/17		
3/16/17	1.1 U / 1.1 U	1.1 U	1.1 U	**18**	**19**	3/16/17		

Table 4.17
Compliance Air Monitoring and Spring Water TCE Results - La Jolla Spring Cave Complex (2016-2019)
Oak Grove Village Well Site OU1
Franklin County, Missouri

TCE in Air (µg/m^3)						TCE in Spring Water (µg/L)		
Date	Gift Shop	Ballroom	Theater	Loot Rock	Jungle Room	Date	PH078 Loot Rock	PH082 Jungle Room
3/27/17	**0.34 J / 0.37 J**	1.1 U	1.1 U	**16**	**16**	3/27/17	**2.5 / 2.3**	**2.6**
4/10/17	**0.32 J / 0.33 J**	1.1 U	1.1 U	**15**	**15**	4/10/17		
4/24/17	**0.44 J / 0.47 J**	1.1 U	1.1 U	**25**	**24**	4/25/17	**2.7 / 2.8**	**2.8**
5/24/17	1.1 U / 1.1 U	1.1 U	1.1 U	**8.6**	**7.4**	5/24/17	**1.1 / 1.1**	
6/6/17	1.1 U / 1.1 U	1.1 U	1.1 U	**8.2**	**8.3**	6/6/17		
6/20/17	1.1 U / 1.1 U	1.1 U	1.1 U	**13**	**12**	6/20/17	**1.0 / 1.1**	**1.1**
7/6/17	1.1 U / **0.19 J**	1.1 U	1.1 U	**20**	**16**	7/6/17		
7/17/17	**0.33 J** / 1.1 U	1.1 U	1.1 U	**28**	**20**	7/19/17	**1.9 / 2.1**	**2.4**
7/31/17						7/31/17	**2.1 / 2.0**	**2.3**
8/14/17	**0.24 J / 0.24 J**	1.1 U	1.1 U	**16**	**22**	8/15/17	**2.4 / 2.6**	**2.4**
9/19/17	1.1 U / **0.56 J**	1.1 U	1.1 U	**13**	**16**	9/18/17	**1.8 / 1.8**	**1.6**
10/10/17	1.1 U / 1.1 U	1.1 U	1.1 U	**15**	**21**	10/10/17		
10/24/17	**0.69 J / 0.68 J**	**0.20 J**	**1.4**	**31**	**19**	10/23/17	**4.1 / 4.2**	**4.1**
11/14/17	**1.8 / 1.6**	**1.4**	**0.56 J**	**21**	**26**	11/15/17	**4.1**	**4.5 / 4.3**
12/12/17	**7.5 / 7.5**	**7.7**	**5.6**	**37**	**34**	12/11/17	**6.0 / 6.2**	**7.1**
1/4/18	**0.91 J**	**0.46 J**	**0.53 J**	**0.50 J**	**4.6**	1/4/18	**2.3 / 2.1**	**2.1**
1/18/18	**1.6 / 1.8**	**1.6**	**1.1**	**18**	**17**	1/17/18	**4.1 / 4.3**	**4.2**
2/12/18	**0.23 J / 0.23 J**	**0.31 J**	**0.27 J**	**17**	**17**	2/13/18	**5.5 / 4.9**	**5.7**
3/13/18	1.1 U / 1.1 U	1.1 U	1.1 U	**12**	**12**	3/12/18	**2.3 / 2.6**	**2.5**
4/20/18	1.1 U / 1.1 U	1.1 U	1.1 U	**10**	**12**	4/16/18	**2.0 / 1.7**	**2.0**
5/14/18	1.1 U / 1.1 U	1.1 U	1.1 U	**12**	**14**	5/15/18	**1.6 / 1.6**	**1.8**
6/12/18	1.1 U / 1.1 U	1.1 U	1.1 U	**17**	**16**	6/11/18	**1.4**	**1.7**
7/9/18	**0.28 J**	**0.22 J**	1.1 U	**17**	**15**	7/10/18	**1.9/1.6**	**1.8**
8/13/18	**0.41 J /0.43 J**	**0.45 J**	**1.3**	**15**	**17**	8/14/18	**2.2 / 2.1**	**2.4**
9/17/18	**0.61 J / 0.44 J**	**0.058 J**	1.1 U	**22**	**23**	9/19/18	**2.6 / 2.6**	**2.6**
10/15/18	1.1 U / 1.1 U	1.1 U	1.1 U	**20**	**20**	10/16/18	**3.9 / 3.8**	**4.1**
11/16/18	1.1 U / 1.1 U	1.1 U	1.1 U	**26**	**21**	11/14/18	**2.7 / 2.7**	**2.9**
12/20/18	1.1 U / 1.1 U	1.1 U	**0.69 J**	**13**	**15**	12/21/18	**2.9 / 3.2**	**3.5**
1/10/19						1/10/19	**3.0 / 3.0**	**3.0**
2/13/19	1.1 U / 1.1 U	1.1 U	**0.69 J**	**13**	**15**	2/13/19	**1.9 /0.14 J**	**1.9**
3/11/19						3/11/19	**1.2 / 1.2**	**1.2**
4/1/19						4/1/19	**0.98 J/0.93 J**	**1.1**
5/7/19	1.1 U / 1.1 U	1.1 U	1.1 U	**5.9**	**7.4**	5/8/19	**0.54 J**	**0.61 J**
6/10/19						6/10/19	**0.29 J/0.27 J**	**0.31 J**
7/15/19						7/15/19	**0.65 J/0.70 J**	**0.68 J**
8/5/19	**0.83 J**	**0.78 J**	1.1 U	**30**	**35**	8/6/19	**0.99 J/0.89 J**	**1.0 J**
9/3/19						9/3/19	**1.2 / 1.0**	**1.2**
10/7/19						10/7/19	**2.3/2.1**	**2.3**
11/6/19	1.1 U/1.1 U	1.1 U	1.1 U	**20**	**18**	11/5/19	**3.1**	**3.4**

Notes:

Bolded results indicate a detection.

Shaded results indicate that the concentration exceed the MCL/RAO of 5 µg?L.

Duplicate sample results shown via "/".

J - estimated

U = not detected

µg/m^3 = micrograms per cubic meter

µg/L = micrograms per liter

Table 4.18
Summary of TCE Detections in Spring Water – La Jolla Spring Cave Complex
Oak Grove Village Well Site OU1
Franklin County, Missouri

Location ID	Number of Samples	Number of Samples that were Nondetect	Number of Detections Less than RAO	Number of Detections Exceeding RAO	Highest TCE Level Recorded (µg/L)	Date of Highest TCE Level	Time Frame of Recorded Data in Database
Spring Samples							
GWS009	35	1	12	22	**13.20**	09/01/07	2001-2007
GWS010	25	3	21	1	**5.69**	09/01/07	2002-2007
PH020	22	5	16	1	**5.99**	09/01/07	2003-2007, 2010
PH078	61	1	50	10	**9.78**	01/29/13	1991, 2010, 2012-2019
PH079	1	0	1	0	**4.80**	11/29/90	1990
PH082	80	0	73	7	**6.20**	12/11/17	1990, 2016-2019
PH083	4	0	2	2	**5.99**	10/13/10	2010
Other Locations	2	1	1	0	1.23	04/08/10	2010

Notes:

Bolded results indicate a detection.

Shaded results indicate the MCL/RAO of 5 µg/L for TCE has been exceeded. (EPA, 2018).

EPA = U.S. Environmental Protection Agency

ID = identification

MCL = maximum contaminant level

RAO = Remedial Action Objective

TCE = trichloroethene

µg/L = micrograms per liter

Table 4.19
Summary of Soil Sample Analytical Results –
Former TRW/Ramsey Facility (1991-1993)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Location	Location ID:	Sample Depth (feet bgs)	Sample Date	TCE	PCE	Total DCE	Vinyl Chloride
				µg/kg			
RCRA Facility Assessment							
Winsel Creek	SED-1	NA	Mar-92	1 U	1 U	1 U	1 U
	SED-2	NA	Mar-92	1 U	1 U	1 U	1 U
	SED-3	NA	Mar-92	1 U	1 U	1 U	1 U
Former TRW/ Ramsey Facility	B-1	7-9	Dec-91	1 U	1 U	1 U	1 U
		19-21	Dec-91	1 U	1 U	1 U	1 U
	B-2	11-13	Dec-91	1 U	1 U	1 U	1 U
		19-21	Dec-91	1 U	1 U	1 U	1 U
	B-3	11-15	Dec-91	1 U	1 U	1 U	1 U
		17-21	Dec-91	1 U	1 U	1 U	1 U
	B-4	13-15	Dec-91	1 U	1 U	1 U	1 U
		15-17	Dec-91	1 U	1 U	1 U	1 U
	B-5	3-5	Dec-91	1 U	1 U	1 U	1 U
		5-7	Dec-91	1 U	1 U	1 U	1 U
	B-6	7-9	Dec-91	1 U	1 U	1 U	1 U
	B-7	3-5	Dec-91	1 U	1 U	1 U	1 U
		7-9	Dec-91	1 U	1 U	1 U	1 U
	B-8	9-11	Dec-91	1 U	1 U	1 U	1 U
		11-13	Dec-91	1 U	1 U	1 U	1 U
	B-9	5-7	Dec-91	1 U	1 U	1 U	1 U
		5-7	Dec-91	1 U	1 U	1 U	1 U
	B-10	1-3	Dec-91	**1800**	110 U	110 U	110 U
		3-5	Dec-91	**14**	1 U	**1**	1 U
	B-11	7-9	Dec-91	**2**	1 U	1 U	1 U
		11-13	Dec-91	1 U	1 U	1 U	1 U
RCRA Facility Investigation							
Former TRW/ Ramsey Facility	LB-1	5-7	May-93	12 U	NA	NA	NA
		11-13	May-93	**27**	NA	NA	NA
	LB-2	5-9	May-93	12 U	NA	NA	NA
		12-14	May-93	12 U	NA	NA	NA
	LB-3	5-6	May-93	12 U	NA	NA	NA
	LB-4	5-7	May-93	13 U	NA	NA	NA
		11-13	May-93	12 U	NA	NA	NA
	LB-5	7-9	May-93	**38**	NA	NA	NA
	SB-2	5-7	May-93	12 U	NA	NA	NA
		12-14	May-93	12 U	NA	NA	NA
	SB-3	7-8.5	May-93	13 U	NA	NA	NA
	SB-4	5-7	May-93	**280**	NA	NA	NA
		7-9	May-93	**12 J**	NA	NA	NA

Table 4.19
Summary of Soil Sample Analytical Results –
Former TRW/Ramsey Facility (1991-1993)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Location	Location ID:	Sample Depth (feet bgs)	Sample Date	TCE	PCE	Total DCE	Vinyl Chloride
				µg/kg			
RCRA Facility Investigation							
Former TRW/ Ramsey Facility	SB-5	5-7	May-93	**1 J**	NA	NA	NA
		9-10	May-93	11 U	NA	NA	NA
	EBN	3-5	May-93	**13**	NA	NA	NA
		5-7	May-93	**23 J**	NA	NA	NA
	EBC	6.2-7.7	May-93	**7 J**	NA	NA	NA
	EBS	5-7	May-93	**220**	NA	NA	NA
	WBN	1-3	May-93	**8 J**	NA	NA	NA
	WBS	1-3	May-93	**5 J**	NA	NA	NA
	SBN	7-7.7	May-93	11 U	NA	NA	NA
	SBS	5-7	May-93	11 U	NA	NA	NA
	FPBBN	27-28.5	May-93	11 U	NA	NA	NA
	FPBBS	21-23	May-93	11 U	NA	NA	NA
		23-25	May-93	**4 J**	NA	NA	NA
	DSB	4-6	May-93	5.0 U	NA	NA	NA
		6-8	May-93	5.0 U	NA	NA	NA
		14-16	May-93	5.0 U	NA	NA	NA
		18-20	May-93	5.0 U	NA	NA	NA
		32-34	May-93	5.0 U	NA	NA	NA
		34-36	May-93	**14**	NA	NA	NA
		44-46	May-93	**15**	NA	NA	NA
		54-56	May-93	**25**	NA	NA	NA
		60-62	May-93	**162**	NA	NA	NA
		70-72	May-93	**132**	NA	NA	NA
		78-80	May-93	**48**	NA	NA	NA
		88-90	May-93	**59**	NA	NA	NA
		94-96	May-93	**11**	NA	NA	NA
		100-102	May-93	**31 J**	NA	NA	NA
		102-104	May-93	**317**	NA	NA	NA
		110-112	May-93	**20**	NA	NA	NA

Notes:
Bolded results indicate a detection.
bgs = below ground surface
ID = identification
DCE = dichloroethene
NA = not analyzed or not available
PCE = tetrachloroethene
RCRA = Resource Conservation and Recovery Act
TCE = trichloroethene
µg/kg = micrograms per kilogram

Table 4.20
Summary of Analytical Results – Former TRW/Ramsey Facility Sampling (2010 - 2019)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12
		µg/L							
Shallow Monitoring Wells									
OBG-01S	7/9/14	**24**	**0.49 J**	**1.3 J**	<5.0 U	<5.0 U	<5.0 U	**57**	10 U
	6/20/17	**11**	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	**100**	6.7 U
	10/4/18	**19**	**0.42 J**	**1.6 J**	2.5 U	13 U	2.5 U	**24**	2.5 U
	2/18/19	**13**	**0.39 J**	**1.5 J**	2.5 U	13 U	2.5 U	**53**	2.5 U
	6/6/19	**5.9**	2.5 U	**0.66 J**	2.5 U	13 U	2.5 U	**27**	2.5 U
	9/25/19	**13**	0.74 J	**1.4**	1.0 U	1.0 U	5.0 U	**61**	1.0 U
OBG-02S	07/18/14	**11,000**	1,000 U	**1,200**	1,000 U	1,000 U	1,000 U	1,000 U	2,000 U
	6/23/17	**12,000**	100 U	**2,800**	100 U	100 U	100 U	**54 J**	100 U
	10/3/18	**6,900**	170 U	**950**	170 U	830 U	170 U	170 U	170 U
	2/27/19	**11,000**	500 U	**1,200**	500 U	2,500 U	500 U	500 U	500 U
	6/6/19	**9,500**	330 U	**1,000**	330 U	1700 U	330 U	330 U	330 U
	9/25/19	**13,000**	1000 U	**1,300**	1000 U	5000 U	1000 U	1000 U	1000 U
OBG-03S	7/11/14	**1,400**	<5.0 U	**92**	**1.7 J**	<5.0 U	<5.0 U	**3.8 J**	10 U
	6/23/17	**2,000**	10 U	**120**	10 U	10 U	10 U	**5.6 J**	10 U
	10/4/18	**2,000**	33 U	**120**	33 U	170 U	33 U	33 U	33 U
	2/27/19	**1,700**	77 U	**110**	77 U	380 U	77 U	77 U	77 U
	6/4/19	**1,000**	25 U	**74**	25 U	130 U	25 U	25 U	25 U
	9/27/19	**1,400**	67 U	**95**	67 U	330 U	67 U	67 U	67 U
OBG-04S	6/22/17	**800**	5.0 U	**65**	5.0 U	5.0 U	5.0 U	**6.1**	5.0 U
	10/4/18	**480**	10 U	**46**	10 U	50 U	10 U	10 U	10 U
	2/27/19	**540**	25 U	**49**	25 U	130 U	25 U	25 U	25 U
	6/4/19	**560**	20 U	**47**	20 U	100 U	20 U	20 U	20 U
	9/24/19	**710**	33 U	**63**	33 U	170 U	33 U	33 U	33 U
OBG-05S	07/18/14	**2,000**	50 U	**340**	50 U	50 U	**27 J**	50 U	100 U
	6/22/17	**1,500**	10 U	**270**	10 U	10 U	**20**	10 U	10 U
	10/4/18	**960**	20 U	**170**	20 U	100 U	20 U	20 U	20 U
	2/28/19	**650**	33 U	**100**	33 U	170 U	33 U	33 U	33 U
	6/4/19	**840**	14 U	**170**	14 U	71 U	**9.7 J**	14 U	14 U
	9/26/19	**840**	29 U	**110**	29 U	140 U	**29 U**	29 U	29 U
OBG-06S	6/23/17	**8,900**	56 U	**1,600**	56 U	56 U	56 U	56 U	56 U
	10/3/18	**10,000**	250 U	**1,600**	250 U	1,300 U	250 U	250 U	250 U
	2/27/19	**9,500**	500 U	**1,400**	500 U	2,500 U	500 U	500 U	500 U
	6/6/19	**4,600**	250 U	**770**	250 U	1300 U	250 U	250 U	250 U
	6/6/19	**6,600 J**	500 UJ	**960 J**	500 UJ	2500 UJ	500 UJ	500 UJ	500 UJ
OBG-07S	07/16/14	**210**	10 U	**25**	**2.1**	10 U	10 U	**1.3 J**	20 U
	6/23/17	**140**	1.0 U	**12**	1.0 U	1.0 U	1.0 U	**2.3**	1.0 U
	10/4/18	**360**	20 U	**26**	20 U	100 U	20 U	20 U	20 U
	2/26/19	**370**	17 U	**30**	17 U	83 U	17 U	17 U	17 U
	6/4/19	**92**	4.0 U	**12**	4.0 U	20 U	4.0 U	4.0 U	4.0 U
	9/27/19	**490**	17 U	**24**	17 U	83 U	17 U	17 U	17 U
OBG-09S	7/11/14	**1,300**	**1.1 J**	**51**	**0.31 J**	<5.0 U	<5.0 U	**240**	10 U
	6/21/17	**960**	6.7 U	**54**	6.7 U	6.7 U	6.7 U	**380**	6.7 U
	10/3/18	**1,100**	50 U	**55**	50 U	250 U	50 U	**160**	50 U
	2/25/19	**1,400**	50 U	**65**	50 U	250 U	50 U	**360**	50 U
	6/6/19	**910**	50 U	**53**	50 U	250 U	50 U	**360**	50 U
	9/26/19	**1400**	50 U	**54**	50 U	250 U	50 U	**360**	50 U
OBG-10S	6/22/17	**19**	1.0 U	**0.43 J**	1.0 U	1.0 U	1.0 U	**2.6**	1.0 U
	10/3/18	**23**	1.0 U	**0.80 J**	1.0 U	5.0 U	1.0 U	**1.1**	1 U
	2/25/19	**38**	1.0 U	**1.3**	**0.24 J**	5.0 U	1.0 U	**2.8**	1.0 U
	6/4/19	**10**	1.0 U	**0.18 J**	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/25/19	**22**	1.0 U	**0.49 J**	1.0 U	5.0 U	1.0 U	1.9	1.0 U
OBG-11S	6/21/17	**7.3**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.7**	1.0 U
	10/2/18	**8.4**	1.0 U	**0.37 J**	1.0 U	5.0 U	1.0 U	**6.3 J**	1.0 U
	2/21/19	**6.2**	1.0 U	**0.20 J**	1.0 U	5.0 U	1.0 U	**4.5**	1.0 U
	6/6/19	**5.3**	1.0 U	**0.21 J**	1.0 U	5.0 U	1.0 U	**4.1**	1.0 U
	9/27/19	**9.9**	0.2 J	**1.3**	1.0 U	5.0 U	0.25 J	**7.3**	1.0 U

Table 4.20
Summary of Analytical Results – Former TRW/Ramsey Facility Sampling (2010 - 2019)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12
		µg/L							
OBG-12S	5/16/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/15/15	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	6/23/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/21/19	**2.9**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-13S	6/22/17	**21**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	**24**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/20/19	**27**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/6/19	**29**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	**0.60 J**	1.0 U
	9/27/19	**41**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-14S	6/22/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/15/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/3/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/10/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/18/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/2/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/19/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/19/19	**0.16 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-15S	7/10/14	**17**	**9.1**	**29**	**1.3 J**	**5.7**	**2.9 J**	**93**	10 U
	6/22/17	**23 J**	50 U	**23 J**	50 U	50 U	50 U	**77**	50 U
	2/27/19	**93 J**	330 U	330 U	330 U	1,700 U	330 U	330 U	330 U
OBG-16S	07/15/14	**840**	50 U	**170**	50 U	50 U	50 U	50 U	100 U
	6/22/17	**430**	2.9 U	**110**	2.9 U	2.9 U	2.9 U	**1.9 J**	2.9 U
	10/2/18	**420**	20 U	**85**	20 U	100 U	20 U	20 U	20 U
	2/27/19	**340**	**8.0 J**	**72**	14 U	71 U	14 U	14 U	14 U
	6/6/19	**240**	10 U	**61**	10 U	50 U	10 U	10 U	10 U
	9/24/19	**390**	13 U	**66**	13 U	67 U	13 U	13 U	13 U
OBG-17S	6/25/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/20/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/28/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/5/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/11/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/17/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/2/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/22/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/22/19	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
OBG-18S	5/18/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/5/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/17/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/20/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/19/19	**6.4**	**0.18 J**	**0.16 J**	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/6/19	**0.52 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-19S	6/22/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/27/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/18/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/31/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/20/19	**0.18 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-20S	6/22/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/10/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/16/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 4.20
Summary of Analytical Results – Former TRW/Ramsey Facility Sampling (2010 - 2019)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12
		µg/L							
OBG-20S	6/1/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/22/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/21/19	**0.30 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-21S	7/10/14	**110**	<5.0 U	**11**	<5.0 U	<5.0 U	<5.0 U	<5.0 U	10 U
	6/21/17	**6.0**	1.0 U	**14**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/20/19	**2.9**	1.0 U	**1.1**	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-22S	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
OBG-23S	6/22/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/20/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/28/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/5/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/11/14	1.0 U	1.0 U	1.0 U	1.0 U	**1.0**	1.0 U	1.0 U	1.0 U
	6/17/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/2/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/20/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
TRW-MW-1	6/23/17	**990**	6.7 U	**45**	**1.9 J**	6.7 U	6.7 U	**31**	6.7 U
	10/4/18	**1,400**	67 U	**59 J**	67 U	330 U	67 U	67 U	67 U
	2/26/19	**1,600**	**21 J**	**60 J**	100 U	500 U	100 U	100 U	100 U
	6/3/19	**1,300**	67 U	**43 J**	67 U	330 U	67 U	67 U	67 U
	9/27/19	**1,500**	67 U	**44 J**	67 U	330 U	67 U	67 U	67 U
TRW-MW-2	6/22/17	**1,800**	20 U	**87**	20 U	20 U	20 U	**4,200**	20 U
	2/27/19	**1,700**	170 U	**81 J**	170 U	830 U	170 U	**2,100**	170 U
TRW-MW-3	6/19/17	**3,300**	200 U	**150 J**	200 U	200 U	200 U	200 U	200 U
	2/25/19	**2,800**	170 U	**160 J**	170 U	830 U	170 U	170 U	170 U
TRW-MW-4	6/22/17	**780**	6.7 U	**63**	6.7 U	6.7 U	6.7 U	**430**	6.7 U
	2/27/19	**1,600**	67 U	**68**	67 U	330 U	67 U	**400**	67 U
Intermediate Monitroing Wells									
OBG-01D	6/20/17	**990**	67 U	**57 J**	67 U	67 U	67 U	67 U	67 U
	7/17/14	**2,500**	130 U	**65 J**	130 U	130 U	130 U	130 U	250 U
	10/1/18	**1,200**	50 U	**66**	50 U	250 U	50 U	50 U	50 U
	2/19/19	**1,900**	50 U	**86**	50 U	250 U	50 U	50 U	50 U
	4/2/19	**7.5**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	4/16/19	**350**	33 U	**12 J**	33 U	170 U	33 U	33 U	33 U
	6/6/19	**39**	1.0 U	**2.8**	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/25/19	**2,400**	130 U	**100 J**	130 U	630 U	130 U	130 U	130 U
OBG-04D	6/21/17	**4.2**	1.0 U	**4**	1.0 U	1.0 U	1.0 U	**2.8**	1.0 U
	10/1/18	**4.7**	1.0 U	**4.2**	1.0 U	5.0 U	1.0 U	**1.9**	1.0 U
	2/25/19	**4.3**	1.0 U	**3.9**	1.0 U	5.0 U	1.0 U	**2.5**	1.0 U
	6/5/19	**1.8**	1.0 U	**2**	1.0 U	5.0 U	1.0 U	**0.88 J**	1.0 U
	9/24/19	**2.7**	1.0 U	**2.3**	1.0 U	5.0 U	1.0 U	**1.6**	1.0 U
OBG-08D	6/9/17	**2,500**	200 U	**95 J**	200 U	200 U	200 U	200 U	200 U
	10/2/18	**3,000**	140 U	**120 J**	140 U	710 U	140 U	140 U	140 U
	2/25/19	**2,800**	170 U	**130 J**	170 U	830 U	170 U	170 U	170 U
	4/2/19	**2,800**	50 U	**45 J**	50 U	250 U	50 U	50 U	50 U
	4/16/19	**2,000**	100 U	**66 J**	100 U	**500**	100 U	100 U	100 U
	6/6/19	**130**	10 U	**12**	10 U	50 U	10 U	10 U	10 U
	9/25/19	**4,300**	250 U	**170 J**	250 U	1300 U	250 U	250 U	250 U
OBG-11D	7/8/14	**8.2**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**2.8 J**	10 U
	6/21/17	**5.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.8**	1.0 U
	10/3/18	**3.7**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	**2.1**	1.0 U
	2/21/19	**3.7**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	**1.7**	1.0 U
	6/5/19	**2.2**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	**1**	1.0 U
	9/25/19	**5.9**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	**2.2**	1.0 U
OBG-12D	6/25/10	**3.6**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/20/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/12	**2.7**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	**2.7**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

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Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12
		µg/L							
OBG-12D	6/11/14	**2.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/16/15	**2.3**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/2/16	**2.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	**1.3**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/20/19	**0.78 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/5/19	**0.86 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/25/19	**1.2**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-13D	6/21/17	**1,100**	100 U	**140**	100 U	100 U	100 U	100 U	100 U
	10/2/18	**460**	20 U	**68**	20 U	100 U	20 U	20 U	20 U
	2/20/19	**2,500**	100 U	**110**	100 U	500 U	100 U	100 U	100 U
	6/5/19	**830**	10 U	**51**	10 U	50 U	10 U	10 U	10 U
	9/24/19	**2100**	100 U	**83 J**	100 U	500 U	100 U	100 U	100 U
OBG-14D	6/23/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/16/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/17/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/1/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/27/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/28/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/3/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/10/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/18/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/1/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/2/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/21/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/19/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/16/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/3/18	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/19/19	**0.13 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/4/19	**0.12 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/23/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-17D	5/20/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/5/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/7/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/22/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/22/19	**1.0**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-18D	6/24/10	**2.3**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/18/11	**2.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/27/12	**2.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/5/13	**2.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/11/14	**2.3**	1.0 U	1.0 U	1.0 U	**1.1**	1.0 U	1.0 U	1.0 U
	7/8/14	**1.7 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**0.28 J**	10 U
	6/17/15	**1.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/2/16	**2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/20/17	**0.77 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/19/19	**1.9**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/5/19	**0.49 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/24/19	**2.6**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	**0.62 J**	1.0 U
OBG-19D	6/25/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/16/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/1/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 4.20
Summary of Analytical Results – Former TRW/Ramsey Facility Sampling (2010 - 2019)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12
		µg/L							
OBG-19D	6/27/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/28/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/5/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/8/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/1/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/31/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/22/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/16/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/20/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/4/19	**0.49 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/24/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-21D	7/9/14	**21**	<5.0 U	**0.80 J**	<5.0 U	<5.0 U	<5.0 U	<5.0 U	<10U
	6/22/17	**14**	1.0 U	**0.98 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	**12**	1.0 U	**0.76 J**	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/20/19	**12**	1.0 U	**0.60 J**	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/5/19	**5.3**	1.0 U	**0.41 J**	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/24/19	**8.9**	1.0 U	**0.56 J**	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
TRW-MW20D	11/17/17	**0.41 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/21/19	**7.1**	1.0 U	**0.20 J**	1.0 U	5.0 U	1.0 U	**0.64 J**	1.0 U
	6/5/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/25/19	**8.1**	**0.21 J**	1.0 U	1.0 U	5.0 U	1.0 U	**0.57 J**	1.0 U
TRW-MW-24D	07/17/14	**1,300**	100 U	**39 J**	100 U	100 U	100 U	100 U	200 U
	6/27/17	**800**	50 U	**46 J**	50 U	50 U	50 U	50 U	50 U
	10/1/18	**930**	50 U	**44 J**	50 U	250 U	50 U	50 U	50 U
	2/25/19	**880**	50 U	**48 J**	50 U	250 U	50 U	50 U	50 U
	4/2/19	**74**	10 U	**2.6 J**	10 U	50 U	50 U	10 U	10 U
	4/16/19	**62**	2.0 U	**1.7 J**	2.0 U	10 U	50 U	2.0 U	2.0 U
	6/6/19	**32**	1.0 U	**13**	1.0 U	5.0 U	50 U	1.0 U	1.0 U
	9/25/19	**340**	1.0 U	**17**	1.0 U	5.0 U	1.0 U	2.7	1.0 U
Deep Monitoring Wells									
OBG-01DD	07/17/14	**220**	13 U	**4.1 J**	13 U	13 U	13 U	13 U	25 U
	6/22/17	**0.90 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/1/18	**82**	2.5 U	**3.8**	2.5 U	13 U	2.5 U	2.5 U	2.5 U
	2/18/19	**29**	2.5 U	**1.9 J**	2.5 U	13 U	2.5 U	2.5 U	2.5 U
	6/6/19	**9.8**	1.0 U	**0.36 J**	1.0 U	5 U	1.0 U	1.0 U	1.0 U
	9/27/19	**130**	6.7 U	**4.6 J**	6.7 U	33 U	6.7 U	6.7 U	6.7 U
OBG-14DD	6/22/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/16/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/27/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/3/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/10/14	1.0 U	1.0 U	1.0 U	1.0 U	**1.0**	1.0 U	1.0 U	1.0 U
	6/18/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/19/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/19/19	**0.25 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-18DD	5/18/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/5/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/17/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/22/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/19/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
OBG-20DD	6/24/10	**3.9**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	**3.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/12	**3.7**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 4.20
Summary of Analytical Results – Former TRW/Ramsey Facility Sampling (2010 - 2019)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12
		µg/L							
OBG-20DD	6/4/13	**4.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/10/14	**4.7**	1.0 U	1.0 U	1.0 U	**1.1**	1.0 U	1.0 U	1.0 U
	6/16/15	**3.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	**4**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/20/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/20/19	**0.12 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Recovery Wells									
RW-1	2/21/19	**4,700**	330 U	**290 J**	330 U	1700 U	330 U	**220 J**	330 U
	6/11/19	**3,800**	100 u	**170**	100 U	500 U	100 U	**360**	100 U
	7/16/19	**3,500**	80 U	**220**	80 U	400 U	80 U	**280**	**80**
	8/7/19	**4,200**	200 U	**230**	200 U	1000 U	200 U	**300**	200 U
	9/5/19	**3,800**	130 U	**220**	130 U	630 U	130 U	**130**	130 U
RW-2	2/21/19	**7,400**	500 U	**1,300**	500 U	2500 U	500 U	500 U	500 U
RW-4	2/21/19	**1,100**	67 U	**48 J**	67 U	330 U	67 U	67 U	67 U
	6/4/19	**980**	50 U	**30 J**	50 U	250 U	50 U	50 U	50 U
	7/16/19	**840**	40 U	**29 J**	40 U	200 U	40 U	40 U	40 U
	8/7/19	**850**	33 U	**24 J**	33 U	170 U	33 U	33 U	33 U
	9/5/19	**750**	20 U	**22**	20 U	100 U	20 U	20 U	20 U
Municipal Wells									
COS02	06/21/10	**29**	1.0 U	**0.9**	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/17/10	**30**	1.0 U	**1.1**	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	**33**	1.0 U	**1.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/2/11	**28**	1.0 U	**1.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/12	**27**	1.0 U	**1.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/28/12	**34**	1.0 U	**1.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	**28**	1.0 U	**1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/13	**29**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	**31**	1.0 U	**1.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/14	**32**	1.0 U	**1.3**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/16/15	**29**	1.0 U	**1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/1/15	**35**	1.0 U	**1.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	**33**	1.0 U	**1.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/22/16	**28**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	6/21/17	**35**	1.0 U	**1.2**	1.0 U	1.0 U	1.0 U	**0.61 J**	1.0 U
	10/2/18	**32**	1.4 U	**1.2 J**	1.4 U	7.2 U	1.4 U	1.4 U	1.4 U
	2/26/19	**39**	1.7 U	**1.5 J**	1.7 U	8.4 U	1.7 U	1.7 U	1.7 U
	6/5/19	**30**	1.0 U	**1.2**	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/26/19	**36**	1.7 UJ	**1.1 J**	1.7 UJ	8.4 U	1.7 UJ	1.7 UJ	1.7 UJ
COS03	6/21/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/17/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/1/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/27/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/28/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	**1.1**	1.0 U	1.0 U	1.0 U
	12/3/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/16/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/1/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/22/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/16/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/26/19	**0.26 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/5/19	**0.16 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U

Table 4.20
Summary of Analytical Results – Former TRW/Ramsey Facility Sampling (2010 - 2019)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12
		µg/L							
COS03	9/26/19	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
COS05	06/21/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/17/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/1/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/28/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/16/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/1/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/22/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/16/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.0 U**	1.0 U
	10/2/18	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/26/19	**0.16 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/5/19	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	9/27/19	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
COS06	6/21/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/17/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/1/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/27/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/28/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	**1.0**	1.0 U	1.0 U	1.0 U
	12/3/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/16/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/1/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/22/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/16/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/26/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/5/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/27/19	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
COS07	06/21/10	**1.4**	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/17/10	**1.7**	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	**1.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/1/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/27/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/28/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/14	**1.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/16/15	**1.0**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/1/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/22/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	0.67 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/16/17	0.37 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	**1.5**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U

Table 4.20
Summary of Analytical Results – Former TRW/Ramsey Facility Sampling (2010 - 2019)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12
		µg/L							
COS07	2/26/19	**1.4**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/5/19	**0.75 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/26/19	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
COS09	6/21/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/17/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/2/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/27/12	**2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/28/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	**1.1**	1.0 U	1.0 U	1.0 U
	12/3/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/1/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/22/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/16/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	**0.28 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/26/19	**0.25 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/5/19	**0.5 J**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/26/19	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
COS10	6/21/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/17/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/2/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/27/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/28/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/13	1.0 U	1.0 U	1.0 U	1.0 U	**1.0 U**	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/6/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/1/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/22/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/16/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/26/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
COS11	6/21/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/17/10	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	**1.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/2/11	**1.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/28/12	**1.3**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/13	**1.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	**1.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/14	**1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/27/12	**1.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/16/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/1/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	**1.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/22/16	**1.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 4.20
Summary of Analytical Results – Former TRW/Ramsey Facility Sampling (2010 - 2019)
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Sample Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	Freon 11	Freon 12
		µg/L							
COS11	6/21/17	**2.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/16/17	**3.3**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	10/2/18	**1.7**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/26/19	**1.2**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	6/5/19	**1.3**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	9/27/19	**2.1**	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Private Wells									
PH063	6/23/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/25/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/3/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/26/19	1.0 U	1.0 U	0.5 U	0.5 U	5 U	1.0 U	1.0 U	1.0 U
	6/16/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/1/16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
PH064	6/23/10	1.0 U	1.0 U	1 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/12	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/16/15	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/26/19	1.0 U	1.0 U	1 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
PH065	6/26/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/16/15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/26/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
PH066	6/24/10	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/19/11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/4/13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/9/14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/21/17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	2/26/19	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
MCL or RAO		5	5	70	100	5	2	100	NE

Notes:
Bolded results indicate a detection.
Shaded results indicate that the reported concentration is greater than the MCL/RAO for TCE (5 µg/L).
DCE = dichloroethene
ID = identification
MCL = maximum contaminant level
PCE = tetrachloroethene
RAO = remedial action objective
TCE =trichloroethene
U = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.
µg/L = micrograms per liter

Table 4.21
Summary of TCE Detections – Former TRW/Ramsey Facility
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Number of Samples	Number of Samples that were Nondetect	Number of Detections Less than RAO	Number of Detections Exceeding RAO	Highest TCE Level Recorded (µg/L)	Date of Highest TCE Level	Time Frame of Recorded Data in Database
Shallow Monitoring Wells							
OBG-01S	46	0	1	45	**95**	11/18/04	1993-2008, 2014, 2017-2019
OBG-02S	50	0	0	50	**51,000**	12/09/97	1993-2008, 2014, 2017-2019
OBG-03S	41	0	0	41	**2,600**	12/01/93	1993-2008, 2014, 2017-2019
OBG-04S	45	0	0	45	**2,700**	11/21/02, 6/21/03	1993-2008, 2017-2019
OBG-05S	43	0	0	43	**36,000**	05/01/93	1993-2008, 2014, 2017-2019
OBG-06S	37	0	0	37	**13,000**	06/01/01	1993-2007, 2017-2019
OBG-07S	47	0	0	47	**440**	12/09/97	1993-2008, 2014, 2017-2019
OBG-09S	46	0	0	46	**2,700**	12/11/96	1993-2008, 2014, 2017-2019
OBG-10S	51	0	0	51	**150**	03/01/95	1993-2009, 2017-2019
OBG-11S	46	1	6	39	**110**	5/1/94, 9/1/95	1993-2009, 2017-2019
OBG-12S	24	23	1	0	**2.9**	02/21/19	1993-2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019
OBG-13S	35	7	15	13	**41**	09/27/19	1993-2008, 2017-2019
OBG-14S	44	39	5	0	**2.2**	11/02/02	1993-2017, 2019
OBG-15S	36	26	0	10	**280**	03/24/97	1993-2003, 2005, 2007, 2014, 2017, 2019
OBG-16S	41	0	0	41	**8,900**	12/07/97	1993-2008, 2014, 2017-2019
OBG-17S	30	30	0	0	NA	NA	1994-2017, 2019
OBG-18S	25	23	1	1	**6.4**	02/19/19	1993-2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019
OBG-19S	33	31	2	0	**1.0**	12/05/01	1993-2003, 2005, 2007, 2009-2017, 2019
OBG-20S	24	22	1	1	**5.0**	06/01/95	1995-1999, 2008-2017, 2019
OBG-21S	48	1	0	47	**600**	06/19/98	1995-2008, 2014, 2017, 2019
OBG-22S	17	17	0	0	NA	NA	1995-2003, 2008, 2017
OBG-23S	32	31	1	0	**1.0**	12/04/01	1998-2007, 2009-2017, 2019
TRW-MW-1	35	0	0	35	**7,200**	06/01/95	1990,1992-2003, 2005, 2007, 2017-2019
TRW-MW-2	33	0	0	33	**8,400**	12/01/95	1990,1992-2003, 2005, 2007, 2017, 2019
TRW-MW-3	32	0	0	32	**15,000**	11/06/90	1990,1992-2003, 2005, 2007, 2017, 2019
TRW-MW-4	37	0	0	37	**54,000**	08/28/90	1990,1992-2003, 2005, 2007, 2017, 2019

Table 4.21
Summary of TCE Detections – Former TRW/Ramsey Facility
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Number of Samples	Number of Samples that were Nondetect	Number of Detections Less than RAO	Number of Detections Exceeding RAO	Highest TCE Level Recorded (µg/L)	Date of Highest TCE Level	Time Frame of Recorded Data in Database
Intermediate Monitoring Wells							
OBG-01D	49	0	0	49	**2,500**	07/17/14	1993-2008, 2014, 2017-2019
OBG-04D	50	0	7	43	**43**	09/19/00	1993-2008, 2017-2019
OBG-08D	47	0	0	47	**3,000**	10/02/18	1993-2008, 2017-2019
OBG-11D	52	0	5	47	**16**	06/14/02	1993-2008, 2014, 2017-2019
OBG-12D	39	4	35	0	**4.3**	06/19/07	1993-2019
OBG-13D	45	0	0	45	**2,500**	02/20/19	1993-2008, 2017-2019
OBG-14D	68	64	4	0	**1.0**	12/01/1995, 12/07/01	1993-2019
OBG-17D	24	23	1	0	**1.0**	02/22/19	1993-2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019
OBG-18D	37	7	29	1	**7.1**	06/17/08	1993-2019
OBG-19D	54	52	2	0	**1.0**	12/04/01	1993-2019
OBG-21D	51	0	0	51	**26**	6/98, 12/01, 6/07	1995-2008, 2014, 2017-2019
TRW-MW-20D	4	1	1	2	**7.1**	02/21/19	2017, 2019
TRW-MW-24D	19	0	0	19	**1,300**	07/17/14	2004-2008, 2014, 2017-2019
Deep Monitoring Wells							
OBG-01DD	46	0	1	45	**540**	06/24/05	1993-2008, 2014, 2017-2019
OBG-14DD	62	57	5	0	**2.6**	11/16/05	1993-2019
OBG-18DD	24	24	0	0	NA	NA	1993-2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019
OBG-20DD	32	16	16	0	**4.7**	06/10/14	1995-2017, 2019

Notes:
Bolded results indicate a detection.
Shaded results indicate the MCL/RAO of 5 µg/L has been exceeded.
ID = identification
MCL = maximum contaminant level
NA = not applicable
RAO = remedial action objective
TCE = trichloroethene
µg/L = micrograms per liter

Table 5.1
Physical and Chemical Properties for Select Contaminants of Known and Potential Concern
Oak Grove Village Well Site, OU1
Franklin County, Missouri

Contaminants of Potential Concern	Chemical Class	Solubility in Water (mg/L)	Vapor Pressure (Torr)	Henry's Law Constant (atm-m^3/mol)	Density (g/mL)	Molecular Weight (g/mol)	Log K_{ow}	K_{ow}	K_{oc} (L/kg)
PCE	Halogenated Aliphatic Compounds	200	19	1.84E-02	1.60	166	2.67	468	155
TCE		1,100	73	1.03E-02	1.50	130	2.71	513	166
cis-1,2-DCE		3,500	200	0.0041	1.3	97	1.90	7.24E+01	35.5
trans-1,2-DCE		6,300	330	0.0094	1.3	97	2.10	1.17E+02	38
Methylene Chloride		13,000	435	3.25E-03	1.33	84.9	1.25	17.8	11.7
Vinyl Chloride		8,800	3,000	2.70E-02	0.91	63.0	1.40	15.00	29.00

Notes:
mg/L = milligrams per liter
atm-m^3/mol = atmospheres per cubic meter per mole
DCE = dichloroethene
g/mL = grams per milliliter
g/mol = grams per mole
K_{ow} = Octanol Water Partition Coefficient
K_{oc} = Organic Carbon Partitioning Coefficient
L/kg = liters per kilogram
PCE = tetrachloroethene
TCE = trichloroethene

Data Sources:
Superfund Chemical Data Matrix (EPA, 2004)
Soil Screening Guidance: Technical Background Document (EPA, 1996)
IPCS (International Program on Chemical Safety), Health and Safety Guide No. 68 (WHO, 1992)
Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (EPA, 2002)

Table 5.2
Summary of TCE Detections in OU1 Wells
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID[1]	Address	Number of Samples	Number of Samples that were Nondetect	Number of Detections Less than RAO	Number of Detections Exceeding RAO	Highest TCE Level Recorded (µg/L)	Date of Highest TCE Level	Time Frame of Recorded Data
Private Wells								
JM-07	65 East & West Rd.	1	0	1	0	**0.40**	07/10/08	2008
PH011	1702 Highway AF	24	1	23	0	**2.31**	09/01/07	2003-2010, 2013
PH015	1691 Highway AF	21	0	21	0	**3.23**	08/25/03	1998, 2003-2006, 2008-2010, 2016-2017
PH040	1502 Highway AF	12	7	5	0	**0.49**	08/17/04	2004-2010
PH041	25 East & West Rd.	10	2	8	0	**1.59**	08/17/04	2004-2010
PH053	1580 Highway AF	8	6	2	0	**0.63**	09/01/05	2005-2006, 2008-2010
PH058	1573 Highway AF	8	6	2	0	**1.13**	09/01/07	2006-2010, 2017
PH062	1402 Highway AF	35	0	26	9	**6.30**	09/11/97	1993-1998, 2006, 2013
PW023	1509 Highway AF	39	9	28	2	**7.00**	02/17/98	1988, 2000-2010, 2013, 2016-2018
PW027	52 East & West Rd.	23	11	12	0	**0.69**	12/10/02, 3/1/04	2001-2010
PW028	64 East & West Rd.	24	6	18	0	**1.10**	12/3/01, 6/12/02	2001-2010
PW040	53 East & West Rd.	5	4	1	0	**0.40**	07/26/08	2001, 2003, 2008-2009
PW067	1613 Highway AF	31	0	31	0	**3.83**	06/01/06	1997, 2001-2010, 2013, 2017, 2018
PW106	49 East & West Rd.	7	5	2	0	**0.67**	11/05/08	2008-2010
Monitoring Wells and Municipal Supply Wells								
OGV01[2]	260 James St.	56	7	17	32	**42.3**	9/11/97	1986-2004
OGV02	260 James St.	40	0	0	40	**160**	5/10/10	2003, 2005-2010, 2013, 2014, 2016-2019
COS02	305 North Park	158	10	65	83	**52.9**[3]	3/1/06	1986-2019
COS03	248 East Springfield	137	127	10	0	**2.8**[3]	06/01/06	1986, 1989-2019
COS05	40 Edgewood	113	109	4	0	**0.77**	11/20/03	1986-2019
COS07	800 Watson Rd	116	89	27	0	**1.80**	12/13/08	1999, 2008-2019
COS08	Shamrock Drive	88	19	41	28	**11.5**[3]	11/22/99	1986-2004
COS09	730 Highway 185 South	147	65	82	0	**4.60**	6/3/02	1986-2019
COS10	99 Glaser Rd.	88	82	6	0	**3.30**	8/1/01, 8/27/01	1997-2019
COS11	Peach Tree Lane	92	36	56	0	**4.7**[3]	11/21/00	1998-2019
MW-6[2]	Machine Shop Well	3	0	0	3	**54.3**	12/06/10	2010, 2014

Notes:
Bolded results indicate a detection. Shaded results indicate the MCL/RAO of 5 µg/L was exceeded.
[1] Table includes only those locations at which TCE has been detected.
[2] Includes only samples collected from the wellhead and analyzed by a laboratory.
3 Excludes anamolous reading taken 12/12/01.

ID = identification
RAO = Remedial Action Objective
TCE = trichloroethene
µg/L = micrograms per liter

FIGURE(S)

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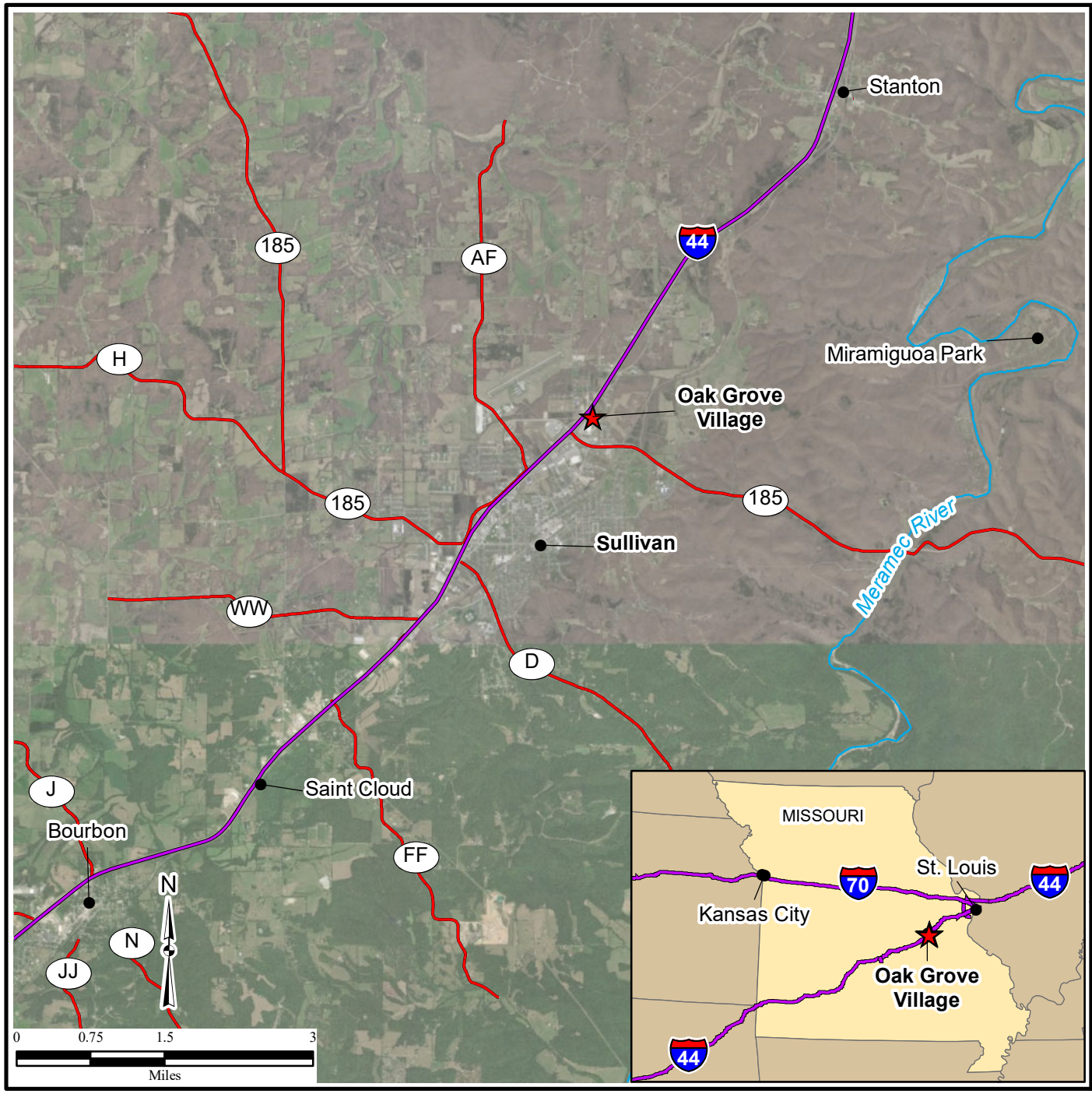


Figure 1.1
Site Location

Legend

- Town
- Oak Grove Village
- Surface Water Course
- Highway
- Interstate

Note:
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(1-1)Site_Location.mxd
10/11/2019 JG
Source: HGL, ESRI, NHD
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

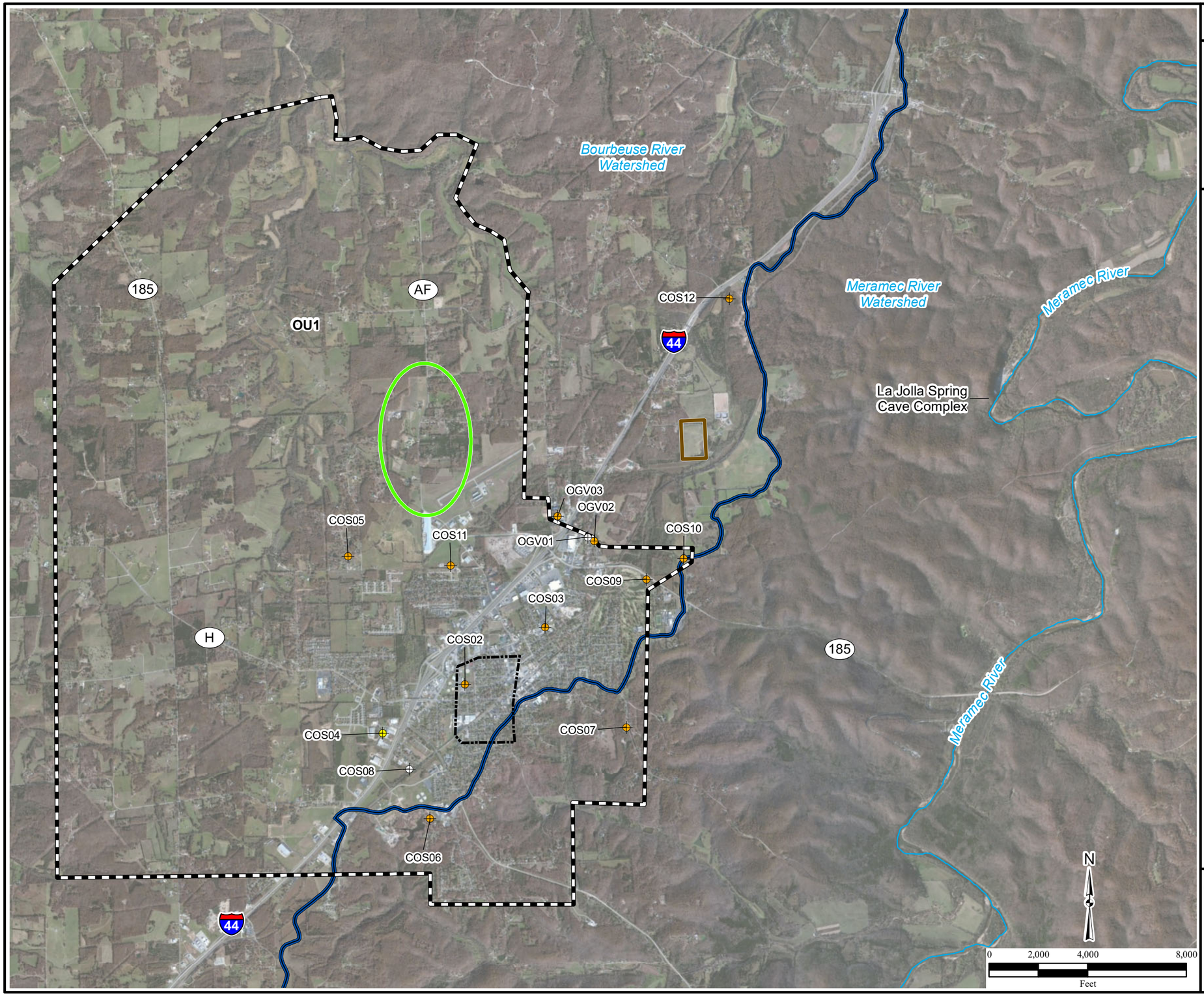


Figure 1.2
Oak Grove Village Well Site OU1

Legend

- Municipal Well
- Decommisioned and Plugged Municipal Well
- Nonoperational Municipal Well
- Surface Water Course
- Watershed Boundary
- Closed Sullivan Landfill
- Highway AF Well Area
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

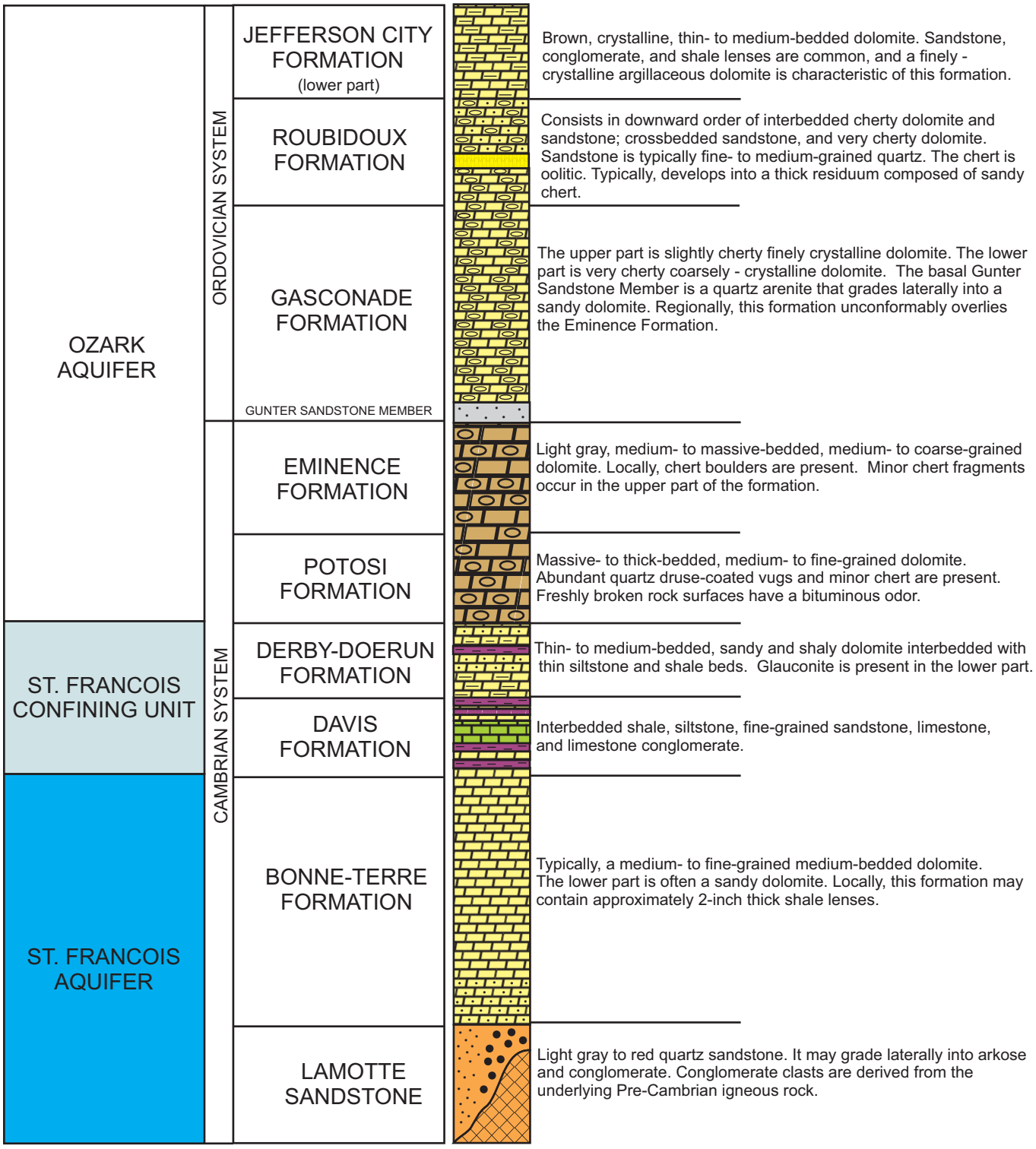
Notes:
OU2 consists of the Closed Sullivan Landfill and wherever contamination from the landfill has come to be located.

The La Jolla Spring Cave Complex is currently a part of both OU1 and OU2.

OU=Operable Unit

\\gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(1-2)OU1_Location.mxd
12/13/2019 RR
Source: HGL, MDNR
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc



Notes:
Based on descriptions in Smith, 2004a
OGV=Oak Grove Village
OU=operable unit

(Not to Scale)

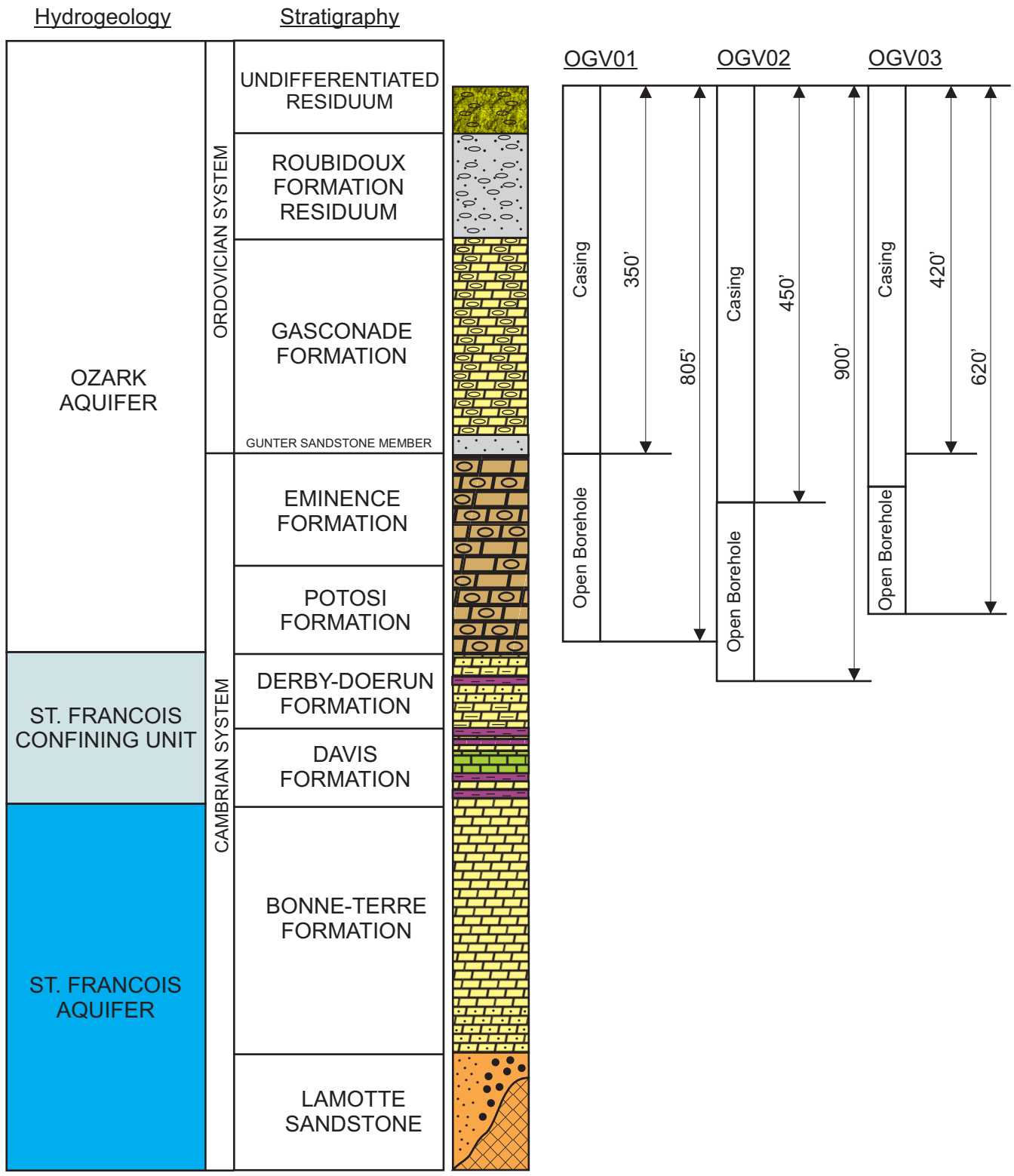
\\gst-srv-01\hglgis\Oak_Grove_Village_MSIW\Final_DER\(3-1)Gen_Hydrostrat_Column_OGV_Sullivan.cdr
10/11/19 JG
Source: HGL

HGL HydroGeoLogic, Inc

Legend

- Dolomite
- Limestone
- Sandy / Sandstone
- Shaly
- Cherty
- Conglomerate
- Igneous Rock

Figure 3.1
Generalized Hydrostratigraphic Column of the OGV / Sullivan Area



Notes:
Lithology from ground surface to 805' bgs based on OGVO1 well log. The remaining lithology is typical for this site area.
bgs=below ground surface OGV=Oak Grove Village OU=operable unit (Not to Scale)

\\gst-srv-01\hglgis\Oak_Grove_Village_MSIW\Final_DER\(3-2)Gen_Hydrostrat_Column_OGV_Sullivan.cdr
12/13/19 JG
Source: HGL

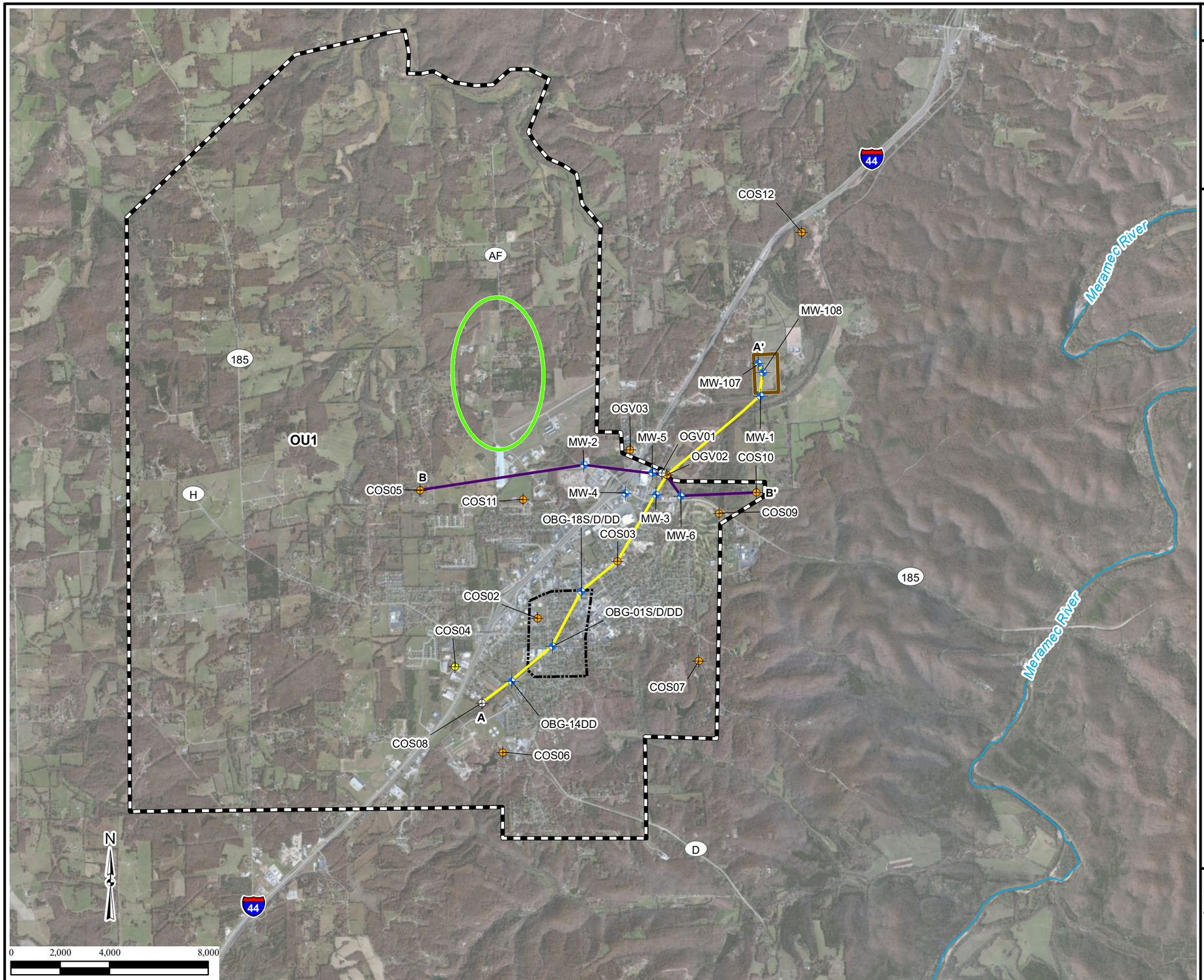
HGL HydroGeoLogic, Inc

Legend

- Dolomite
- Limestone
- Sandy / Sandstone
- Shaly
- Cherty
- Conglomerate
- Igneous Rock
- Clayey

Figure 3.2
Municipal Wells OGV01, OGV02, and OGV03 Hydrostratigraphy

Figure 3.3
Cross Section Location Map



Legend

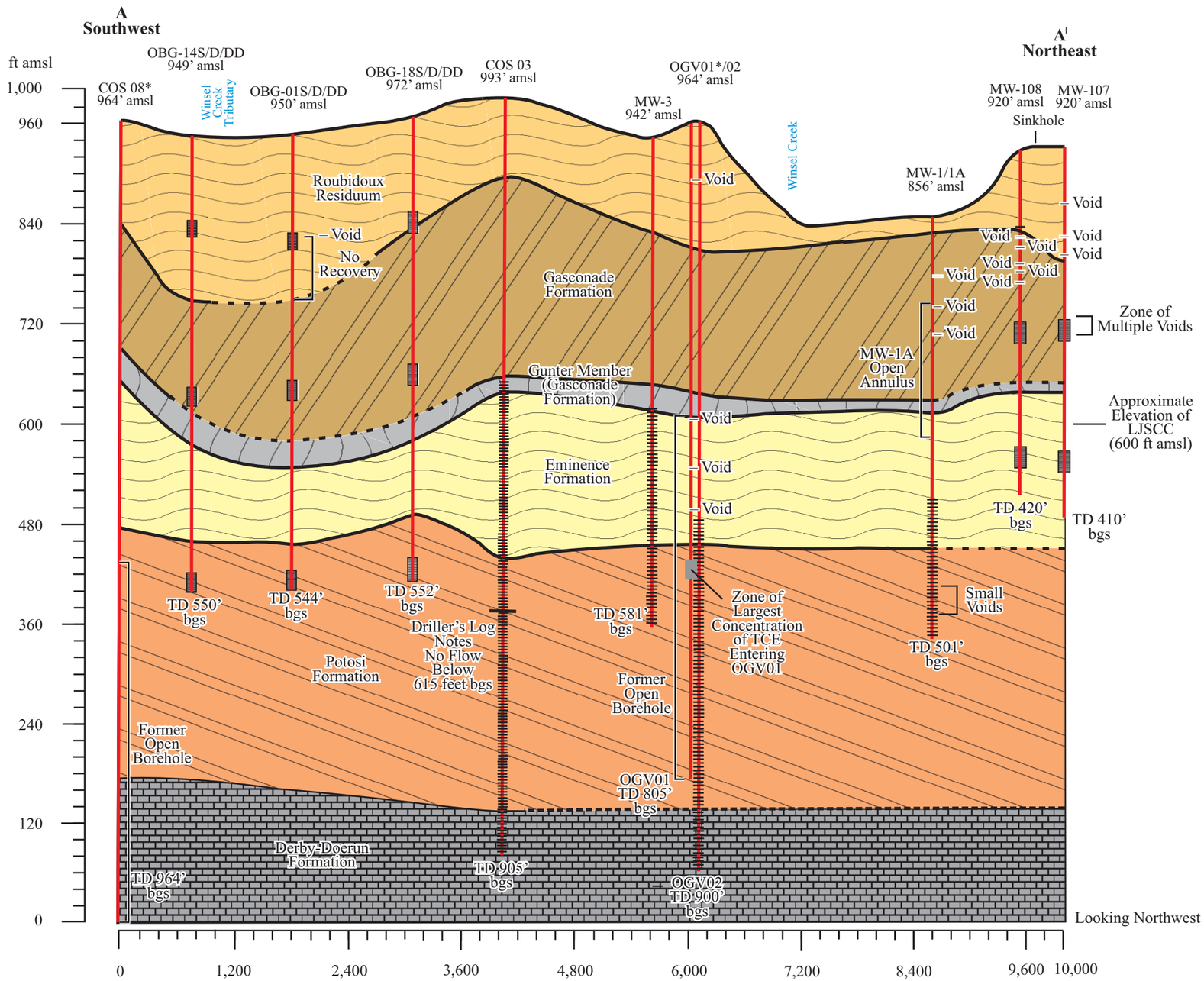
- Municipal Well
- Decommisioned and Plugged Municipal Well
- Nonoperational Municipal Well
- Monitoring Well
- A - A' Cross Section
- B - B' Cross Section
- Surface Water Course
- Closed Sullivan Landfill
- Highway AF Well Area
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

Note:
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER
(3-3)X_Section_Loc_Map.mxd
10/15/2019 JG
Source: HGL, MDNR
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 3.4
Geologic Cross Section A-A'



Legend

- Open Borehole
- Screened Interval
- Roubidoux Residuum
- Gasconade Formation
- Gunter Member (Gasconade Formation)
- Eminence Formation
- Potosi Formation
- Derby-Doerun Formation

Notes:
Voids noted at MW-1 and MW-3 were documented in the downhole video logs completed in December 2005 and /or on the boring logs.

Void and no recovery noted at OBG-15/D/DD were documented on the boring log.

Voids noted at MW-107 and MW-108 were documented on the boring log.

Screen intervals are estimated from the boring logs which show proposed screen intervals.

Lithology for OGV01/02 is based on boring log for OGV01.

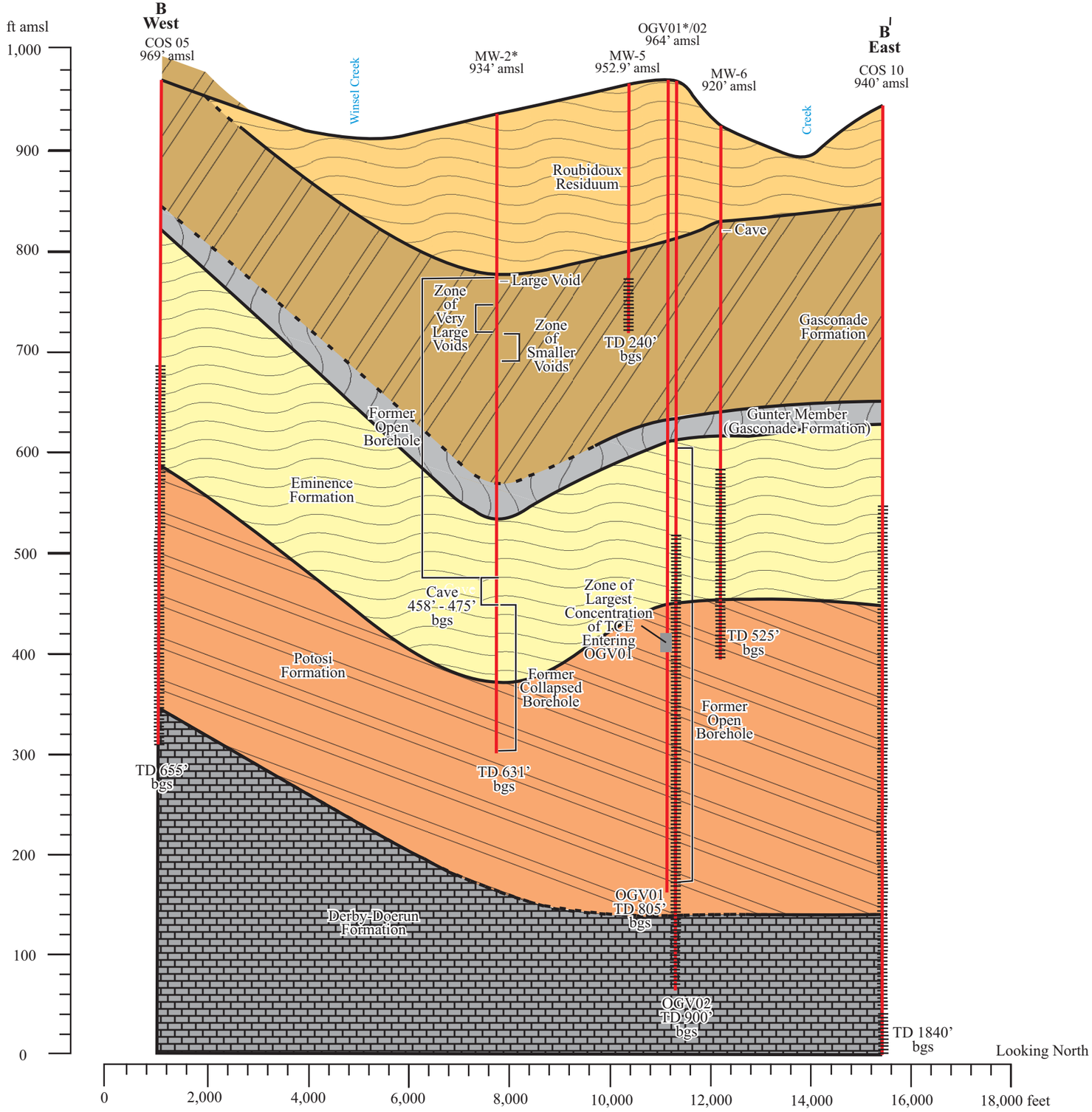
COS08 and OGV01 have been decommissioned and plugged.

Zone of greatest TCE contamination in OGV01 documented by USGS in 2004.
*=plugged borehole
amsl=above mean sea level
bgs=below ground surface
LJSCC=La Jolla Spring Cave Complex
OGV=Oak Grove Village
OU=operable unit
TCE=trichloroethene
TD=total depth

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(3-4)Cross-Section_A_A.cdr
10/11/19 JG
Source: HGL

HGL HydroGeoLogic, Inc

Figure 3.5
Geologic Cross Section B-B'



Legend

- Open Borehole
- Roubidoux Residuum
- Gasconade Formation
- Gunter Member (Gasconade Formation)
- Eminence Formation
- Potosi Formation
- Derby-Doerun Formation

Notes:
Voids noted on MW-2 were documented in the downhole video log of MW-2 completed in December 2005.

Cave noted at MW-6 was documented on the boring log/well construction diagram.

The boring log for MW-5 was not available.

Lithology for OGV01/02 is based on boring log for OGV01.

MW-2 and OGV01 have been decommissioned and plugged.

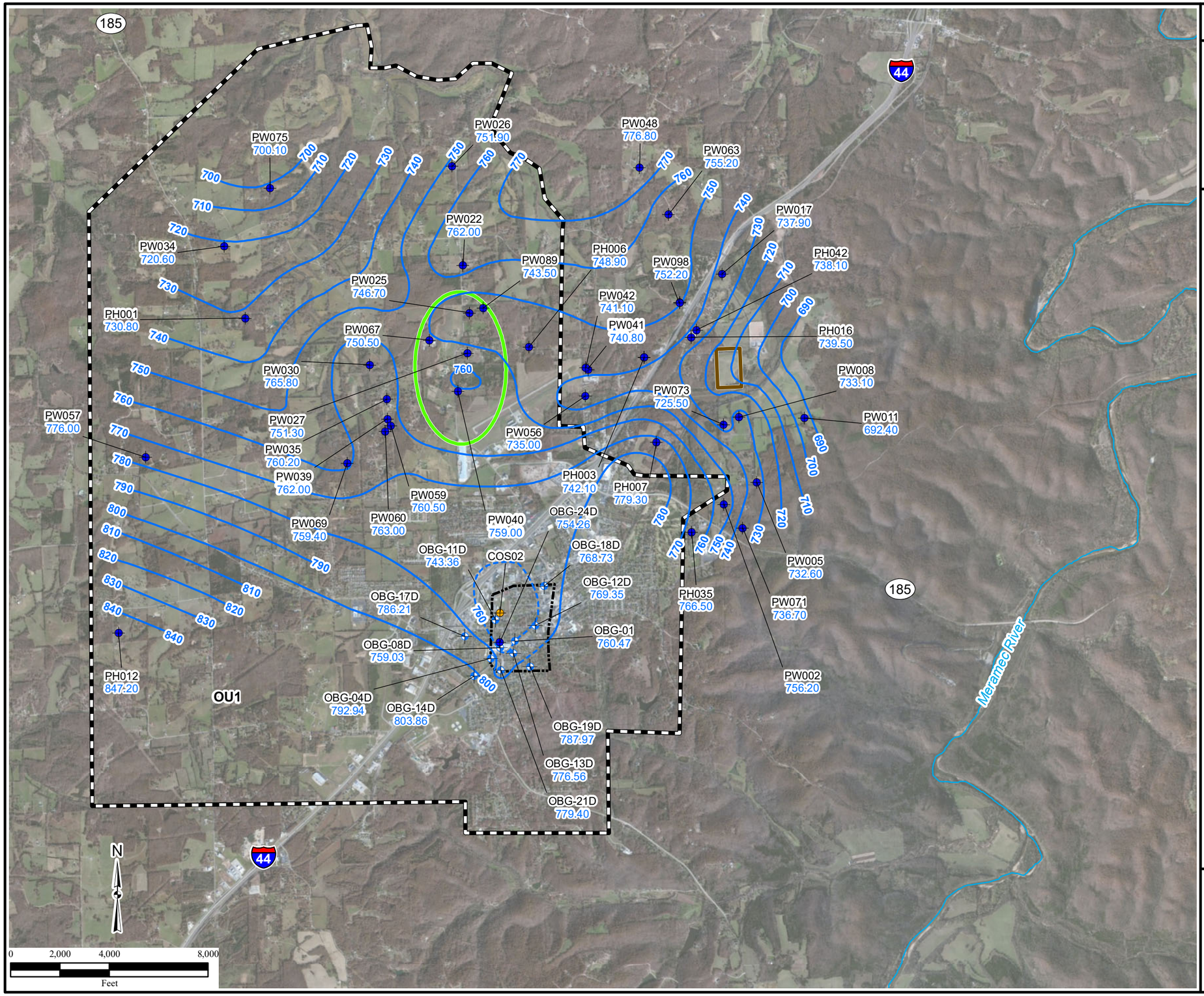
Zone of greatest TCE contamination in OGV01 documented by USGS in 2004.

*=plugged borehole
amsl=above mean sea level
bgs=below ground surface
OGV=Oak Grove Village
OU=operable unit
TD=total depth

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(3-5)Cross-Section_B_B.cdr
10/11/2019 JG
Source: HGL

HGL HydroGeoLogic, Inc

Figure 3.6
Potentiometric Surface
Upper Ozark Aquifer
March 2005



Legend

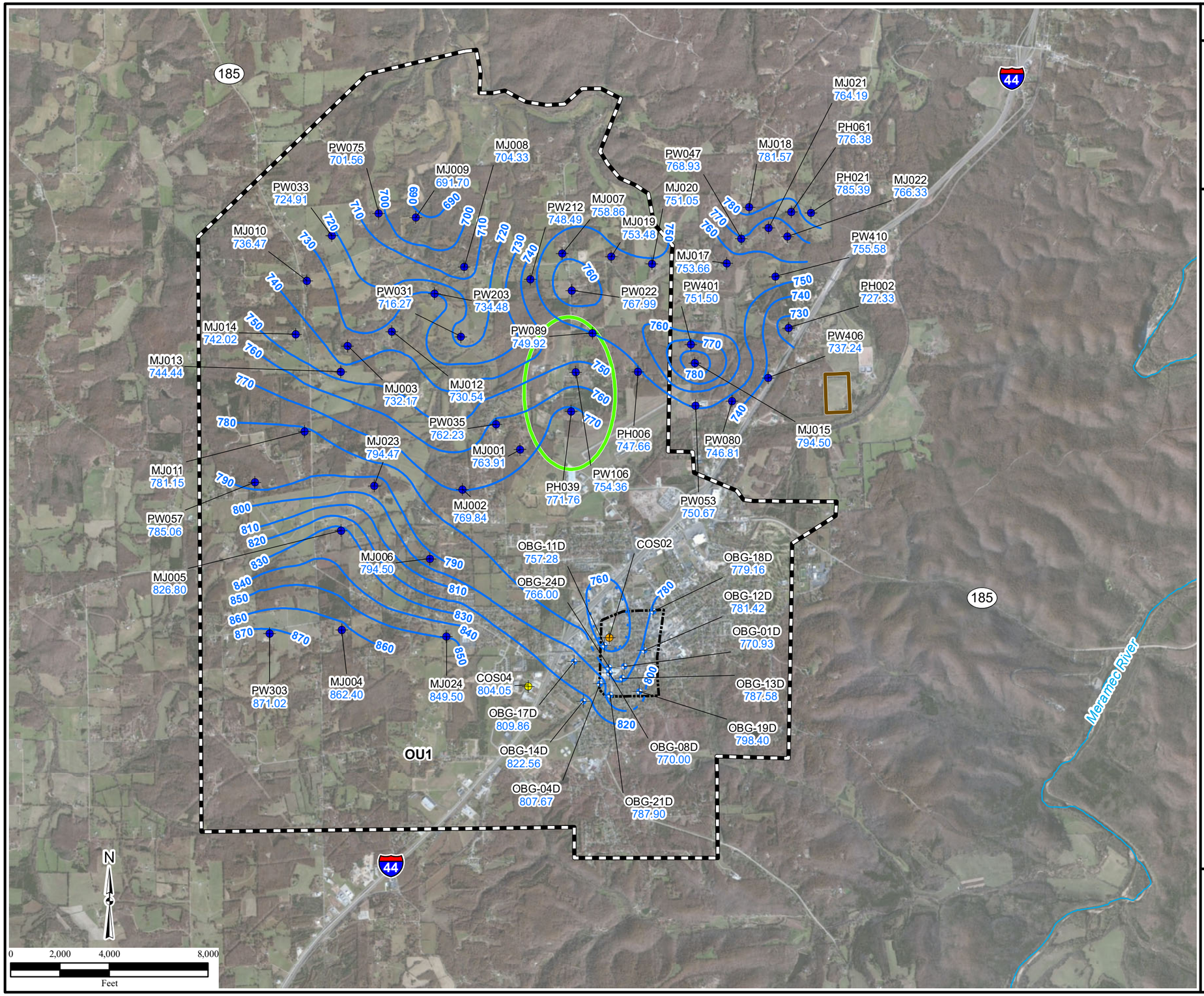
- Municipal Well
- Monitoring Well
- Private Drinking Water Well
- Surface Water Course
- PW002 / 756.20 — Well Identification / Groundwater Elevation (ft amsl)
- —760— Groundwater Elevation Contour (ft amsl, dashed where inferred)
- Highway AF Well Area
- Closed Sullivan Landfill
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

Notes:
ft amsl=feet above mean sea level
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(3-6)Oak_Grove_2005_Pot_Map.mxd
10/11/2019 JG
Source: HGL,
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 3.7
Potentiometric Surface
Upper Ozark Aquifer
June 2010



Legend

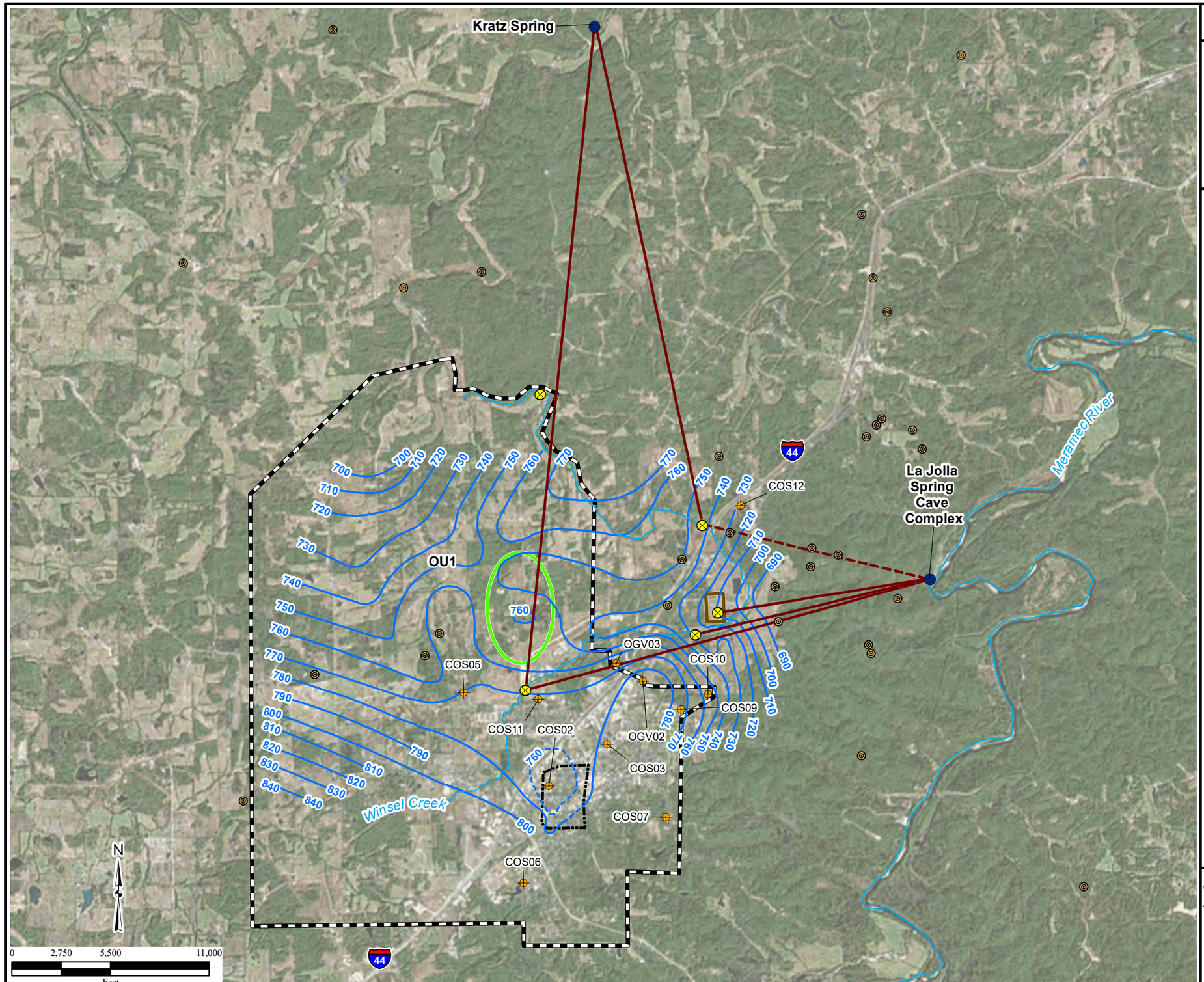
- Municipal Well
- Nonoperational Municipal Well
- Monitoring Well
- Private Drinking Water Well
- Surface Water Course
- PW022 767.99 — Well Identification, Groundwater Elevation (ft amsl)
- 760 — Groundwater Elevation Contour (ft amsl, dashed where inferred)
- 760 — Groundwater Depression Contour (ft amsl)
- Highway AF Well Area
- Closed Sullivan Landfill
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

Notes:
ft amsl=feet above mean sea level
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(3-7)Oak_Grove_2010_Upper_Aquifer_Pot_Surf.mxd
10/11/2019 JG
Source: HGL,
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc.

Figure 3.8
Dye Tracing Studies - 1992



Legend

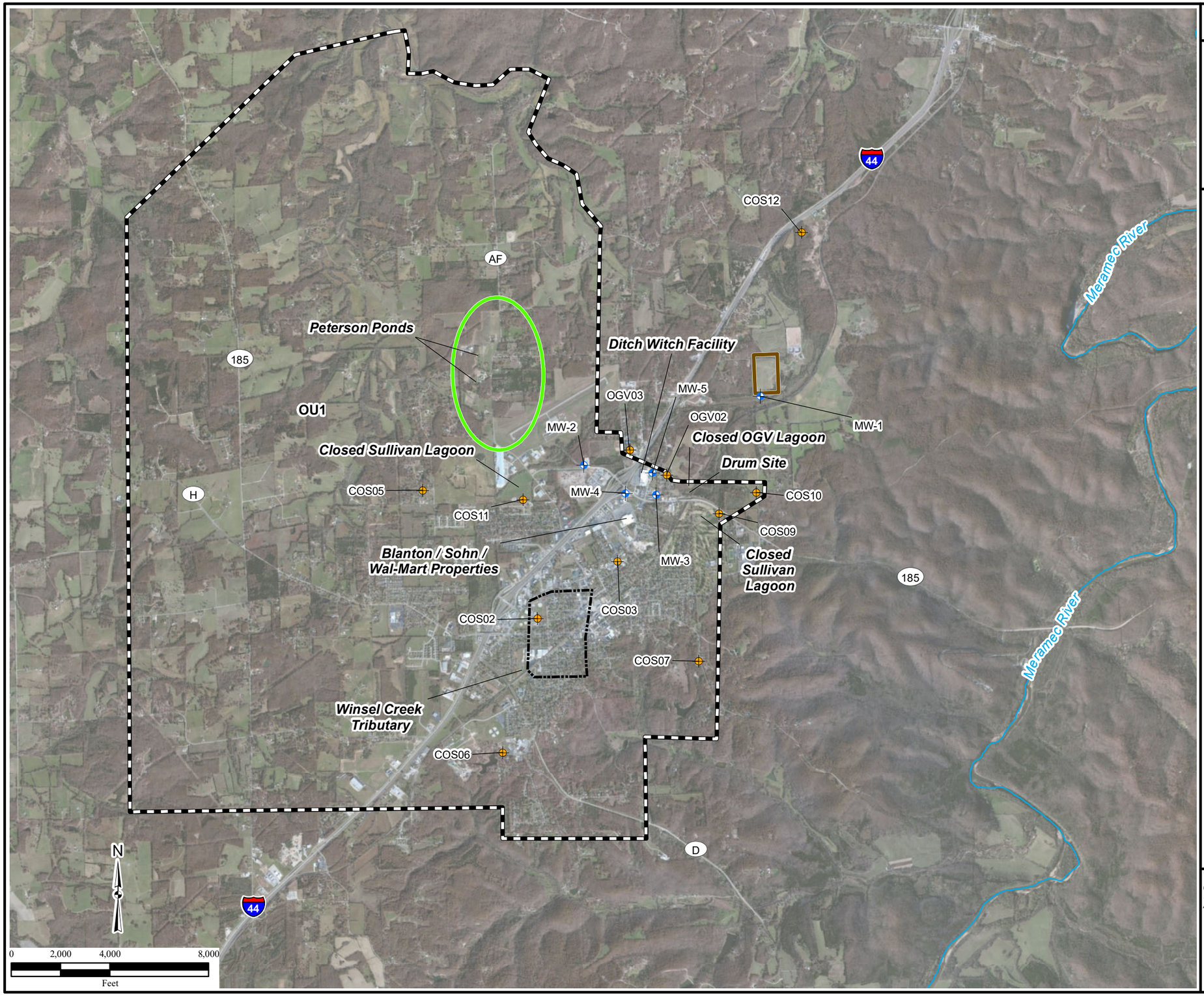
- Municipal Well
- Dye Detection Point
- Dye Injection Point
- Sinkhole
- Generalized Dye Trace Pathway
- Questionable Dye Trace Pathway
- Surface Water Course
- 760 — Groundwater Elevation Contour (ft amsl, dashed where inferred)
- Highway AF Well Area
- Closed Sullivan Landfill
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

Notes:
ft amsl=feet above mean sea level
OU=Operable Unit

\\gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER
(3-8)Dye_Tracking_1992.mxd
10/17/2019 JG
Source: HGL, MDNR
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 4.1
Known and Potential Source Areas Historical Investigations



Legend

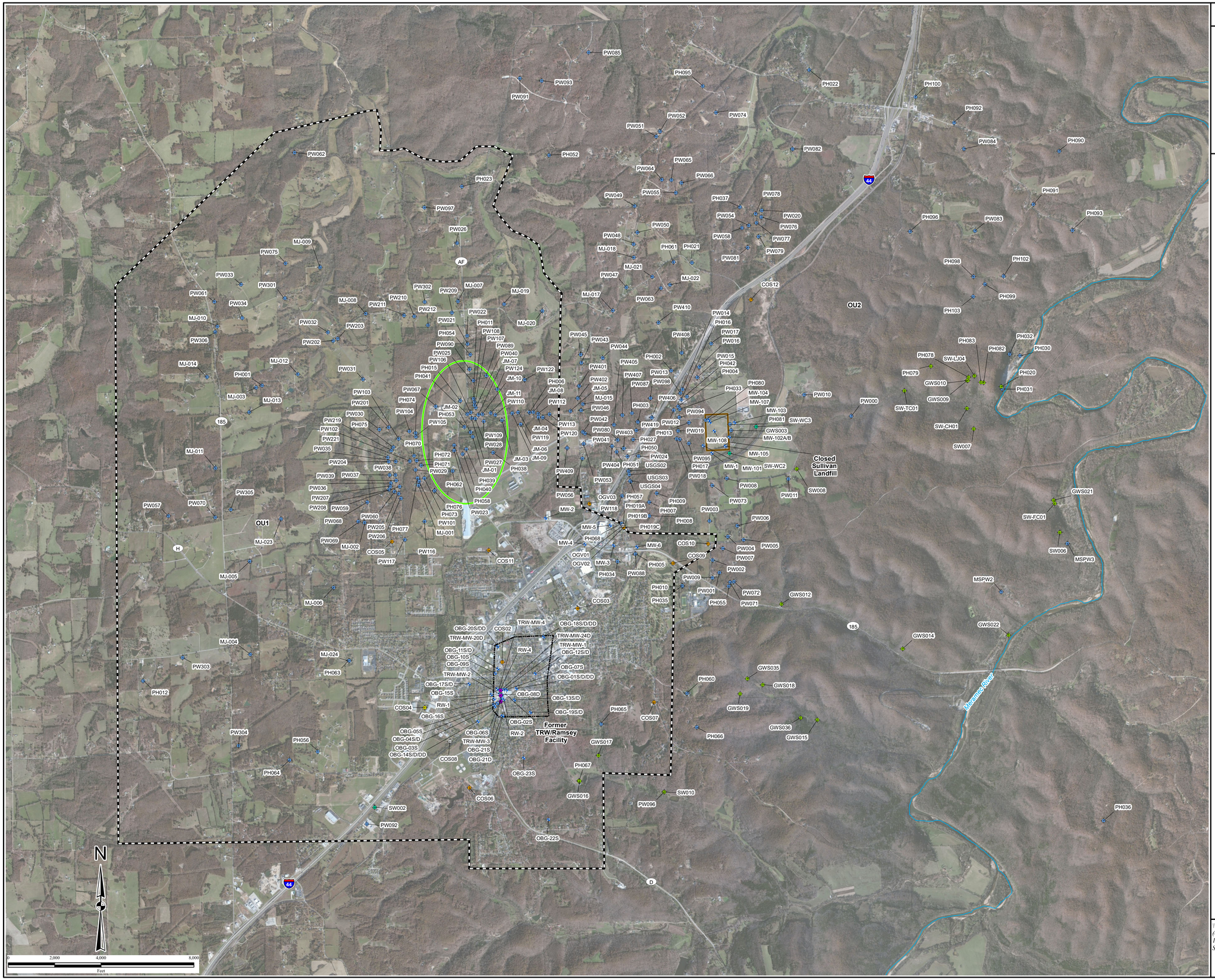
- Municipal Well
- Monitoring Well
- Surface Water Course
- Highway AF Well Area
- Closed Sullivan Landfill
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

Notes:
OGV=Oak Grove Village
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-1)Known_Potential_Source_Area.mxd
10/15/2019 JG
Source: HGL, MDNR
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 4.2
Sample Locations



Legend

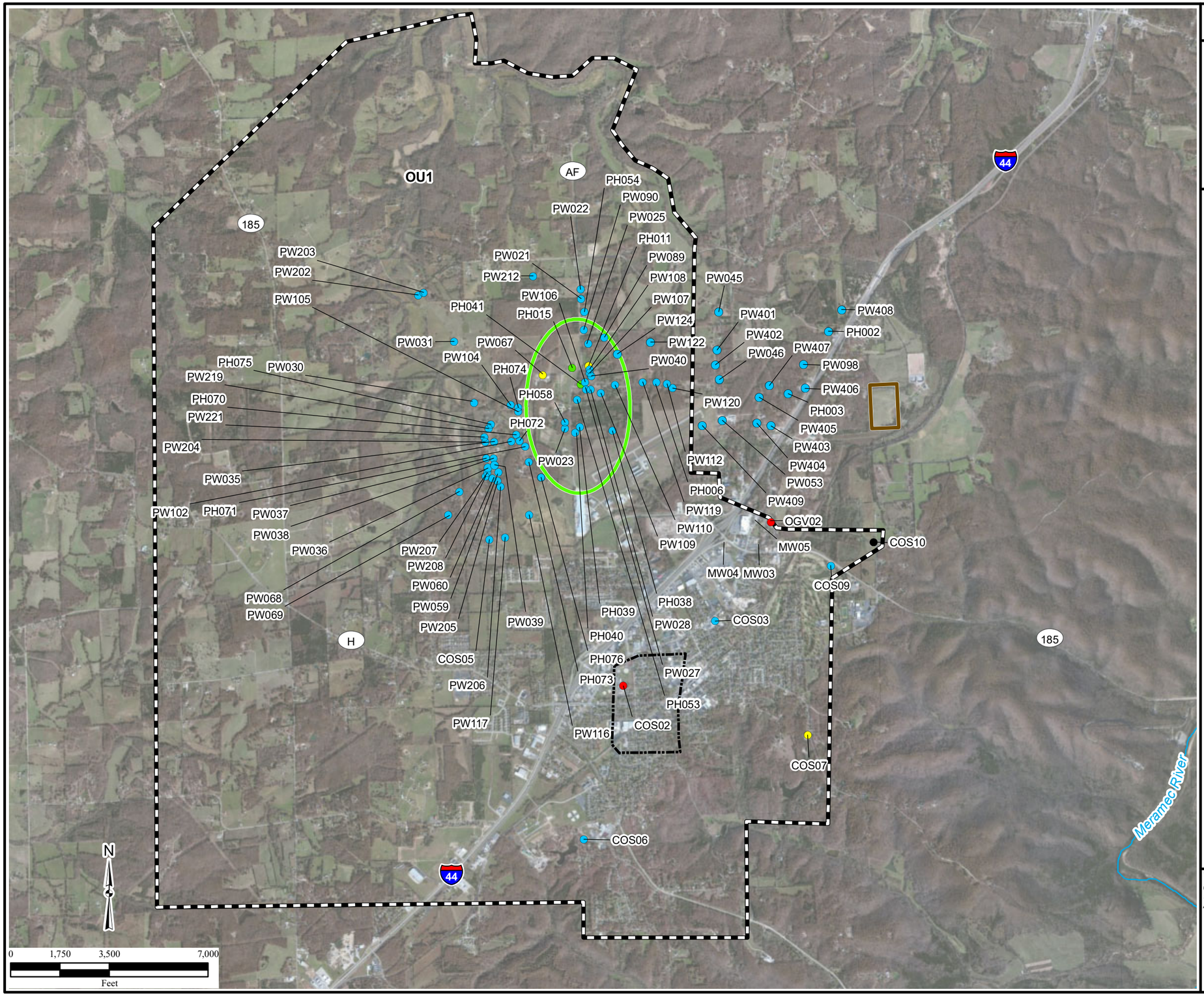
- Nonoperational Municipal Well
- Decommisioned and Plugged Municipal Well
- Surface Water Sample
- Municipal Well
- Spring Sample
- Monitoring Well
- Private Drinking Water Well
- Recovery Well
- Surface Water Course
- Close Sullivan Landfill
- Highway AF Well Area
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

Note:
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER
(4-2)Sample_Locs_22x34.mxd
10/23/2019 RR
Source: HGL, ESRI, ArcGIS Online Imagery

HGL HydroGeoLogic, Inc.

Figure 4.3
Summary of TCE Detections
May 2010



Legend

May 2010 TCE Results (µg/L):

- ND
- ND to 0.99
- 1.0 to 2.9
- 3.0 to 4.9
- > 5.0
- Not Sampled

Surface Water Course

Highway AF Well Area

Closed Sullivan Landfill

Former TRW/Ramsey Facility

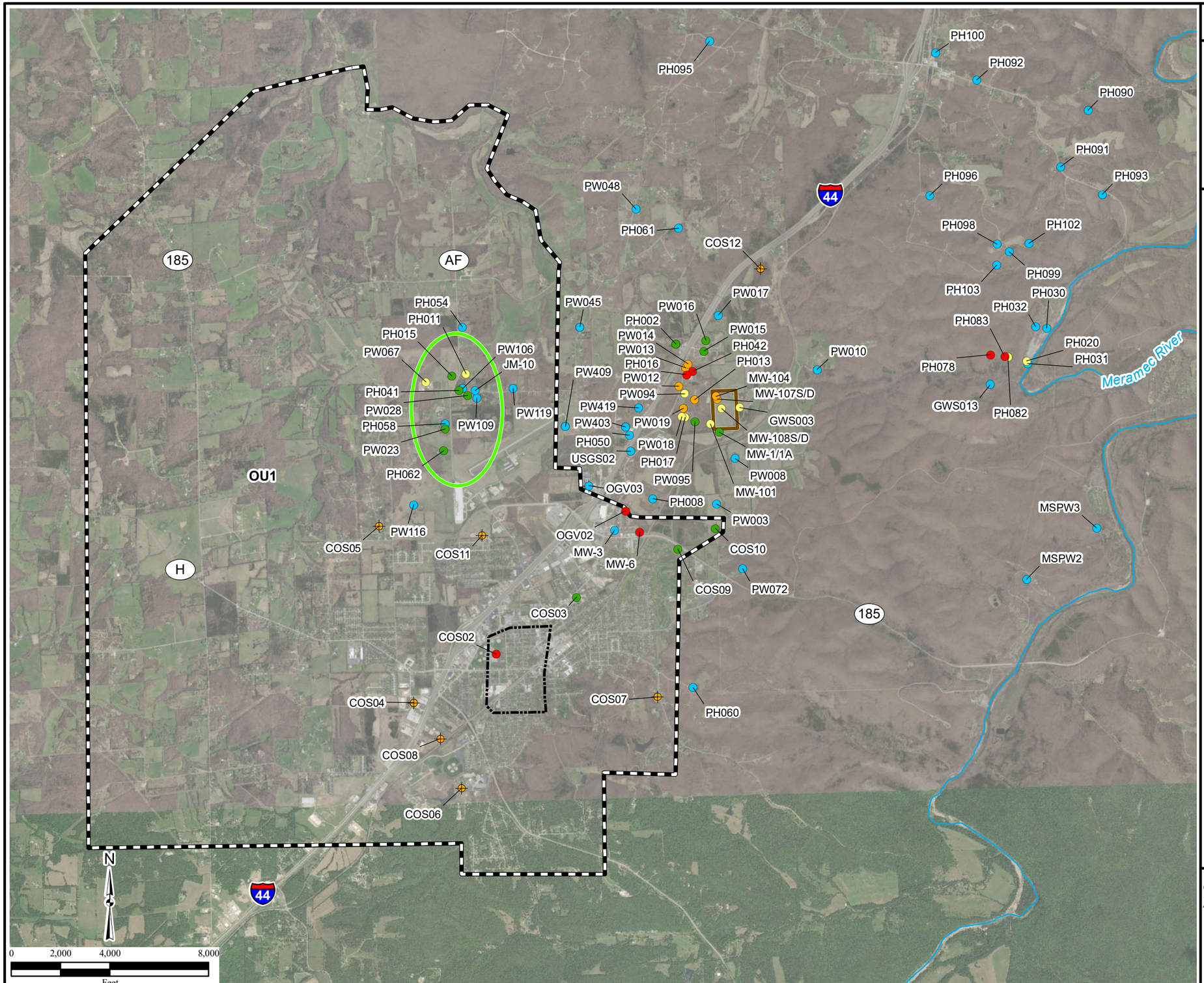
Operable Unit 1 (OU1)

Notes:
µg/L=micrograms per liter
ND=nondetect
OU=operable unit
TCE=trichloroethene

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER
(4-3)TCE_Summary.mxd
10/15/2019 JG
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc.

Figure 4.4
Summary of TCE Detections in Groundwater USGS Investigations 2010-2019



Legend

TCE Results (µg/L):

- ND
- ND to 0.99
- 1.0 to 2.9
- 3.0 to 4.9
- > 5.0

Municipal Well (Not Sampled)

Surface Water Course

Highway AF Well Area

Closed Sullivan Landfill

Former TRW/Ramsey Facility

Operable Unit 1 (OU1)

Notes:
See table 4.8 for sample dates.

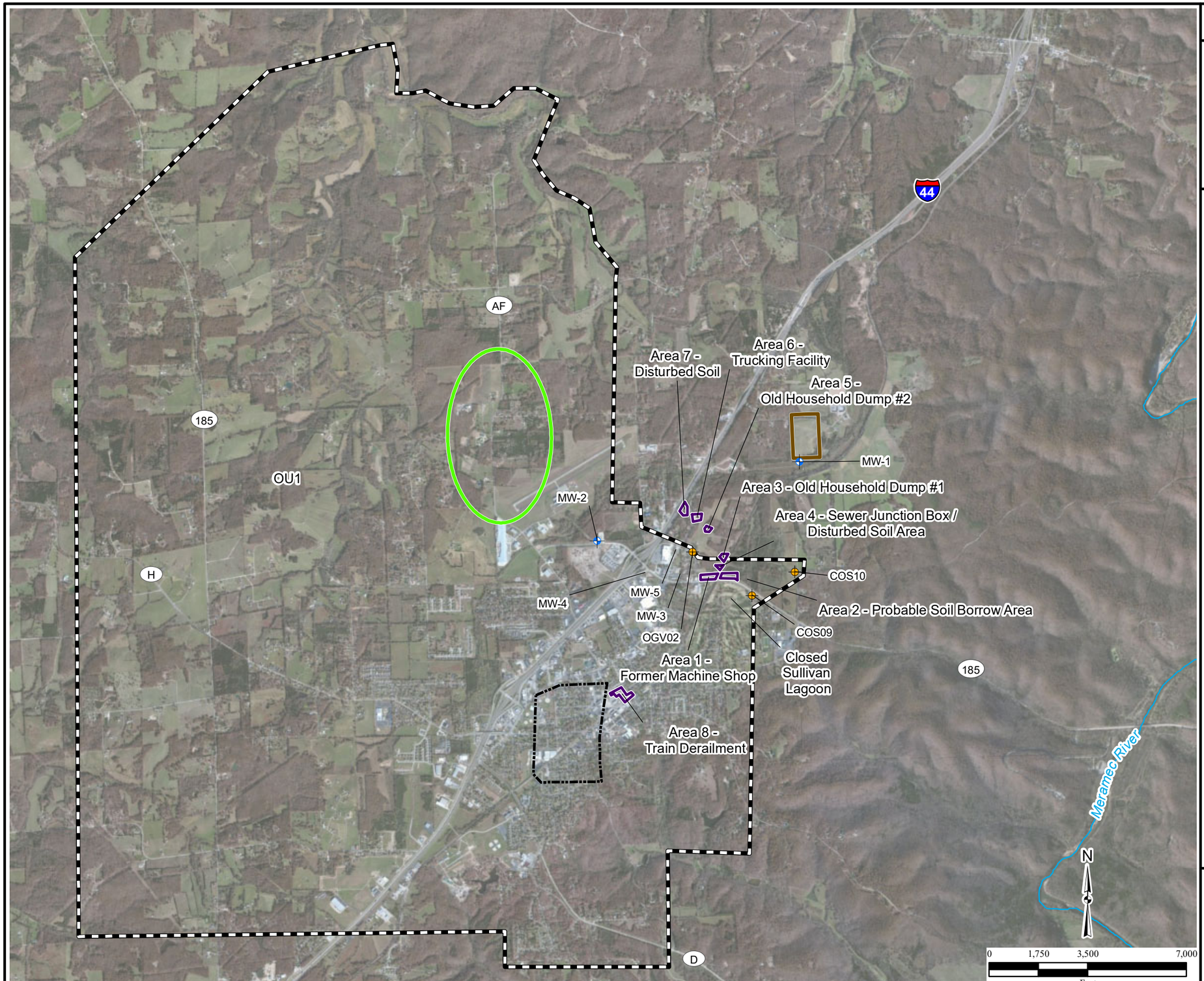
The highest TCE concentration is depicted if the location was sampled multiple times or if the location included multiple sample depths.

µg/L=micrograms per liter
ND=nondetect
OU=Operable Unit
TCE=trichloroethene

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-4)TCE_Detections_2010-2019.mxd
10/18/2019 JG
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc

Figure 4.5
Potential Source Areas Investigated by USGS in 2010-2012



Legend

- Municipal Well
- Monitoring Well
- Surface Water Course
- USGS Investigation Area
- Highway AF Well Area
- Closed Sullivan Landfill
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

Note:
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-5)Potential_Source_Areas_USGS.mxd
10/15/2019 RR
Source: HGL, ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

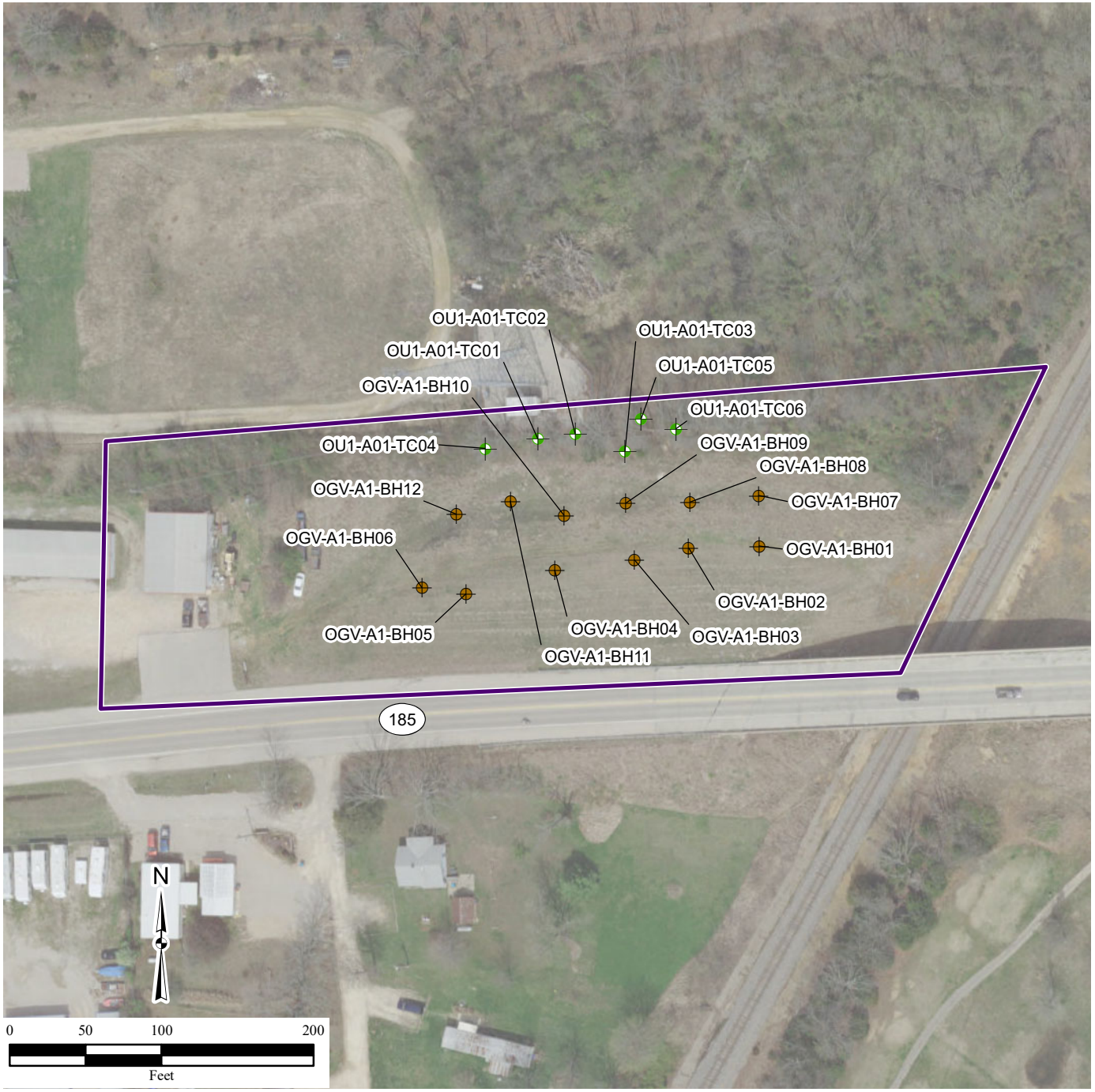


Figure 4.6
USGS Sample Locations
Area 1
Former Machine Shop

Legend

- Soil Boring
- Tree Core Sample
- USGS Investigation Area

Note:
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-6)USGS_Sample_Locs_Area1.mxd
10/15/2019 JG
Source: HGL, USGS

HGL HydroGeoLogic, Inc

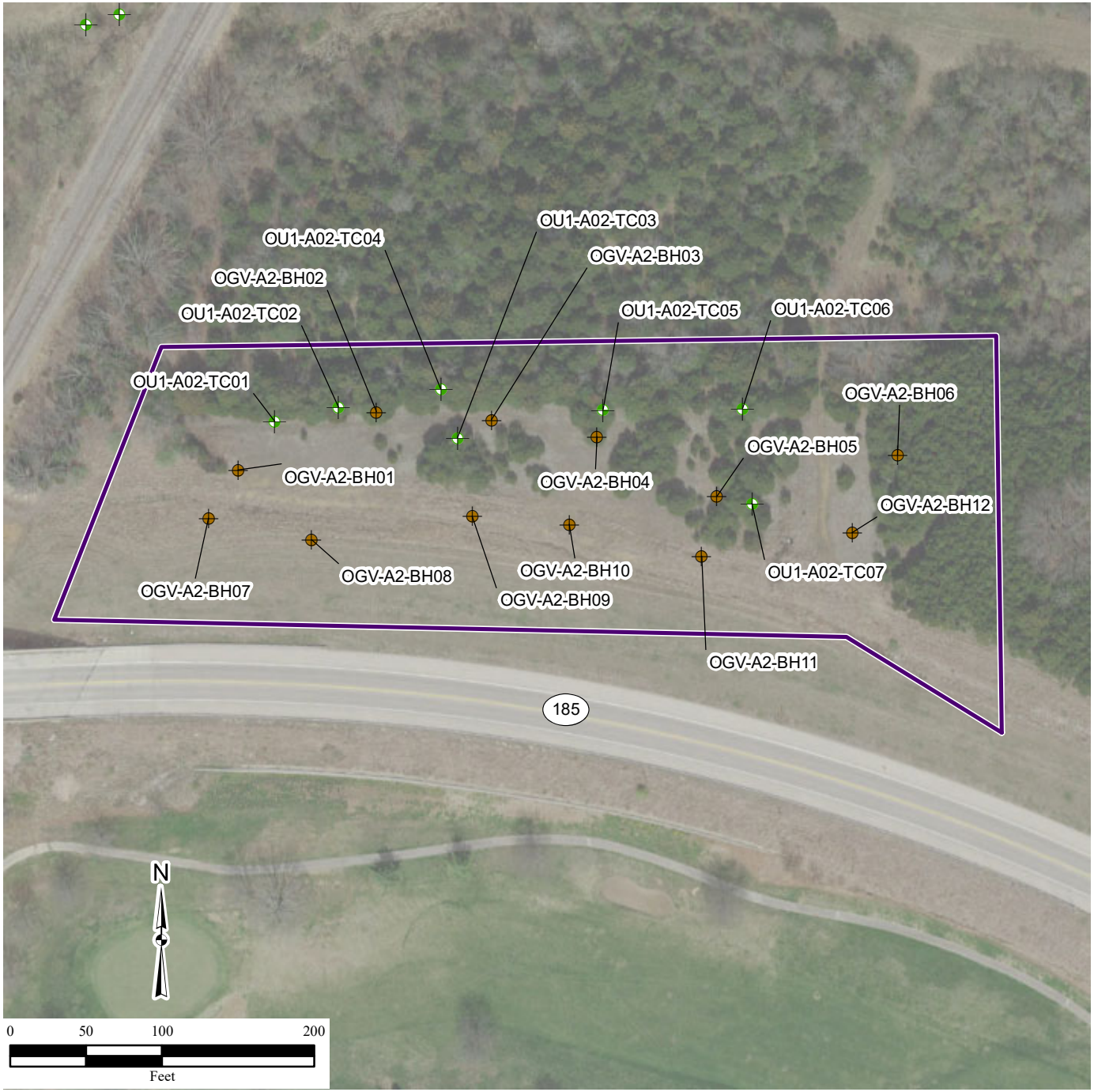


Figure 4.7
USGS Sample Locations
Area 2
Probable Soil Borrow Area

Legend

- Soil Boring
- Tree Core Sample
- USGS Investigation Area

Note:
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-7)USGS_Sample_Locs_Area2.mxd
10/15/2019 JG
Source: HGL, USGS

HGL HydroGeoLogic, Inc

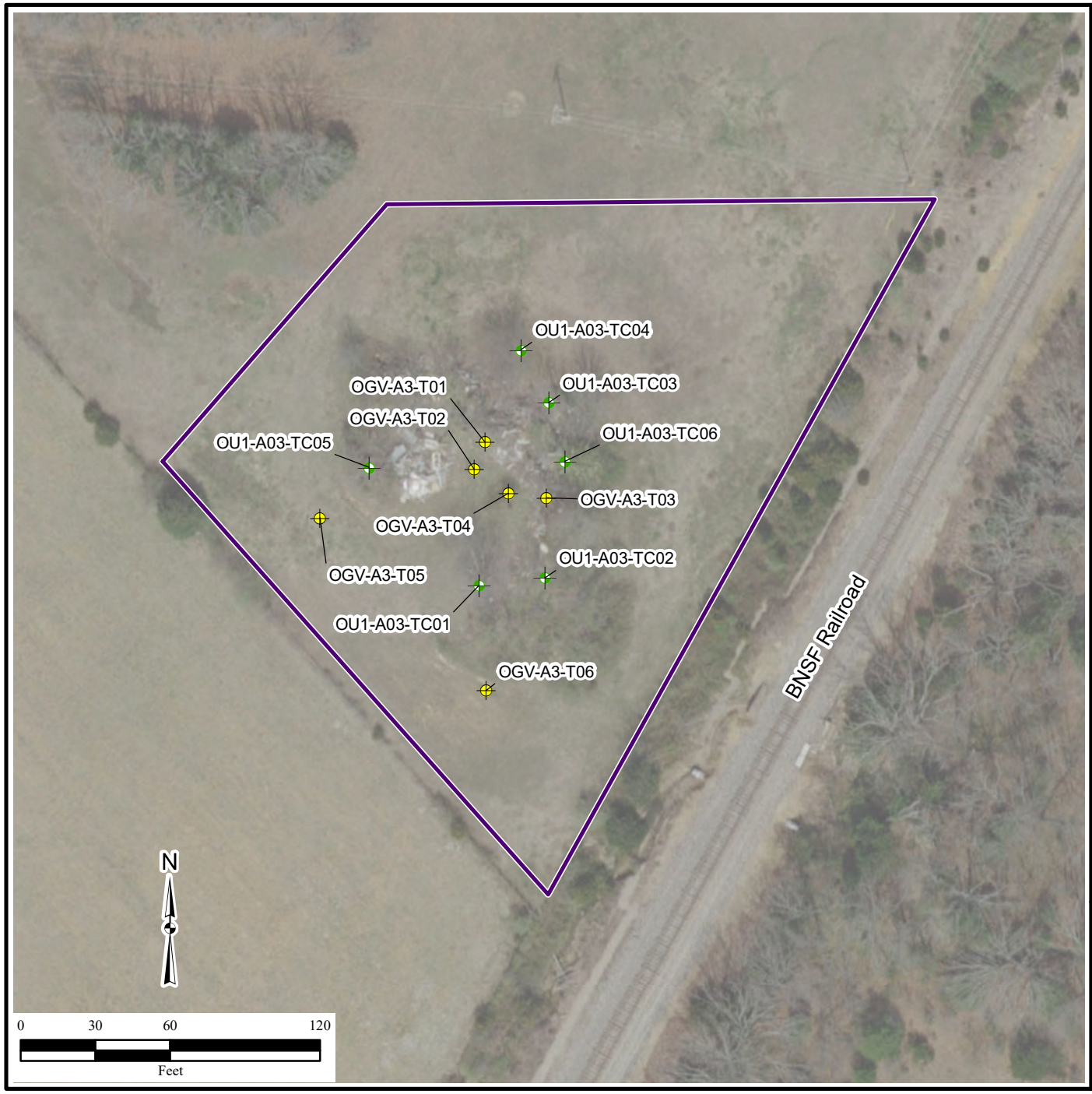


Figure 4.8
USGS Sample Locations
Area 3
Old Household Dump #1

Legend

- Tree Core Sample
- Trench Sample
- USGS Investigation Area

Note:
BNSF=Burlington Northern Santa Fe
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-8)USGS_Sample_Locs_Area3.mxd
10/16/2019 JG
Source: HGL, USGS, ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

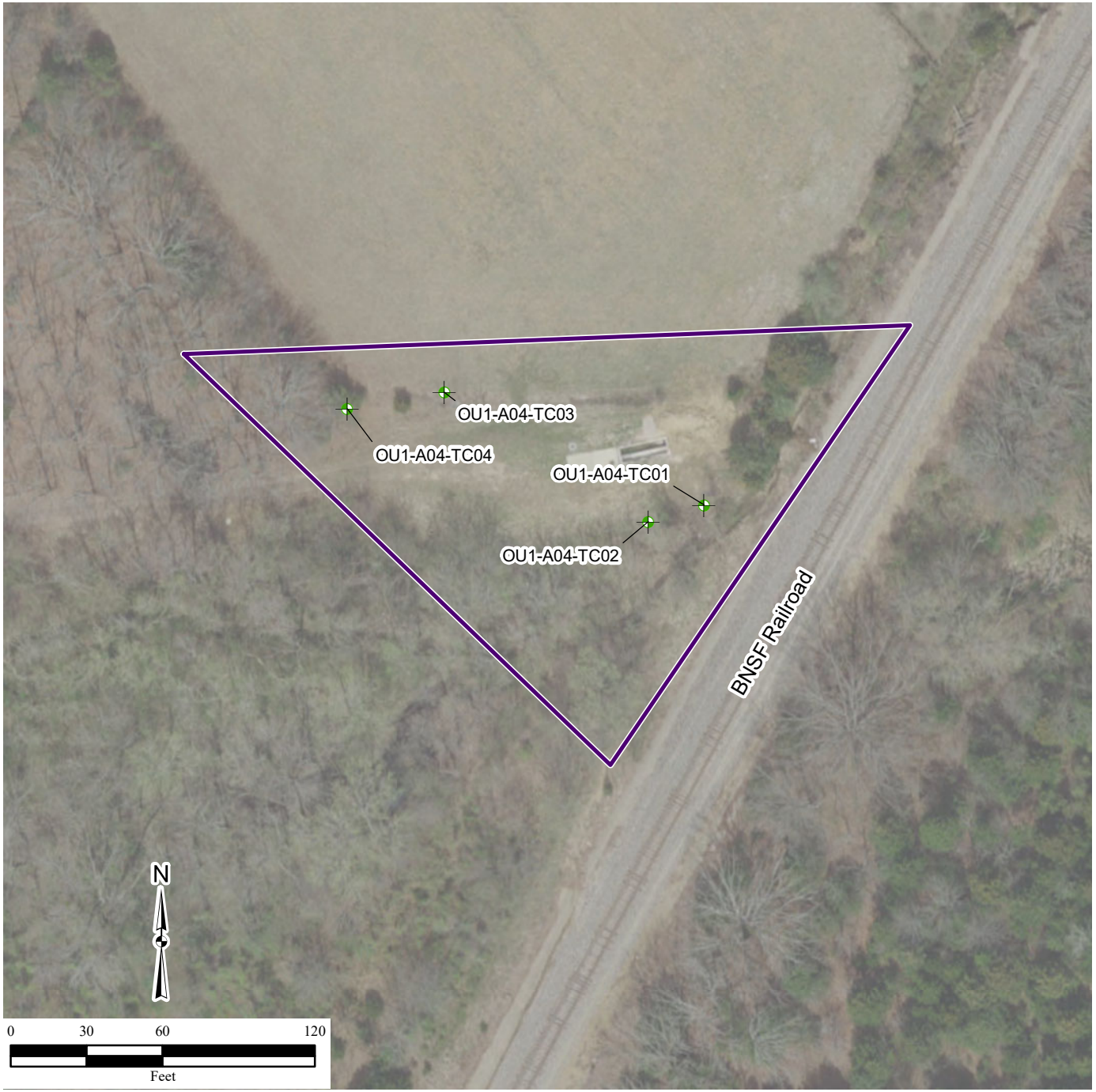


Figure 4.9
USGS Sample Locations
Area 4
Sewer Junction Box / Disturbed Soil Area

Legend

Tree Core Sample

USGS Investigation Area

Note:
BNSF=Burlington Northern Santa Fe
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-9)USGS_Sample_Locs_Area4.mxd
10/16/2019 JG
Source: HGL, USGS, ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

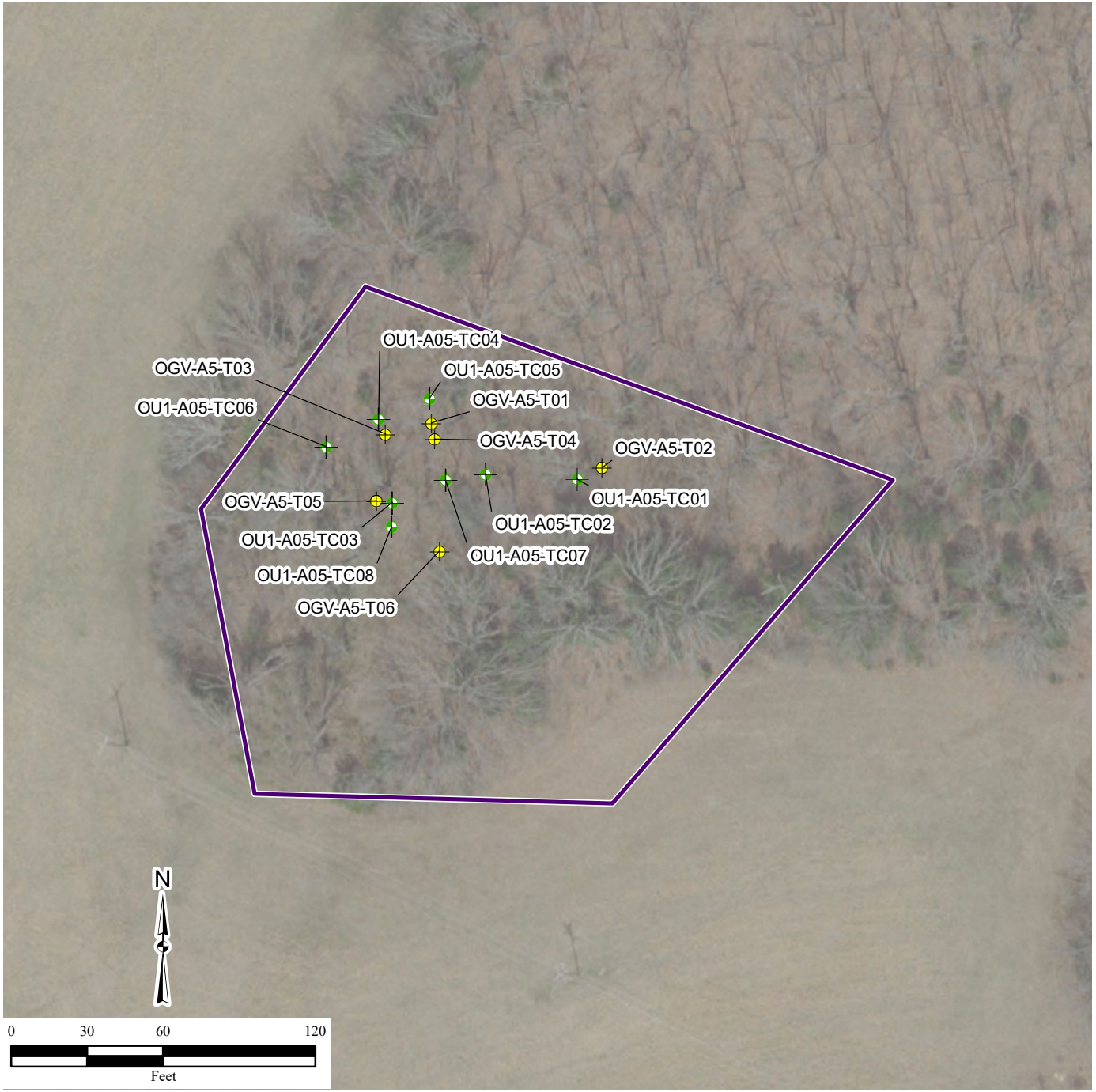


Figure 4.10
USGS Sample Locations
Area 5
Old Household Dump #2

Legend

Tree Core Sample

Trench Sample

USGS Investigation Area

Note:
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-10)USGS_Sample_Locs_Area5.mxd
10/15/2019 JG
Source: HGL, USGS, ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 4.11
USGS Sample Locations
Area 6
Trucking Facility

Legend

Tree Core Sample

USGS Investigation Area

Note:
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER
(4-11)USGS_Sample_Locs_Area6.mxd
10/16/2019 JG
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc

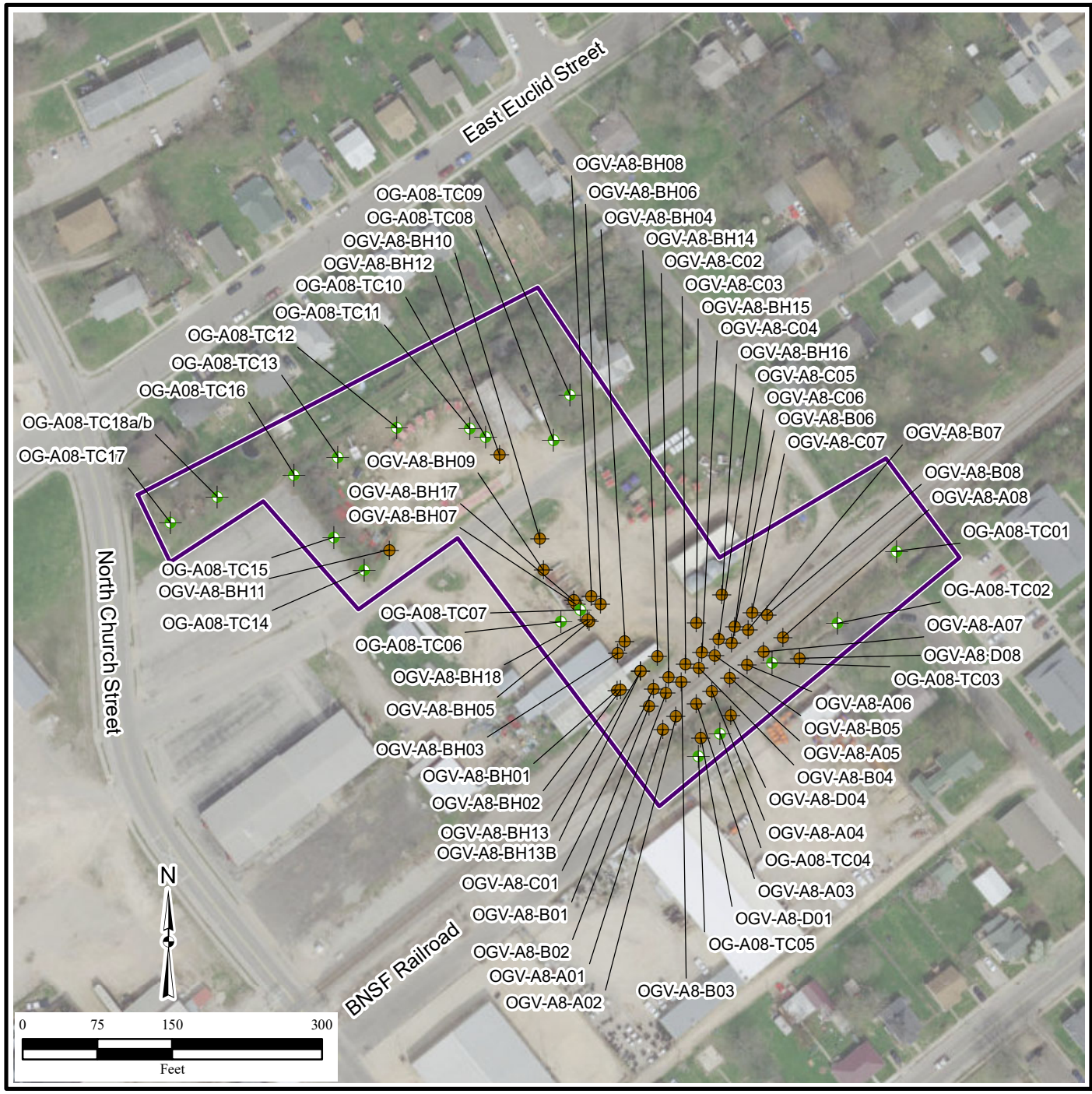


Figure 4.12
USGS Sample Locations
Area 8
Train Derailment

Legend

- Soil Boring
- Tree Core Sample
- USGS Investigation Area

Note:
BNSF=Burlington Northern Santa Fe
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-12)USGS_Sample_Locs_Area8.mxd
10/15/2019 JG
Source: HGL, USGS, ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 4.13
USGS Tree Core Sample Locations Near OGV02
October 2013

Legend

- Tree Core Sample
- Tree Core Sample - TCE Identified by Field Gas Chromatograph
- Municipal Well
- Decommisioned and Plugged Municipal Well
- Monitoring Well
- Operable Unit 1 Boundary (OU1)

Notes:
BNSF=Burlington Northern Santa Fe
OGV=Oak Grove Village
OU=Operable Unit
TCE=trichloroethene

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER
(4-13)USGS_Tree_Cores_OGV01.mxd
10/15/2019 JG
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc

Figure 4.14
USGS Tree Core Sample Locations North of Closed Sullivan Landfill October 2013

Legend

Tree Core Sample

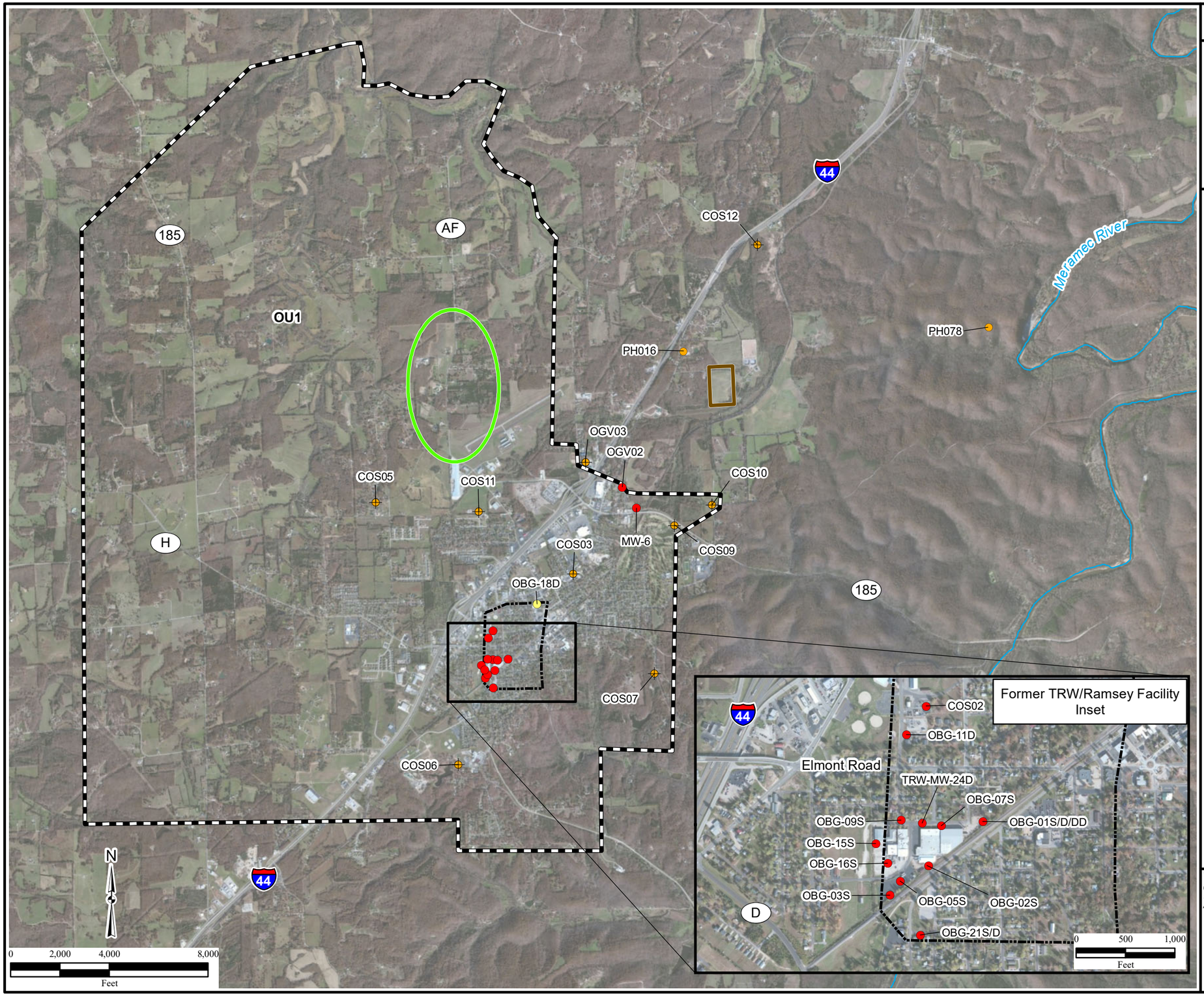
Closed Sullivan Landfill Boundary

Note:
OU=Operable Unit

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER
(4-14)USGS_Tree_Cores_North-LF.mxd
10/15/2019 JG
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc

Figure 4.15
Summary of TCE Detections
2014 CSIA Investigation



Legend

TCE Results (µg/L):

- 1.0 to 2.9
- 3.0 to 4.9
- > 5.0
- Municipal Well (Not Sampled)
- Surface Water Course
- Closed Sullivan Landfill
- Highway AF Well Area
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

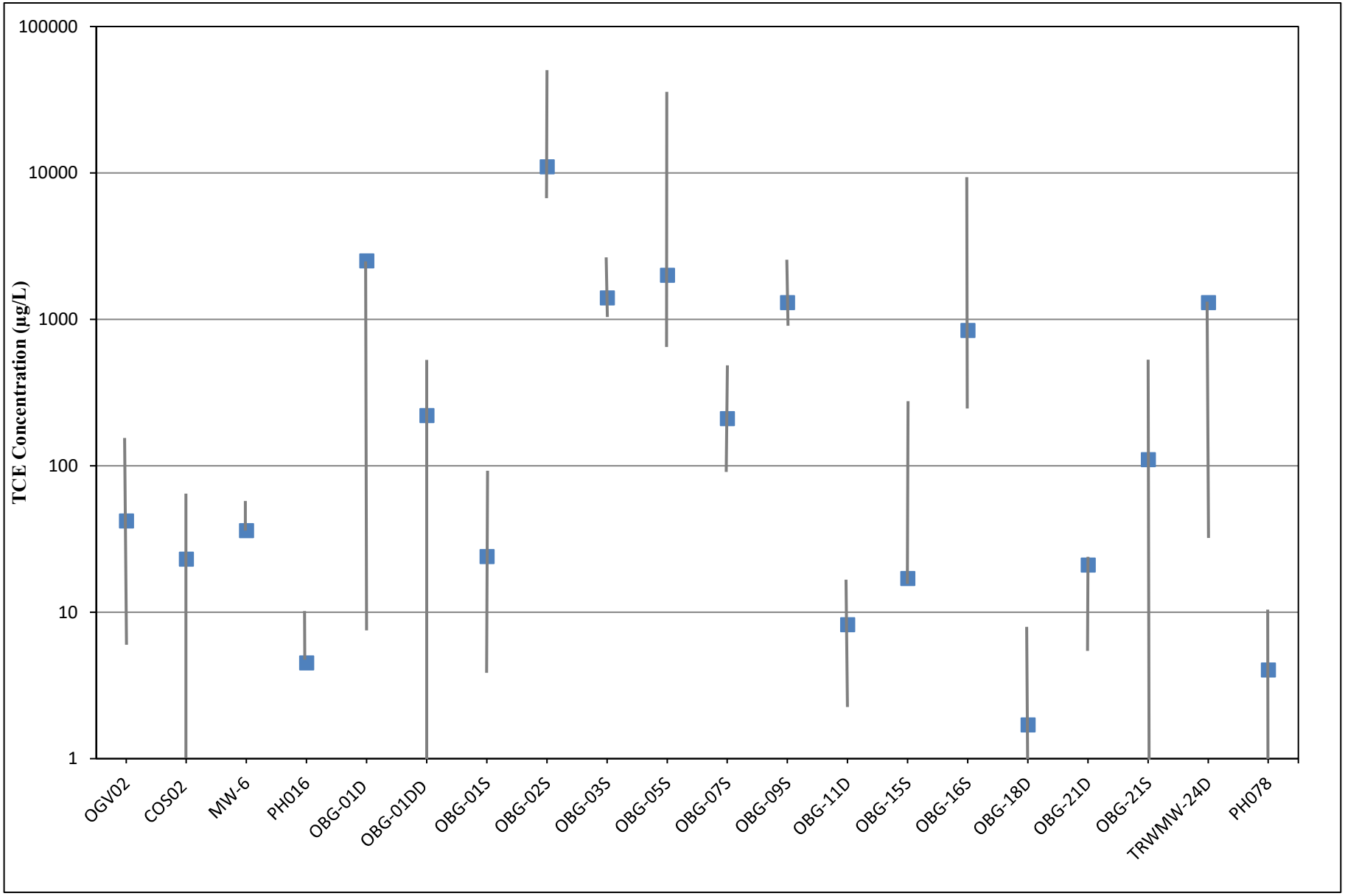
Notes:
See Table 4.13 for sample dates.

The highest concentration is depicted if the location was sampled multiple times or if the location includes multiple sample depths.

µg/L=micrograms per liter
CSIA=compound specific isotope analysis
OU=Operable Unit
TCE=trichloroethene

\\gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-15)TCE_Isotope_Study_2011-2014.mxd
12/13/2019 RR
Source: HGL, MDNR
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc



Project: EP9049.01.12.03.00
Revised: 1/15/2020

HGL HydroGeoLogic, Inc

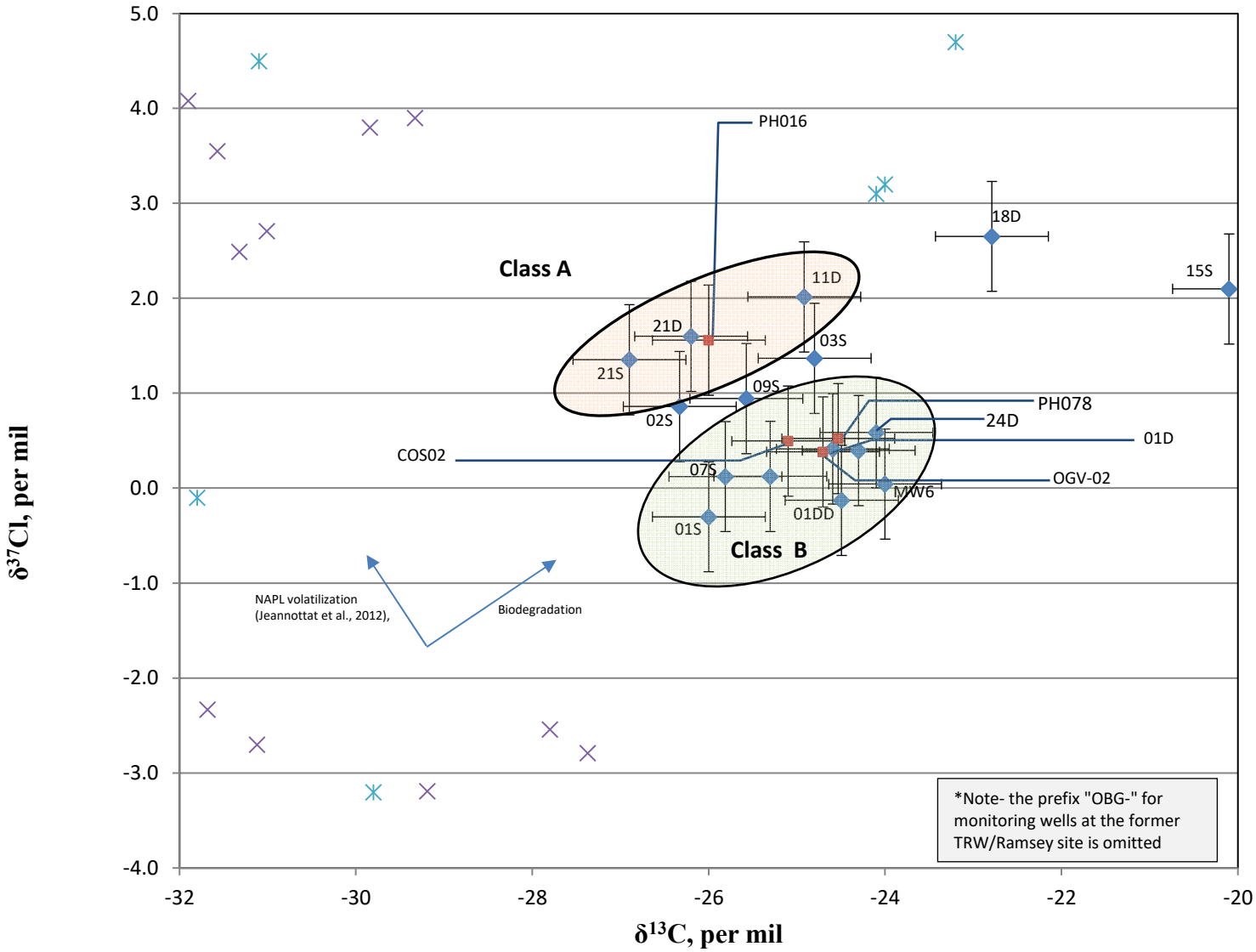
Legend

3-D CSIA TCE concentration (July 2014) in micrograms per liter (µg/L).

Historical range of TCE (1986-2019)

TCE = Trichloroethene
CSIA = Compound Specific Isotope Analysis

Figure 4.16
Comparison of TCE Concentrations Measured in CSIA Study to Historical TCE Concentrations



Project: EP9049.01.12.03.00

Revised: 1/15/2020

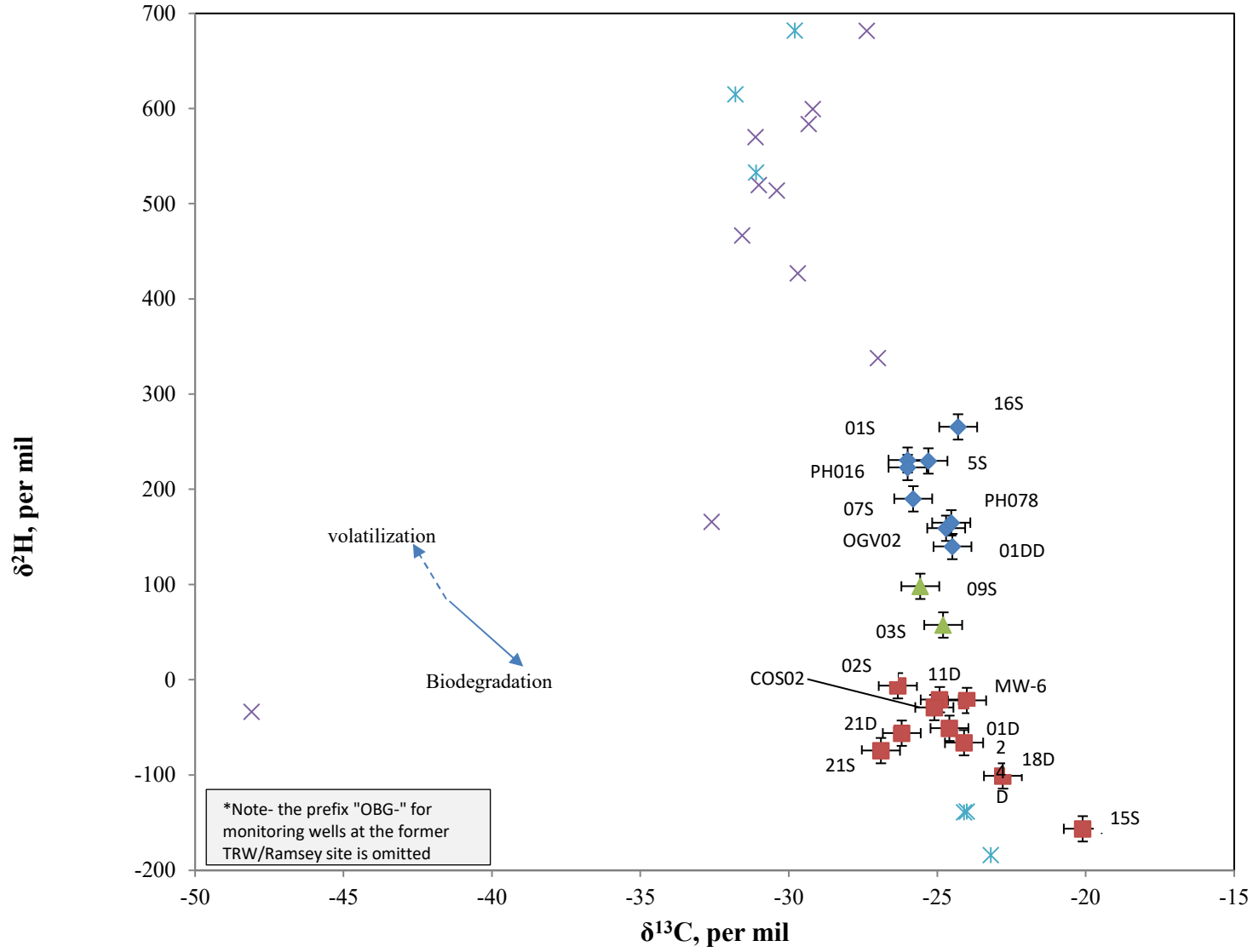
HGL HydroGeoLogic, Inc

Legend

- ◆ Monitoring well
- × Manufactured TCE
- ✳ TCE consumer product
- ■ Public or domestic well or spring

Figure 4.17

Plot of $\delta^{13}C$ and $\delta^{37}Cl$ Ratios from 2-D CSIA in Groundwater Samples and Published Values for Manufactured TCE and TCE in Consumer Products



Project: EP9049.01.12.03.00

Revised: 1/15/2020

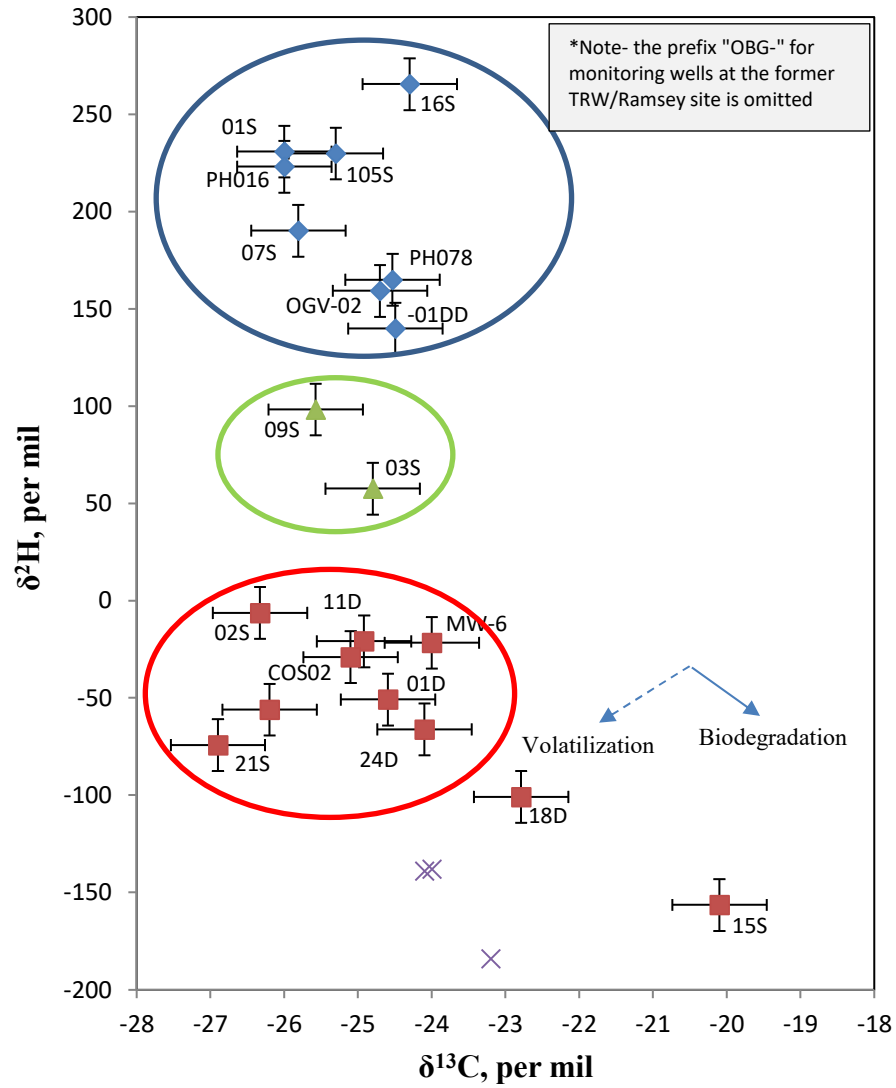
HGL HydroGeoLogic, Inc

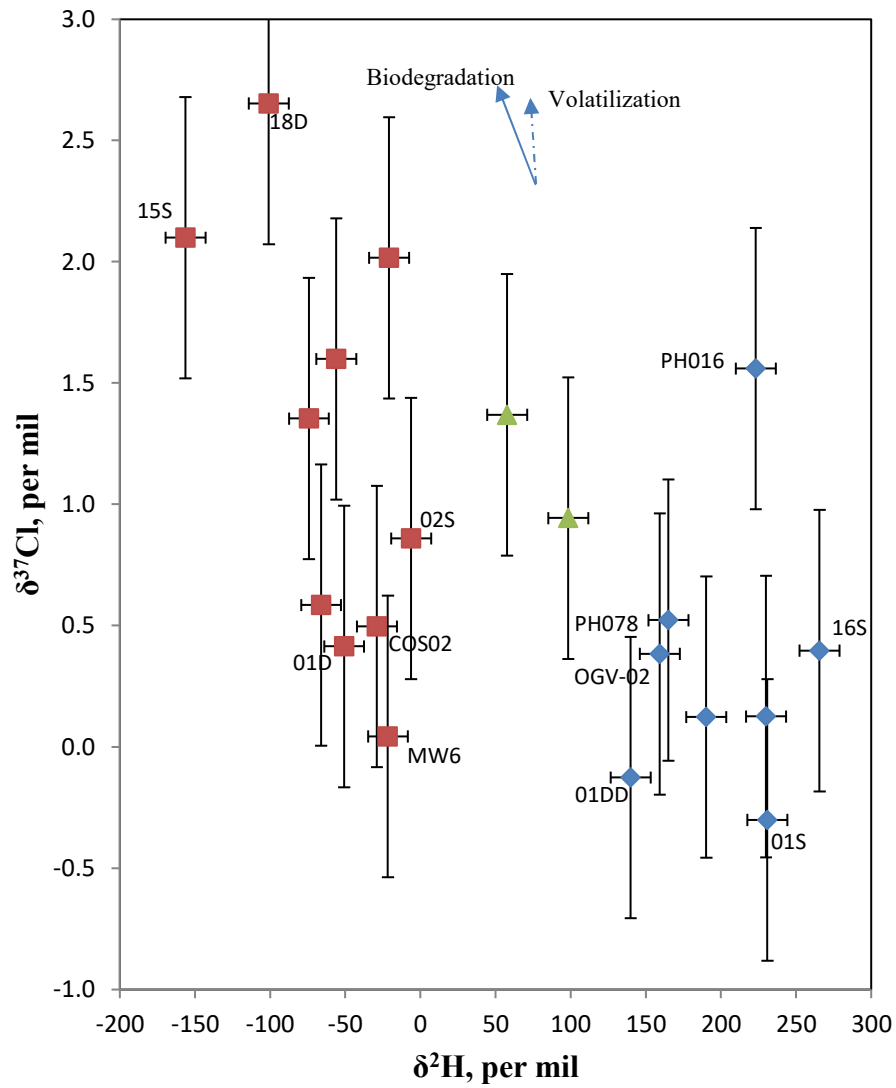
Legend

- Group 1
- Group 2
- Group 3
- Manufactured TCE
- TCE consumer product

Figure 4.18

Plot of $\delta^{13}C$ and $\delta^{2}H$ Ratios from 3-D CSIA in Groundwater Samples and Published Values for Manufactured TCE and TCE in Consumer Products





Project: EP9049.01.12.03.00

Revised: 1/15/2020

HGL HydroGeoLogic, Inc

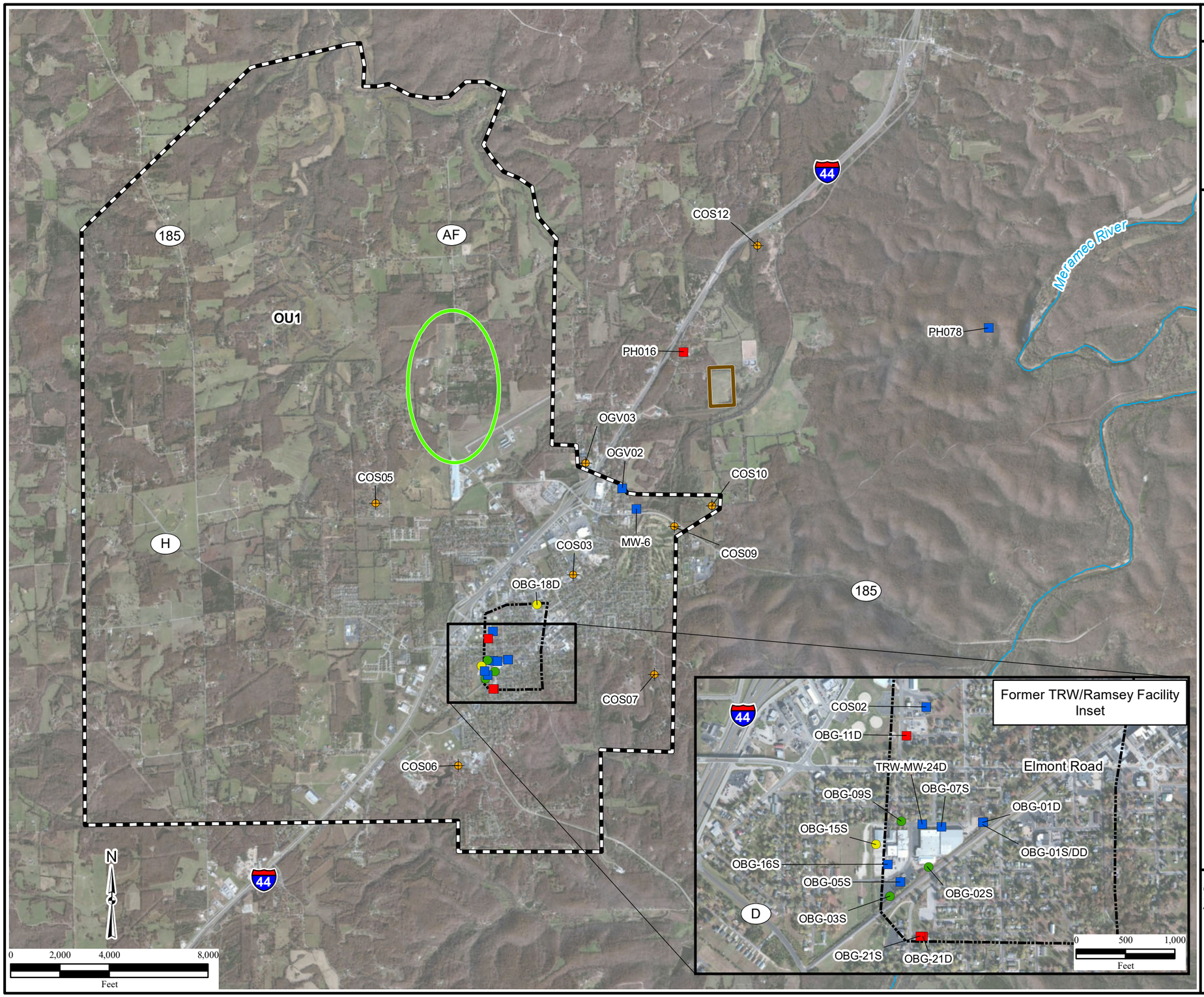
Legend

- Group 1
- Group 2
- Group 3
- TCE

Figure 4.19

Plots of $\delta^{13}C$ / $\delta^{2}H$ Ratios and $\delta^{2}H$ / $\delta^{37}Cl$ Ratios from 3-D CSIA in Groundwater Samples from the Oak Grove Village Well Site

Figure 4.20a
TCE Class Distribution based on 2-D CSIA



Legend

- Class A
- Class B
- Not Classified
- Degraded Class A or B
- Municipal Well (Not Sampled)
- Surface Water Course
- Closed Sullivan Landfill
- Highway AF Well Area
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

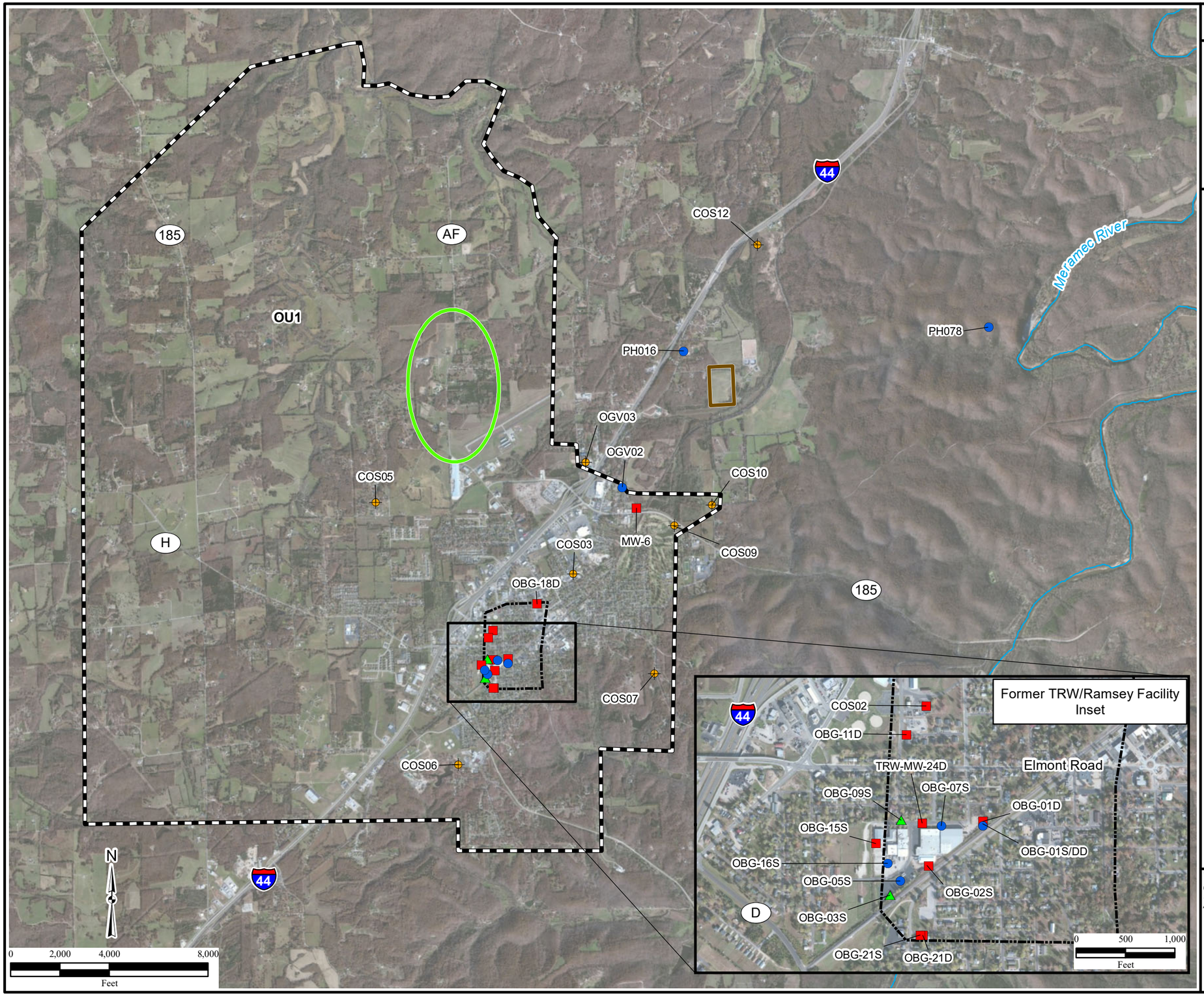
Notes:
Distribution of TCE classes based on compound specific isotope analysis.

OU=Operable Unit
TCE=trichloroethene

\\Gst-srv-01\hglgis\Oak_Grove_Village_MSIW\Final_DER\(4-20a)TCE_Group_Distributions_2D-CSIA.mxd
1/16/2020 JG
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc

Figure 4.20b
TCE Group Distribution based on 3-D CSIA



Legend

- Group 1
- Group 2
- Group 3
- Municipal Well (Not Sampled)
- Surface Water Course
- Closed Sullivan Landfill
- Highway AF Well Area
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

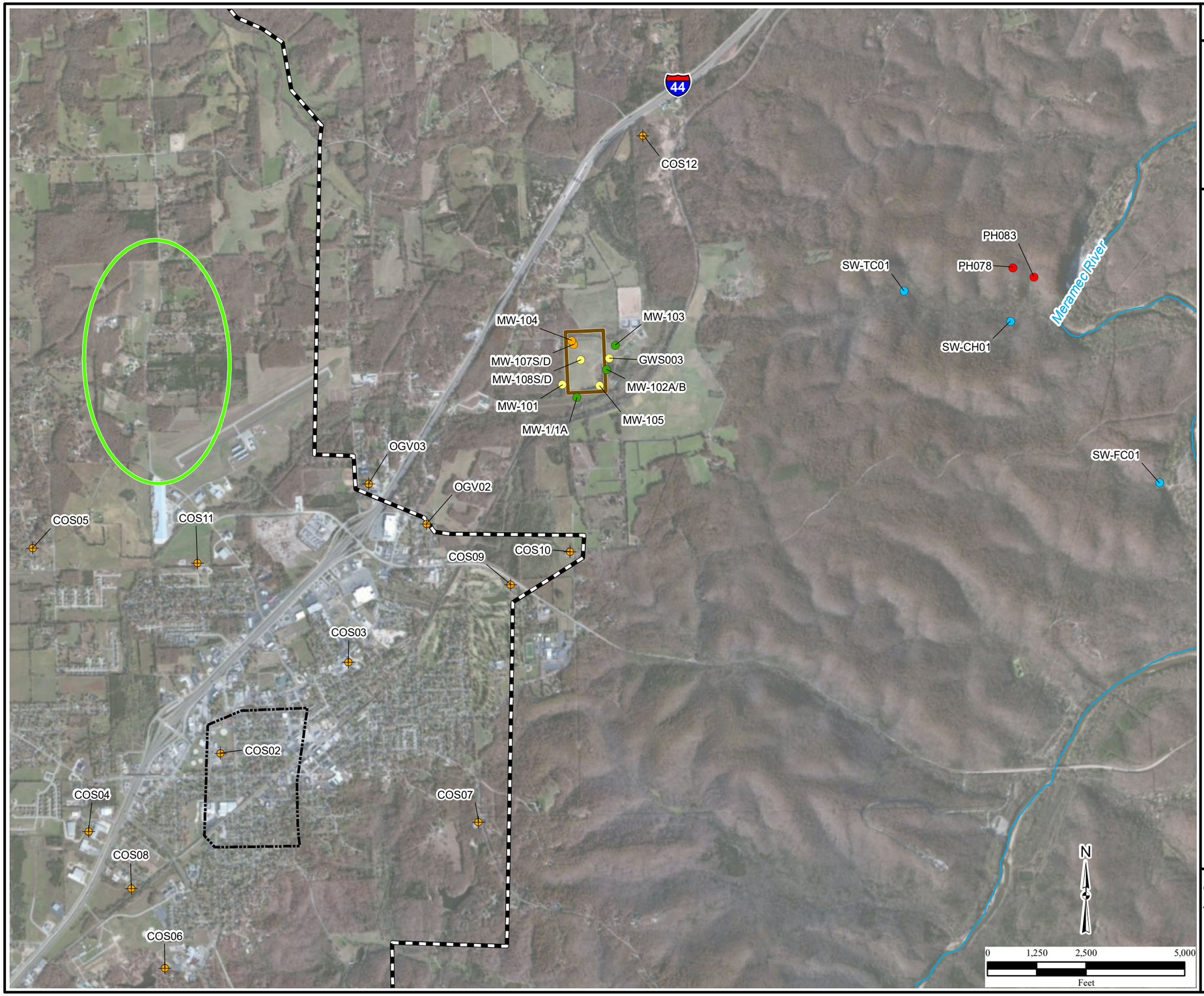
Notes:
Distribution of TCE groups based on compound specific isotope analysis.

OU=Operable Unit
TCE=trichloroethene

\\Gst-srv-01\hglgis\Oak_Grove_Village_MSIW\Final_DER
(4-20b)TCE_Group_Distributions_3D-CSIA.mxd
1/16/2020 JG
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc

Figure 4.21
Summary of TCE Detections
Closed Sullivan Landfill
2010–2019



Legend

TCE Results (µg/L):

- ND
- ND to 0.99
- 1.0 to 2.9
- 3.0 to 4.9
- > 5.0

Municipal Well (Not Sampled)

Surface Water Course

Highway AF Well Area

Closed Sullivan Landfill

Former TRW/Ramsey Facility

Operable Unit 1 (OU1)

Notes:
See Tables 4.14 and 4.17 for sample dates.

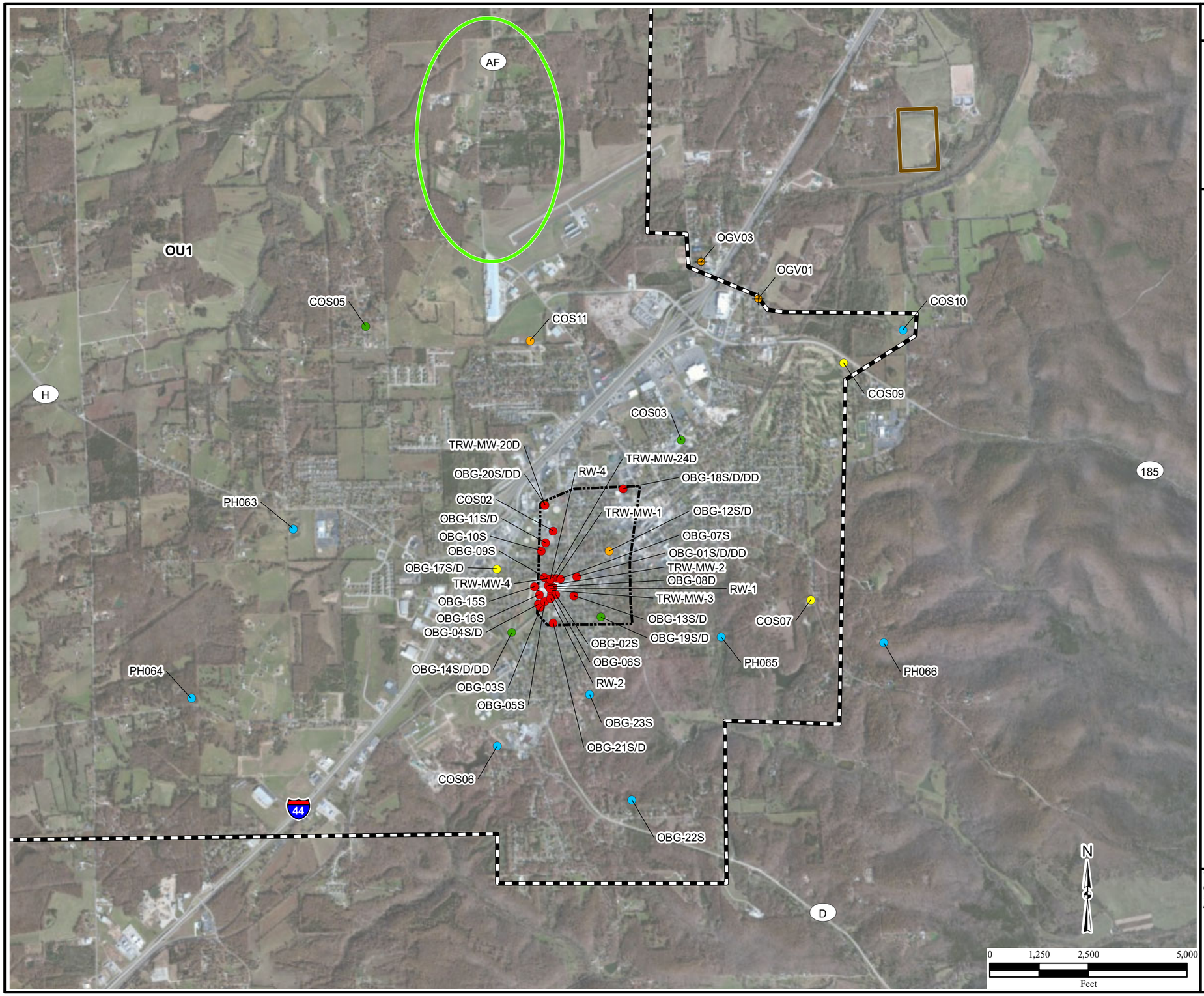
The highest TCE concentration is depicted if the location was sampled multiple times or if the location includes multiple sample depths.

µg/L=micrograms per liter
ND=nondetect
OU=Operable Unit
TCE=trichloroethene

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-21)TCE_Closed_Sullivan_Landfill.mxd
10/31/2019 RR
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc

Figure 4.22
Summary of TCE Detections
Former TRW/Ramsey Facility
2010-2019



Legend

TCE Results (µg/L):

- ND
- ND to 0.99
- 1.0 to 2.9
- 3.0 to 4.9
- > 5.0

Municipal Well (Not Sampled)

Closed Sullivan Landfill

Highway AF Well Area

Former TRW/Ramsey Facility

Operable Unit 1 (OU1)

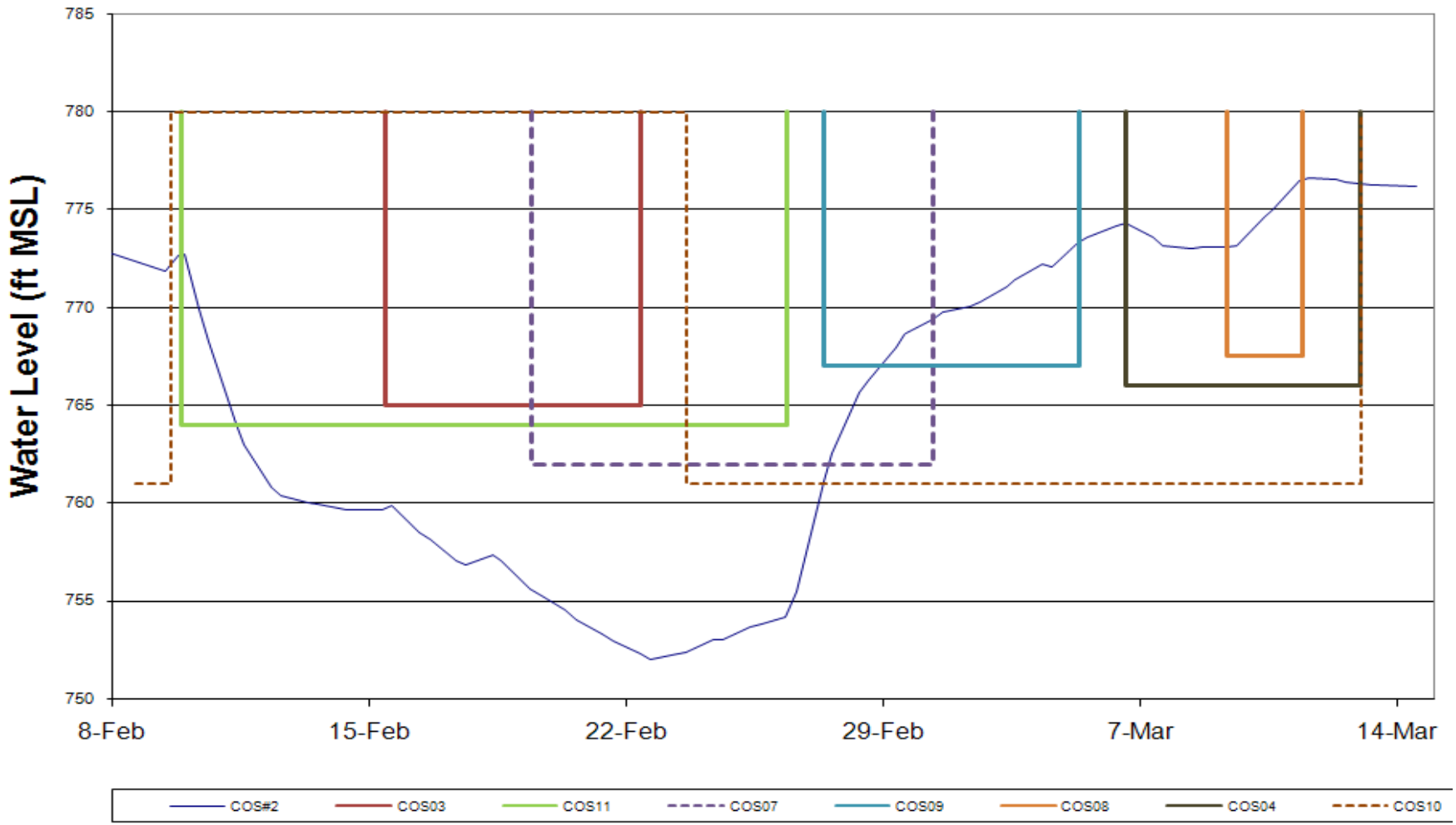
Notes:
Wells sampled by ARCADIS, see Table 4.20 for sample dates.

The highest TCE concentration is depicted if the location was sampled multiple times or if the location includes multiple sample depths.

µg/L=micrograms per liter
ND=nondetect
OU=Operable Unit
TCE=trichloroethene

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(4-22)TCE_Former_TRW_Ramsey_Fac.mxd
10/18/2019 RR
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc



Project: EP9049.01.12.03.00

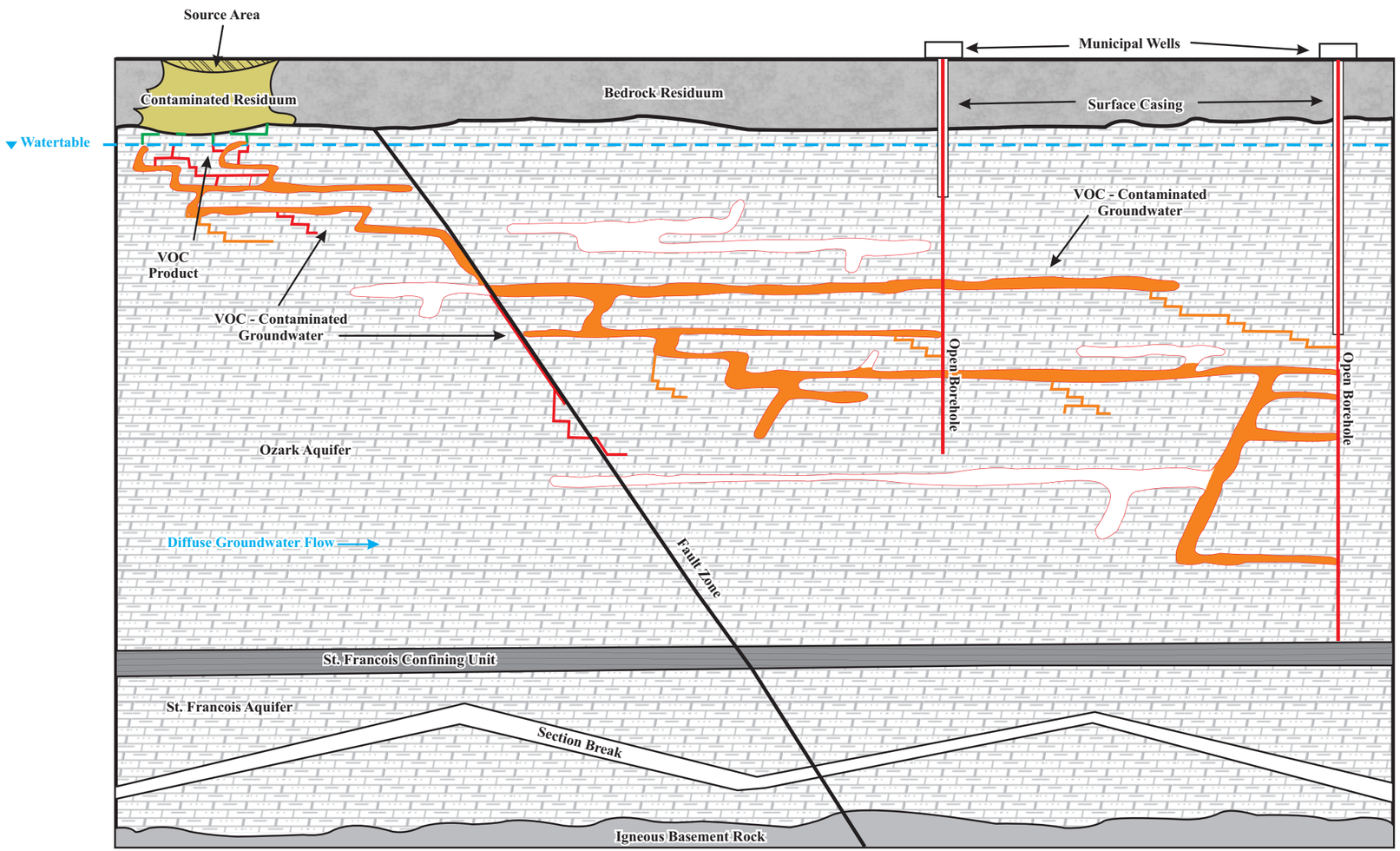
Source: USGS Graph of data from (Barr, 2000)

COS = City of Sullivan

ft MSL = feet Mean Sea Level

Figure 5.1
Influence of Sullivan Municipal Well Pumping on Municipal Well COS02

Figure 5.2
Conceptual Site Model for Fate and Transport of VOCs

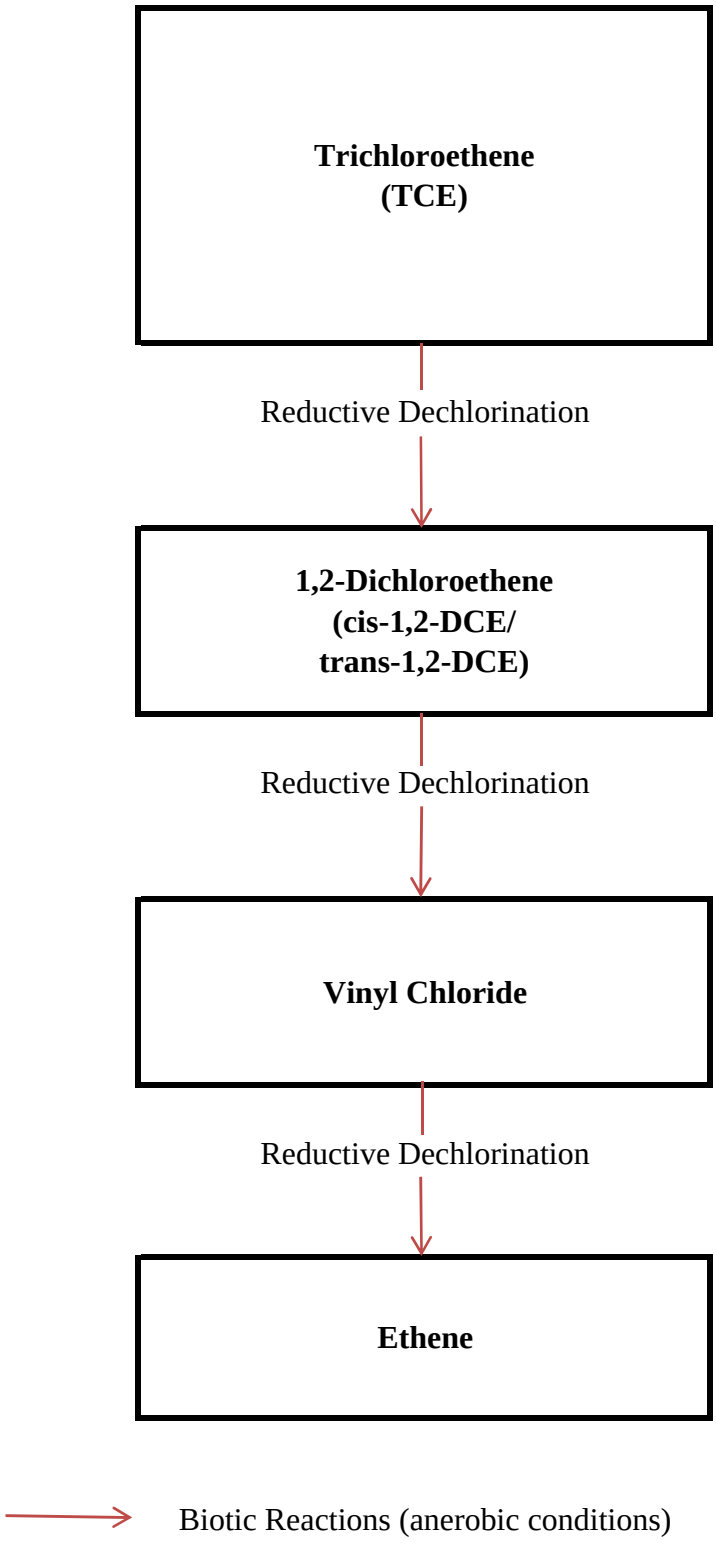


Legend

- Municipal Well
- Water Table
- bgs — below ground surface
- Dissolved VOCs plume
- Source Area and Underlying Contaminated Residuum
- VOC Product Moving Through the Vadose Zone
- Subsurface Karst Feature

\\Gst-srv-01\hglgis\Oak_Grove_Village_Multiple_Sites_Installation_Wide\CSM_Fate_Trans_VOCs.cdr
Revised: 07/18/12 ST
Source: HGL GIS Database

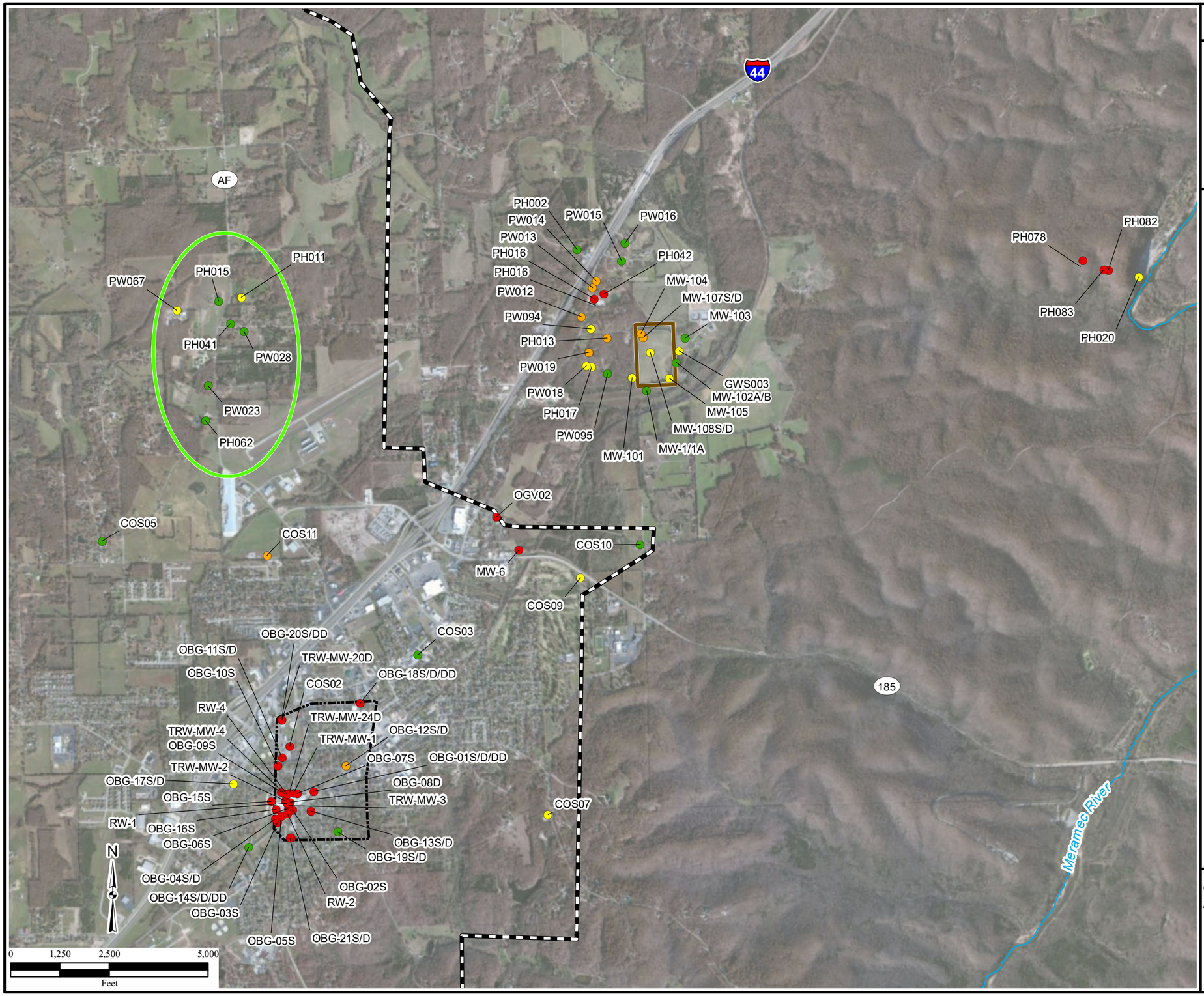
HGL HydroGeoLogic, Inc



Project: EP9049.01.12.03.00

Figure 5.3
Biodegradation and Reaction Pathway of TCE
Oak Grove Village Well Site, OU1
Franklin County, Missouri

Figure 5.4
Areal Extent of TCE Contamination 2010-2019



Legend

TCE Results (µg/L):

- ND to 0.99
- 1.0 to 2.9
- 3.0 to 4.9
- > 5.0
- Surface Water Course
- Closed Sullivan Landfill
- Highway AF Well Area
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

Notes:
This figure is a compilation of figures 4.3, 4.4, 4.15, 4.16, and 4.17. Only those locations at which TCE was detected during the 2010-2019 timeframe are shown.

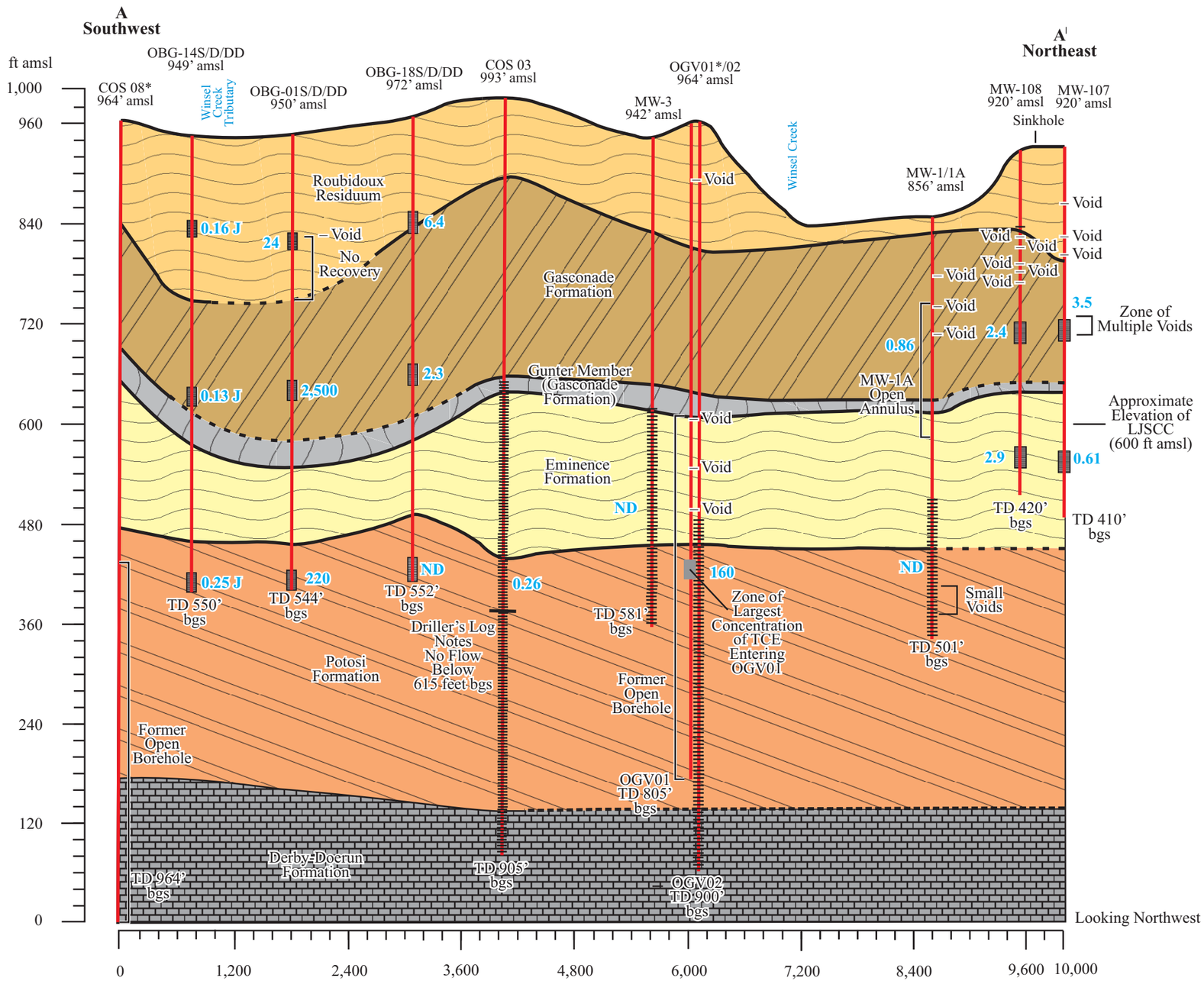
The highest TCE concentration is depicted if the location was sampled multiple times or if the location includes multiple sample depths.

µg/L=micrograms per liter
ND=nondetect
OU=Operable Unit
TCE=trichloroethene

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(5-4)Areal_Extent_TCE_2010_14-2.mxd
10/18/2019 RR
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc

Figure 5.5
TCE Contamination Along Cross Section A-A'



Legend

- Open Borehole
- Screened Interval
- 0.61 — TCE Concentration (µg/L)
- Roubidoux Residuum
- Gasconade Formation
- Gunter Member (Gasconade Formation)
- Eminence Formation
- Potosi Formation
- Derby-Doerun Formation

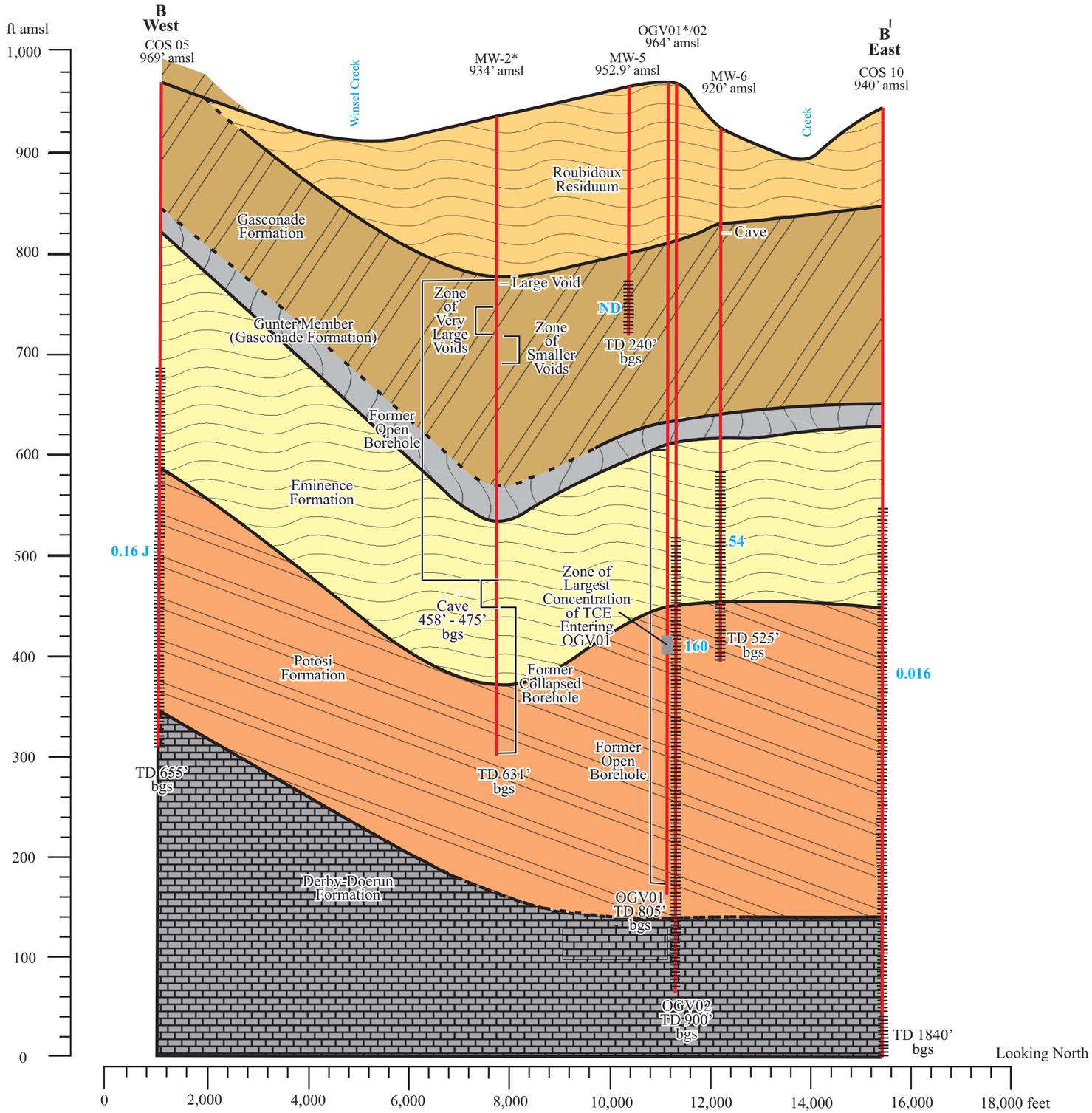
Notes:
Results are from December 2010 - August 2019 sampling events. If the well was sampled multiple times during this period, the maximum TCE concentration is shown.
Voids noted at MW-1 and MW-3 were documented in the downhole video logs completed in December 2005 and /or on the boring logs.
Void and no recovery noted at OBG-15/D/DD were documented on the boring log.
Voids noted at MW-107 and MW-108 were documented on the boring log.
Lithology for OGV01/02 is based on boring log for OGV01.
COS08 and OGV01 have been decommissioned and plugged.
Zone of greatest contamination in OGV01 documented by USGS in 2004.

*=plugged borehole
µg/L=micrograms per liter
amsl=above mean sea level
bgs=below ground surface
J=estimated value
LJSCC=La Jolla Spring Cave Complex
ND=not detected
OGV=Oak Grove Village
TCE=trichloroethene
TD=total depth

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(5-5)Cross-Section_A_A.cdr
10/15/15 RR
Source: HGL

HGL HydroGeoLogic, Inc

Figure 5.6
TCE Contamination Along Cross Section B-B'



Legend

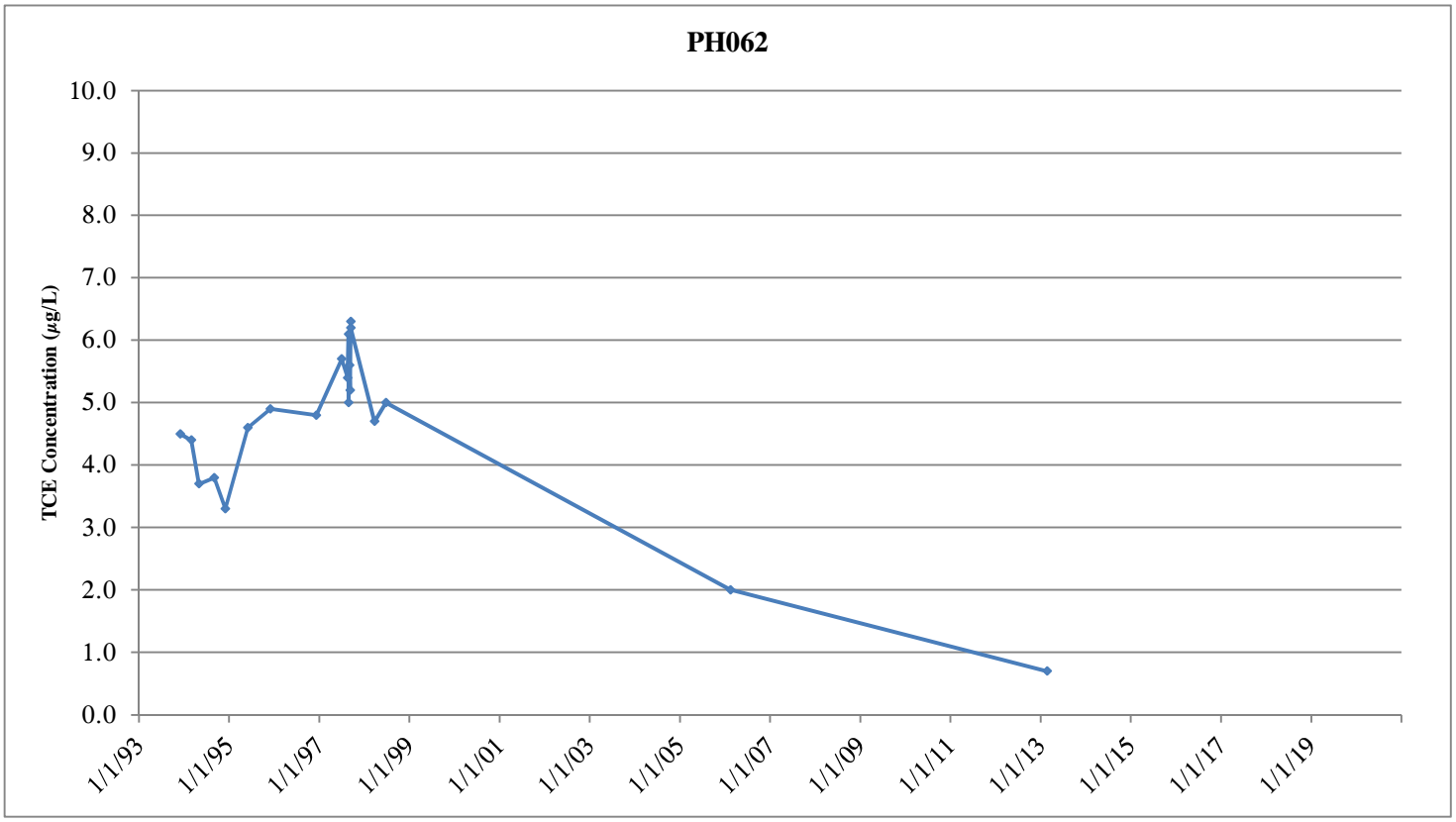
- Open Borehole
- 0.016 — TCE Concentration (µg/L)
- Roubidoux Residuum
- Gasconade Formation
- Gunter Member (Gasconade Formation)
- Eminence Formation
- Potosi Formation
- Derby-Doerun Formation

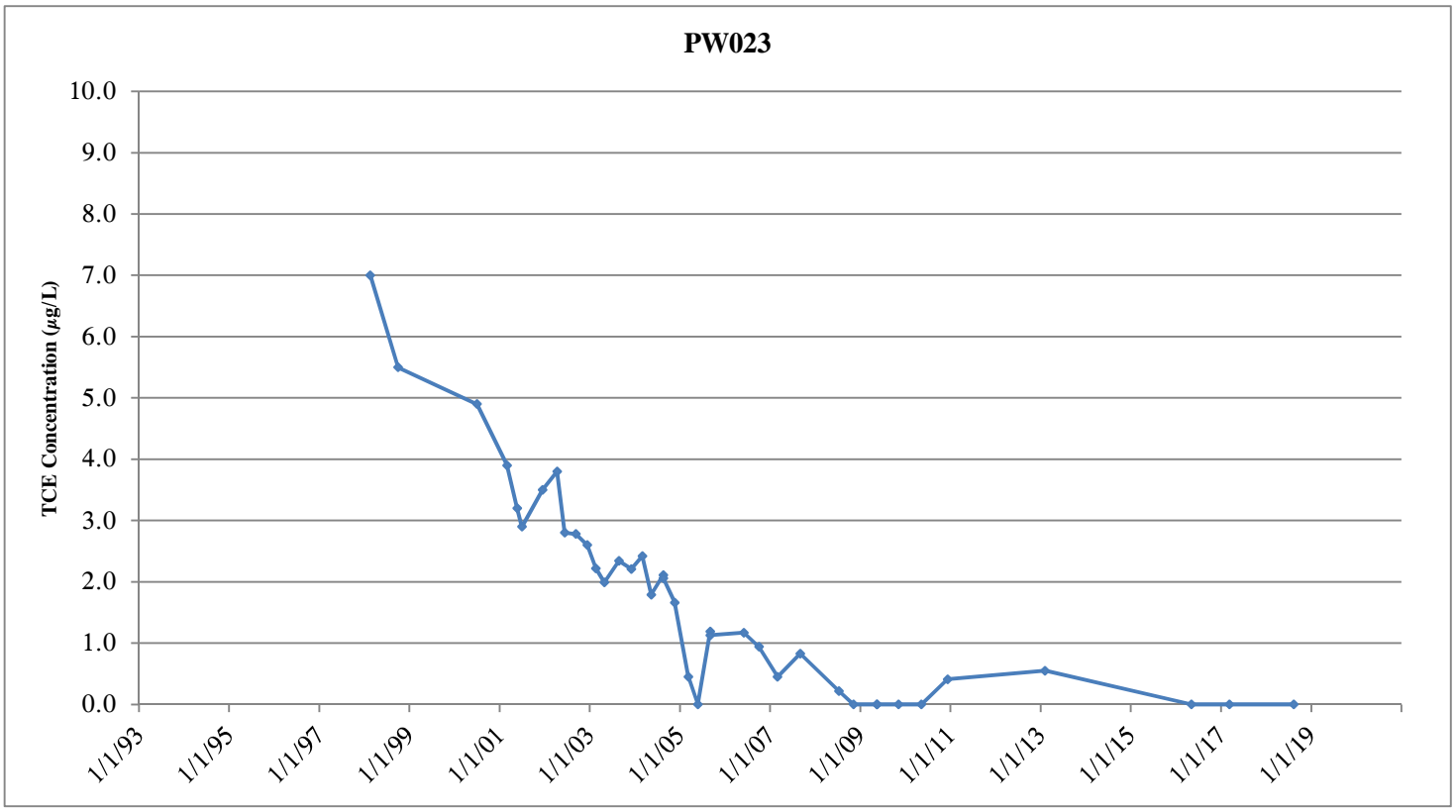
Notes:
Results are from December 2010 - August 2019 sampling events. If the well was sampled multiple times during this period, the maximum TCE concentration is shown.
Voids noted on MW-2 were documented in the downhole video log of MW-2 completed in December 2005.
Cave noted at MW-6 was documented on the boring log/well construction diagram.
The boring log for MW-5 was not available.
Lithology for OGV01/02 is based on boring log for OGV01.
OGV01 and MW-2 have been decommissioned and plugged.
Zone of greatest contamination in OGV01 documented by USGS in 2004.

*=plugged borehole
µg/L=micrograms per liter
amsl=above mean sea level
bgs=below ground surface
J=estimated value
ND=not detected
OGV=Oak Grove Village
TCE=trichloroethene
TD=total depth

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\Final_DER\(5-6)Cross-Section_B_B.cdr
10/15/2019 RR
Source: HGL

HGL HydroGeoLogic, Inc





Project: EP9049.01.12.03.00

Revised: 10/4/2019

HGL HydroGeoLogic, Inc

Legend

TCE concentration in micrograms per liter (µg/L). The MCL/RAO for TCE is 5 µg/L.

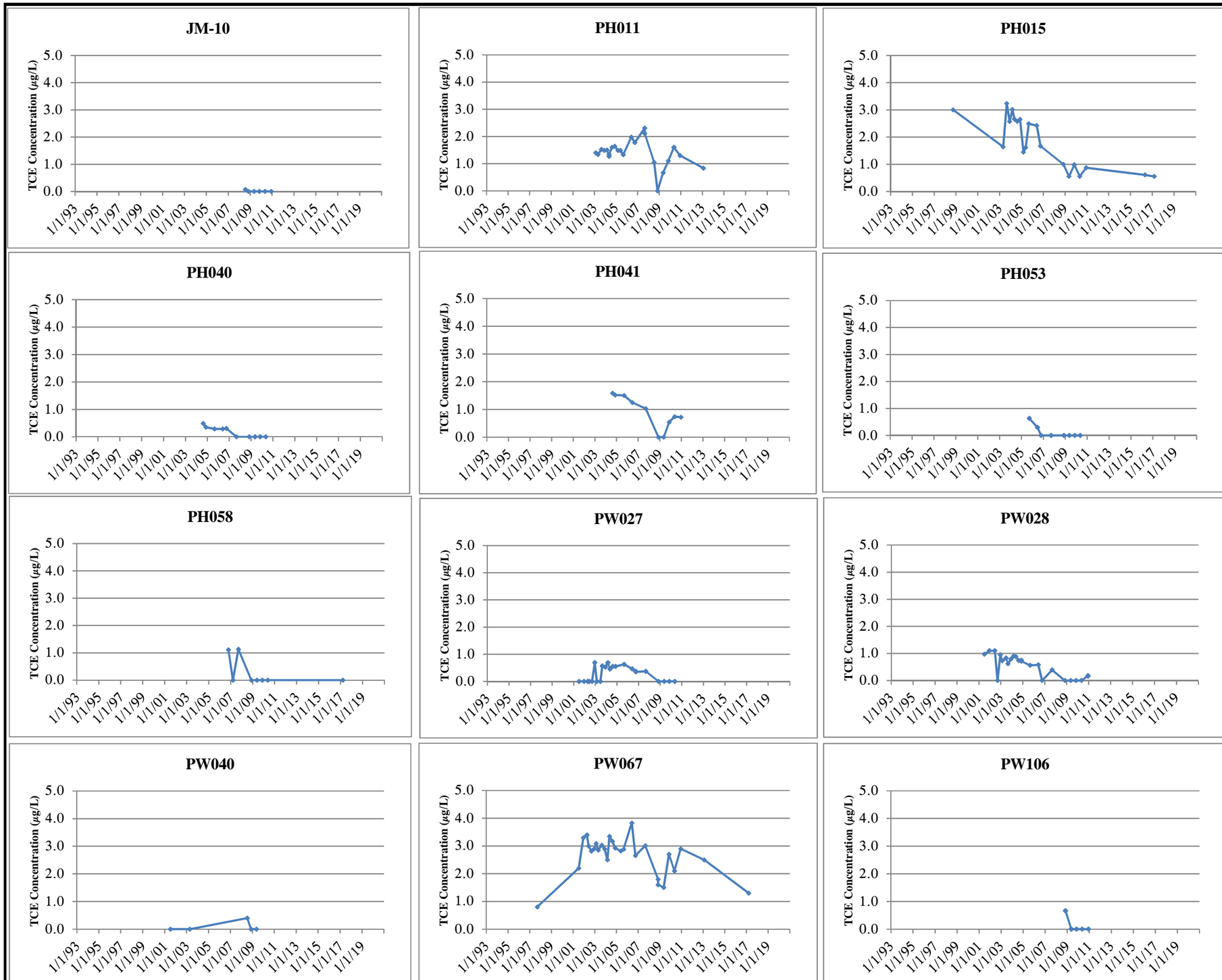
Nondetects are shown as 0.0.

MCL = maximum contaminant level

RAO = remedial action objective

Figure 5.7
TCE Trends in OU1 Private Wells with Detections Exceeding the RAO

Figure 5.8
TCE Trends in Private Wells with Detections Not Exceeding the RAO



Legend

TCE concentration in micrograms per liter (µg/L). The MCL/RAO for TCE is 5 µg/L.

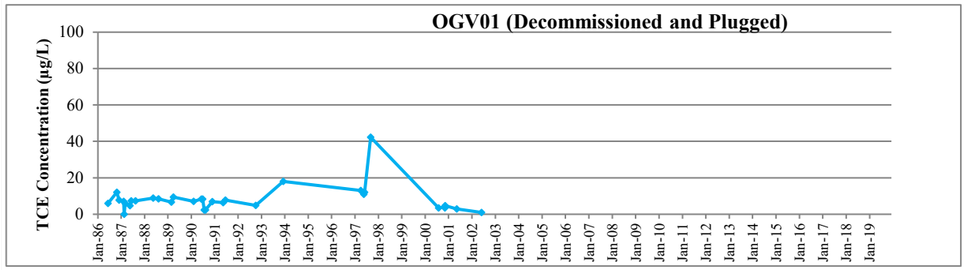
Nondetects are shown as 0.0.

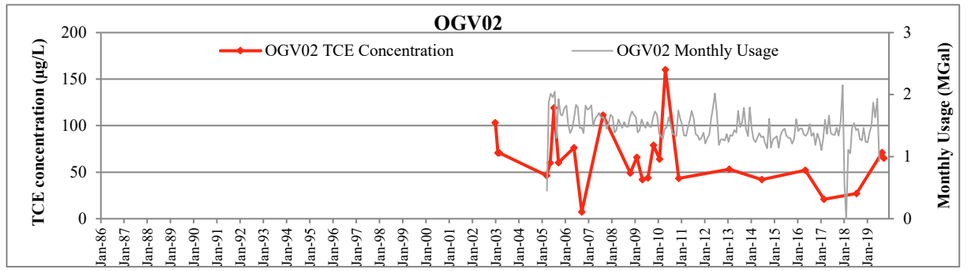
MCL = maximum contaminant level

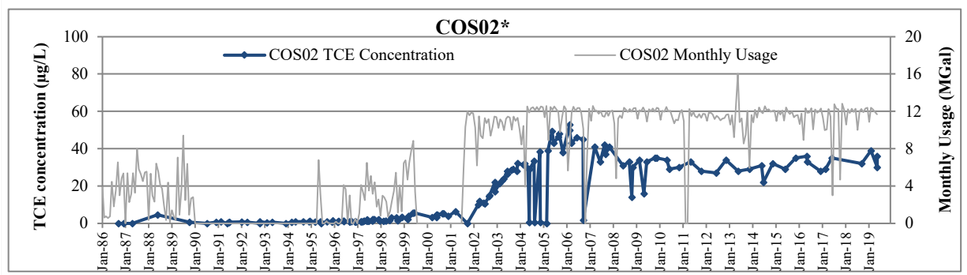
RAO = Remedial Action Objective

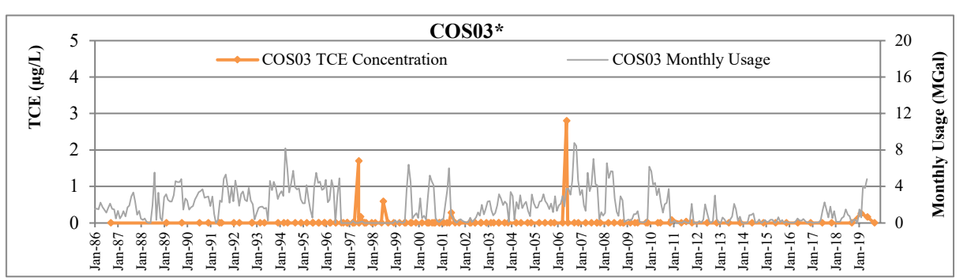
Project: EP9049.01.12.03.00
Revised: 10/4/2019

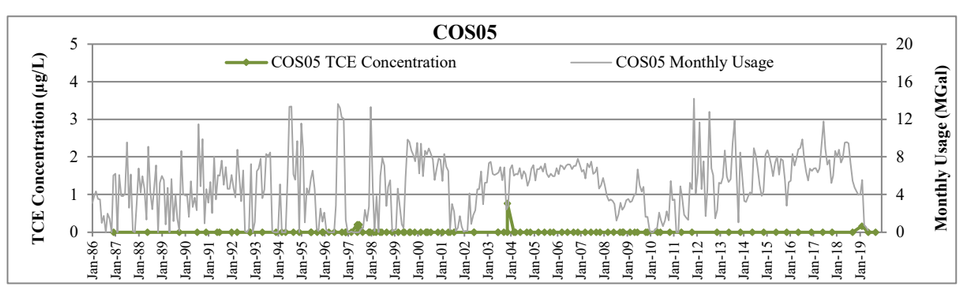
HGL HydroGeoLogic, Inc

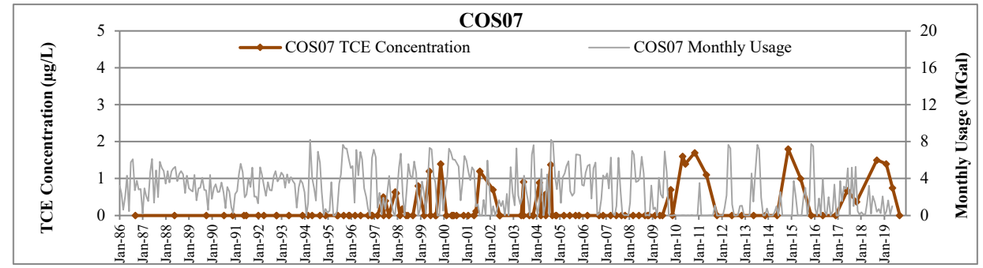


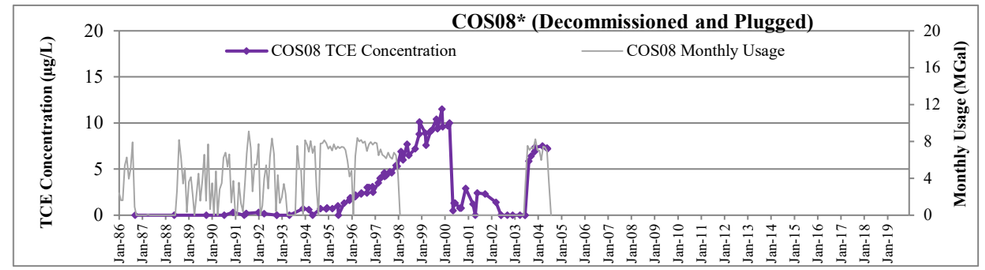


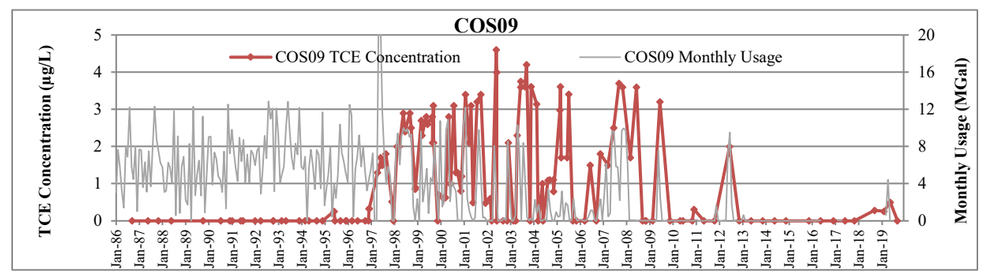


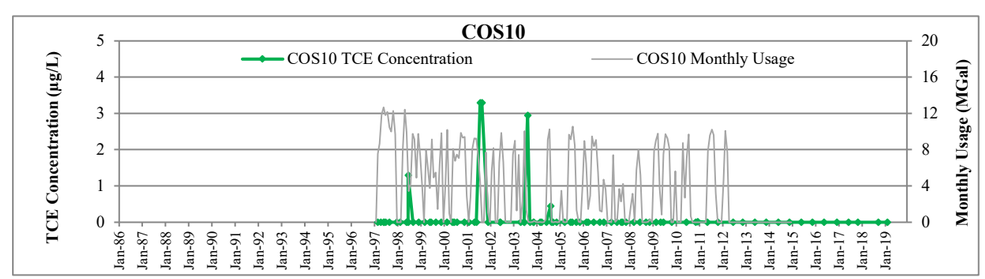


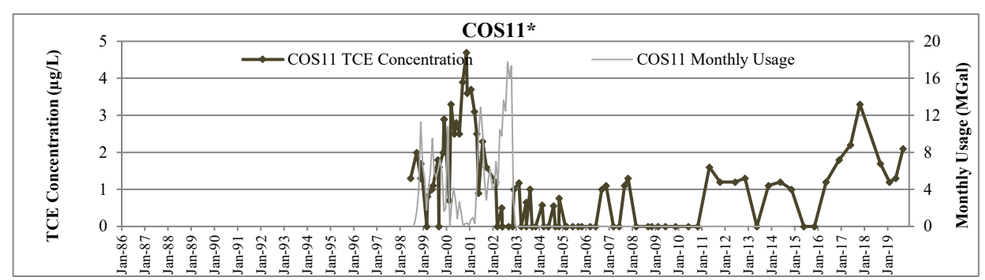












HGL—Data Evaluation Report, Oak Grove Village Well Site OU1—Franklin Co., MO

Figure 5.9
TCE Trends in Municipal Wells

Legend

Notes:
TCE concentration in micrograms per liter (µg/L). The MCL/RAO for TCE is 5 µg/L.

If multiple samples were collected on the same date, only the highest TCE concentration is shown. Data from discrete sample depths are

Nondetects are shown as 0.0.

*Excludes anamolous reading from 12/12/01.

OGV01 was temporarily taken out of service from July 1991 through September 1992 and then was taken out of service permanently in February 1994.

MCL = maximum contaminant level
MGal = million gallons
RAO = remedial action objective
RAO = Remedial Action Objective

Project: EP9049.01.12.03.00
Revised: 10/4/2019

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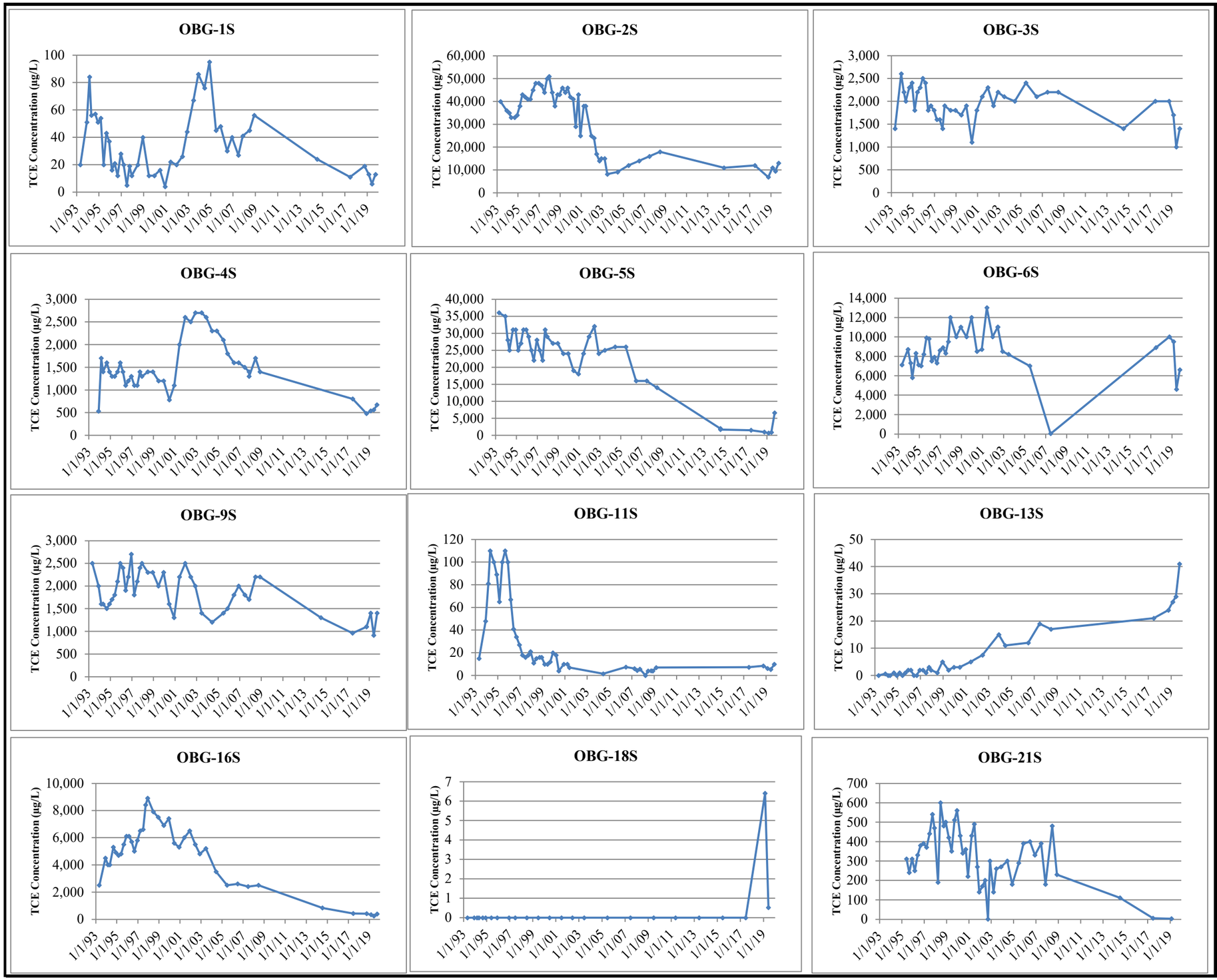
Figure 5.10
TCE Trends in Select Shallow Monitoring Wells at Former TRW/Ramsey Facility



Legend

TCE concentration in micrograms per liter (µg/L). The MCL/RAO for TCE is 5 µg/L.

Nondetects are shown as 0.0.

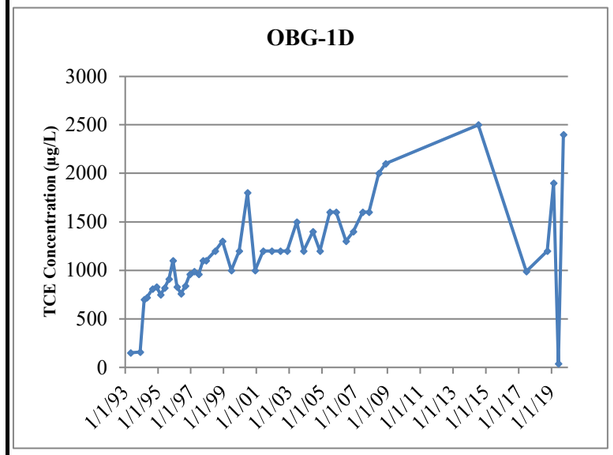
MCL = maximum contaminant level

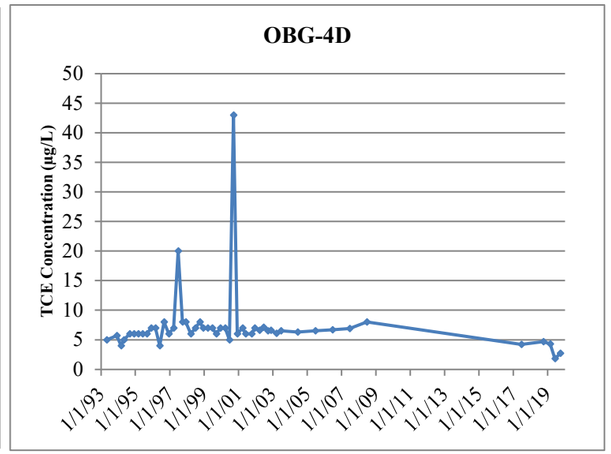
RAO = Remedial Action Objective

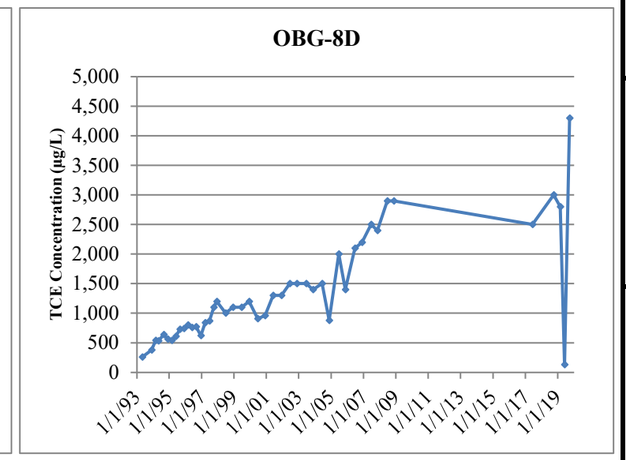
Project: EP9049.01.12.03.00
Revised: 10/4/2019

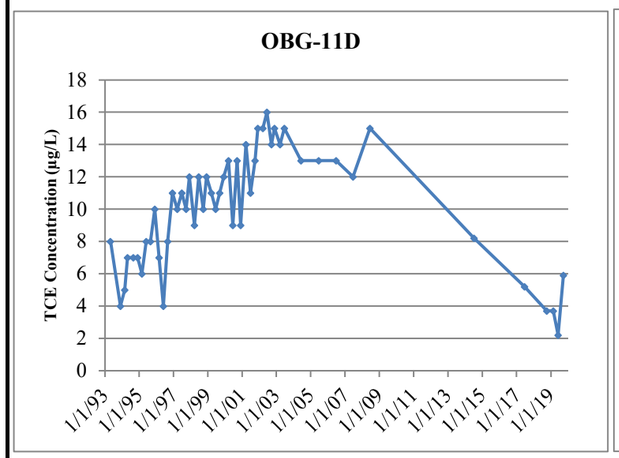
HGL HydroGeoLogic, Inc

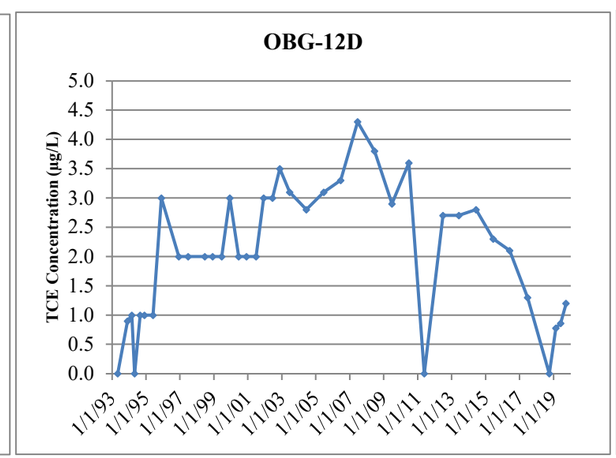
Figure 5.11
TCE Trends in Select Intermediate Monitoring Wells at Former TRW/Ramsey Facility

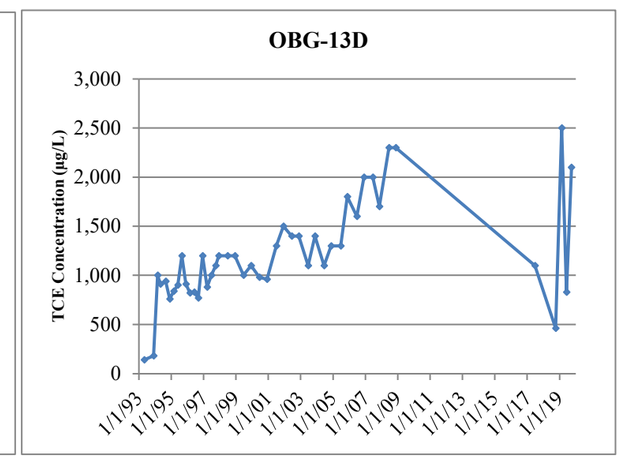


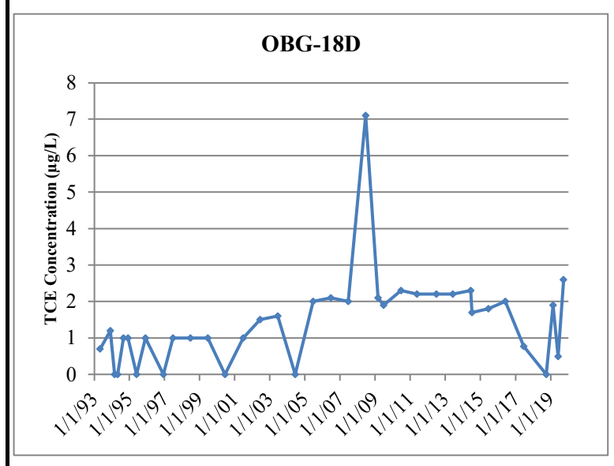


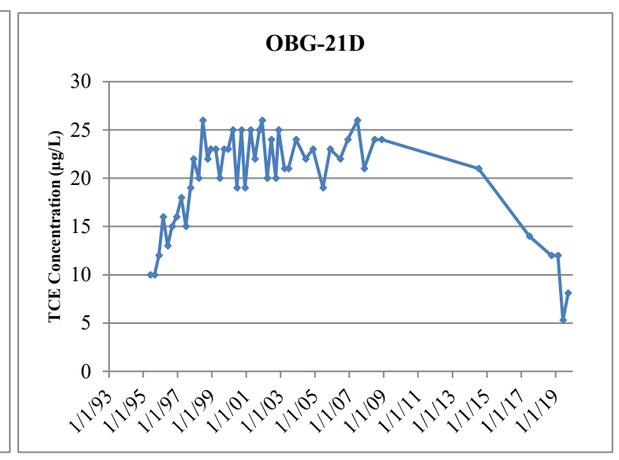


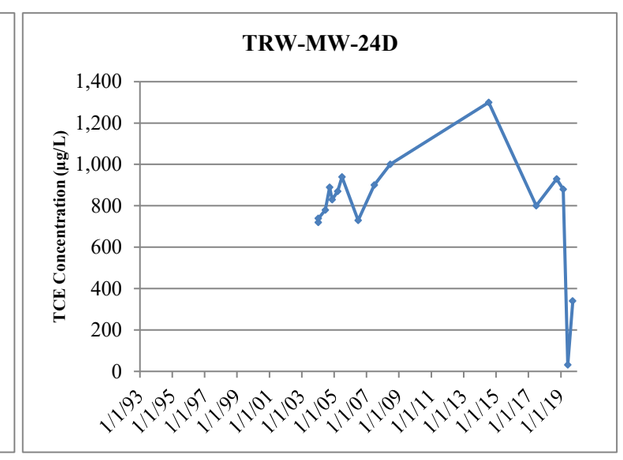












Legend

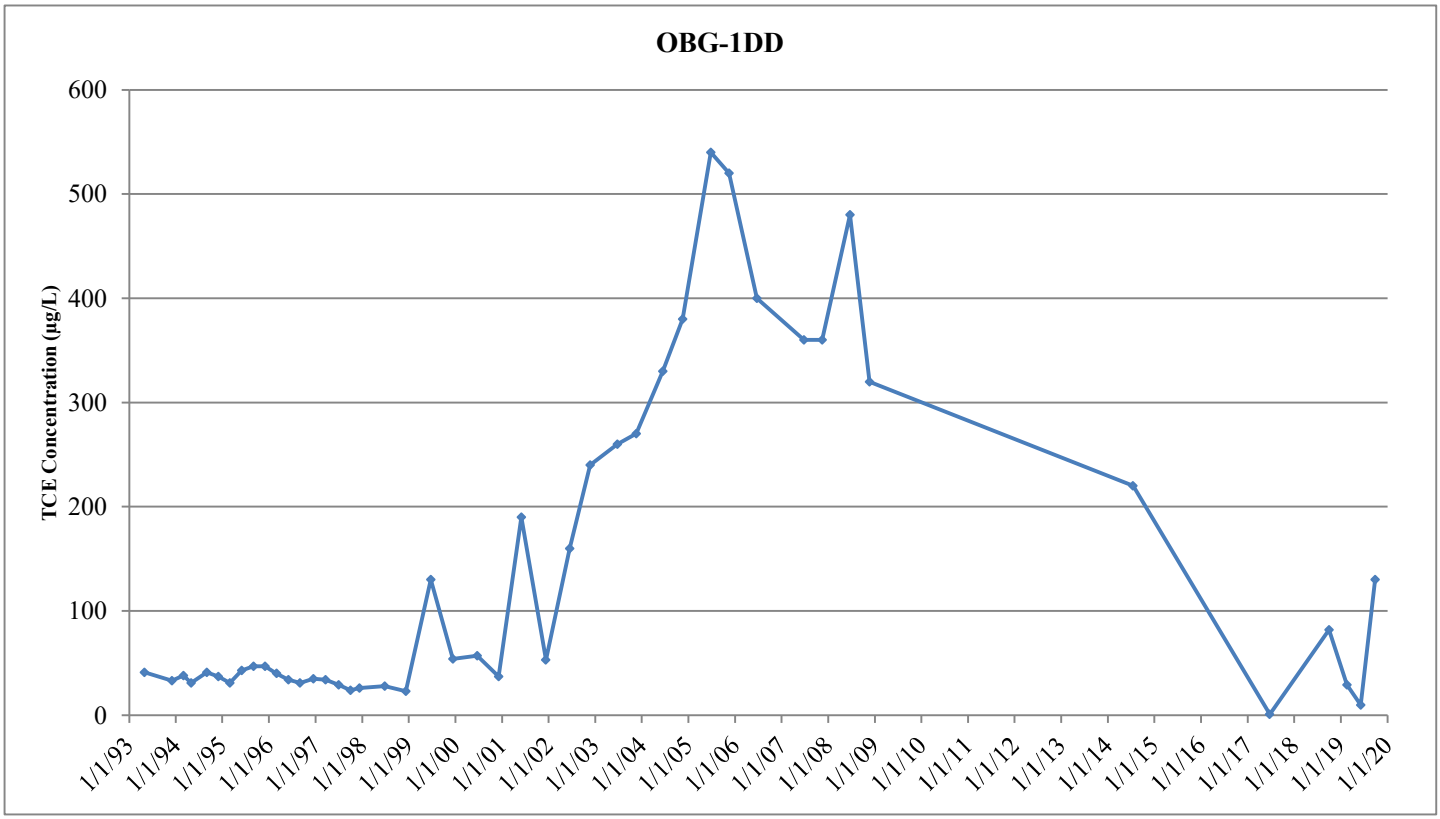
TCE concentration in micrograms per liter (µg/L). The RAO for TCE is 5 µg/L.

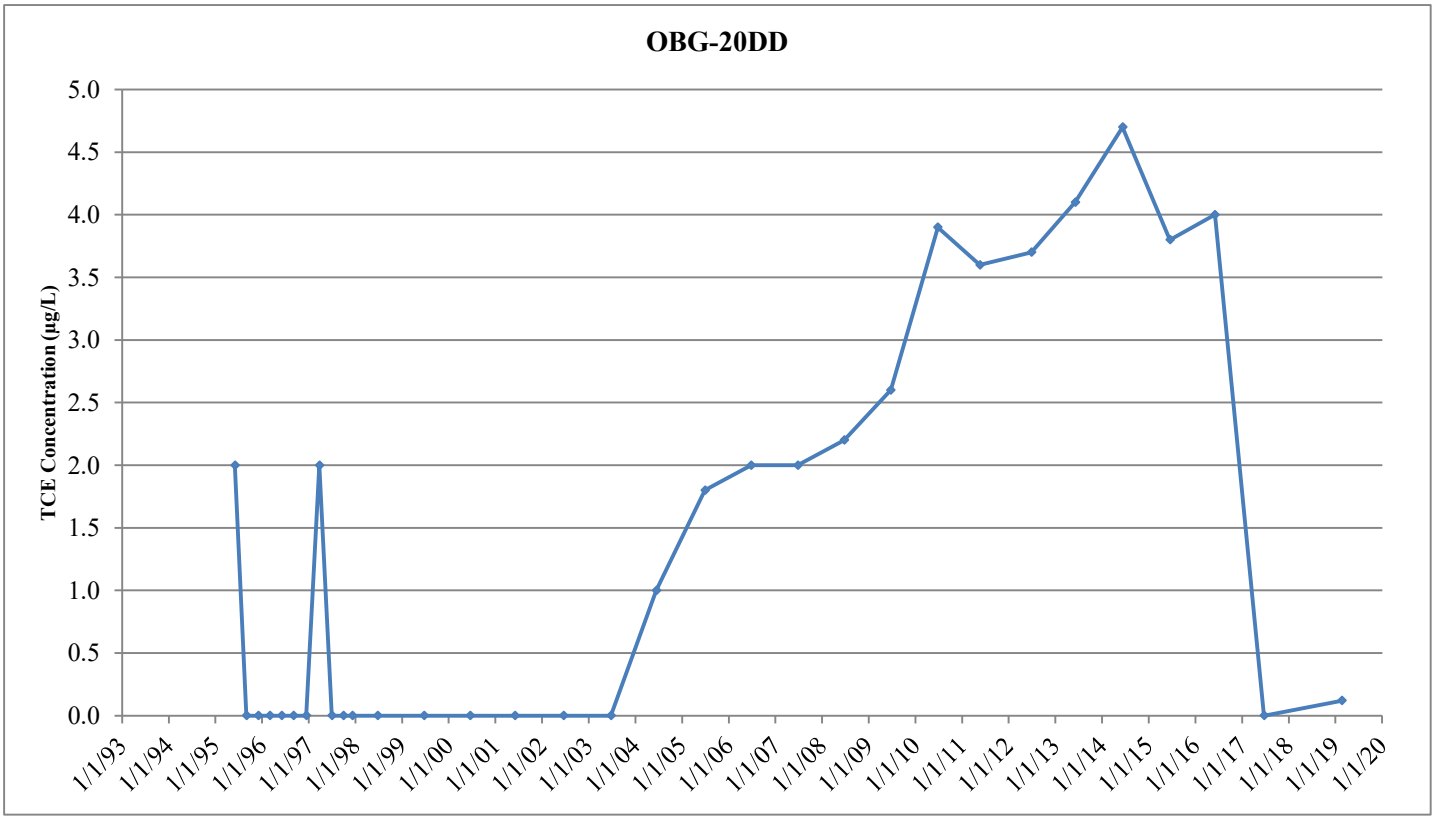
Nondetects are shown as 0.0.

RAO = Remedial Action Objective

Project: EP9049.01.12.03.00
Revised: 10/4/2019

HGL HydroGeoLogic, Inc





Project: EP9049.01.12.03.00

Revised: 10/4/2019

HGL HydroGeoLogic, Inc

Legend

TCE concentration in micrograms per liter (µg/L). The MCL/RAO for TCE is 5 µg/L.

Nondetects are shown as 0.0.

MCL = maximum contaminant level

RAO = remedial action objective

Figure 5.12
TCE Trends in Select Deep Monitoring Wells at Former TRW/Ramsey Facility

APPENDIX A

GEOLOGIC MAPS
(FROM SMITH ET AL, 2004A; AND SMITH AND BACHLE, 2004B)

Plate 1	Topographic Map
Plate 2	Bedrock Geology Map
Plate 3	Structural Contours at Base of Roubidoux Formation
Plate 4	Structural Contours at Base of Gasconade Dolomite
Plate 5	Structural Contours at Base of Eminence Dolomite
Plate 6	Structural Contours at Base of Potosi Dolomite
Plate 7	Structural Contours at Top of Proterozoic Basement Rocks
Plate 8	Inferred Top of Gasconade Dolomite Elevation
Plate 9	Inferred Top of Eminence Dolomite Elevation
Plate 10	Inferred Top of Potosi Dolomite Elevation
Plate 11	Inferred Top of Derby-Doe Run Dolomite Elevation
Plate 12	Inferred Top of Proterozoic Basement Rock Elevation
Figure A1	Fence Diagram Incorporating A-A', B-B', and C-C' Cross Sections
Figure A2	Cross Section A-A'
Figure A3	Cross Section B-B'
Figure A4	Cross Section C-C'

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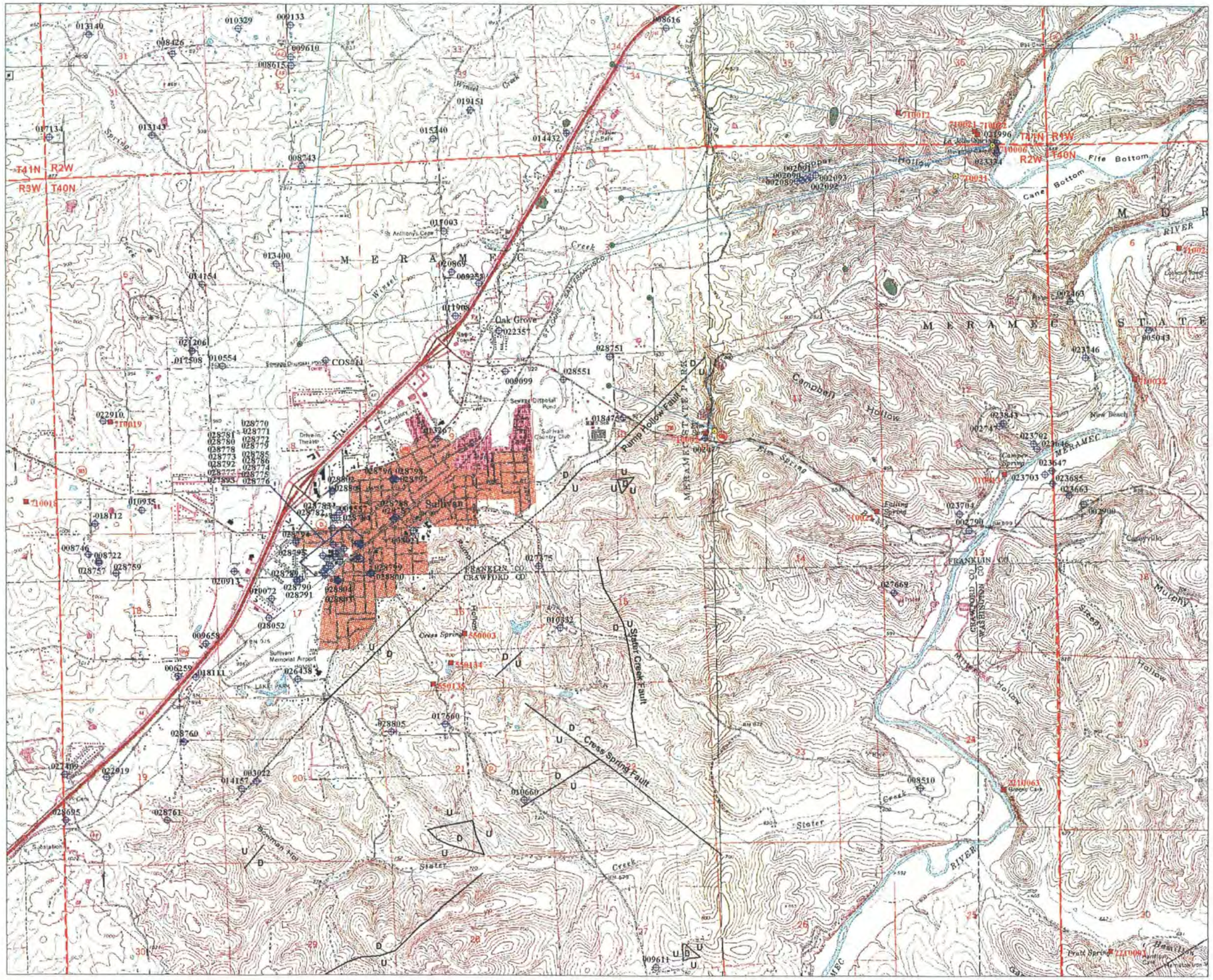


Plate 1: Topographic Map of the Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N W E S

- Drill holes used as control points for subsequent subcrop maps
- Dye injection location
- Dye reception location
- Dye trace line (A straight line is used to connect injection and reception points. The exact flow path is not known due to subsurface heterogeneity.)
- Known spring location
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)
- Surface karst features (sinkholes)
- Township Boundary

Location of Site within Franklin County, Missouri

Topographic Maps

38091-C2-TF-024 (Spring Bluff)	38091-C1-TF-024 (Stanton)
38091-B2-TF-024 (Sullivan)	38091-B1-TF-024 (Meramec State Park)

Base maps are taken from USGS 1: 24,000 scale 7.5-minute quadrangles

Scale 1:24,000

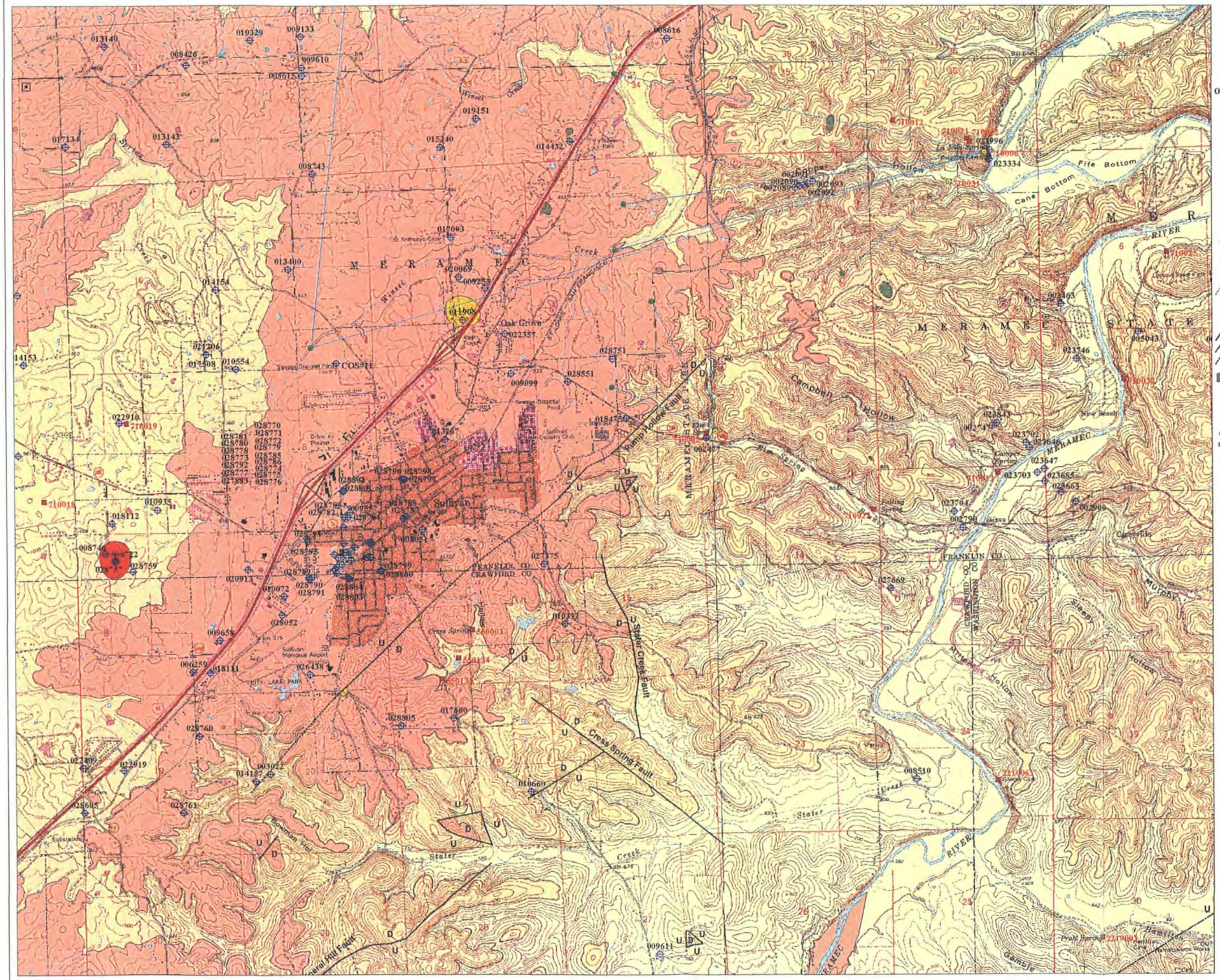


Plate 2: Bedrock Geology Map of the Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N W E S

- Drill holes used as control points for subsequent subcrop maps
- Dye injection location
- Dye reception location
- Dye trace line (A straight line is used to connect injection and reception points. The exact flow path is not known due to subsurface heterogeneity.)
- Known spring location
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)
- Surface karst features (sinkholes)

Geologic Strata Located in Outcrops and Beneath Residuum and Alluvium

- Jefferson City Dolomite
- Roubidoux Formation
- Gasconade Dolomite
- Eminence Dolomite
- Potosi Dolomite
- Proterozoic Igneous Rocks

Location of Site within Franklin County, Missouri

Topographic Maps

38091-C2-TF-024 (Spring Bluff)	38091-C1-TF-024 (Stanton)
38091-B2-TF-024 (Sullivan)	38091-B1-TF-024 (Meramec State Park)

Base maps are taken from USGS 1: 24,000 scale 7.5-minute quadrangles

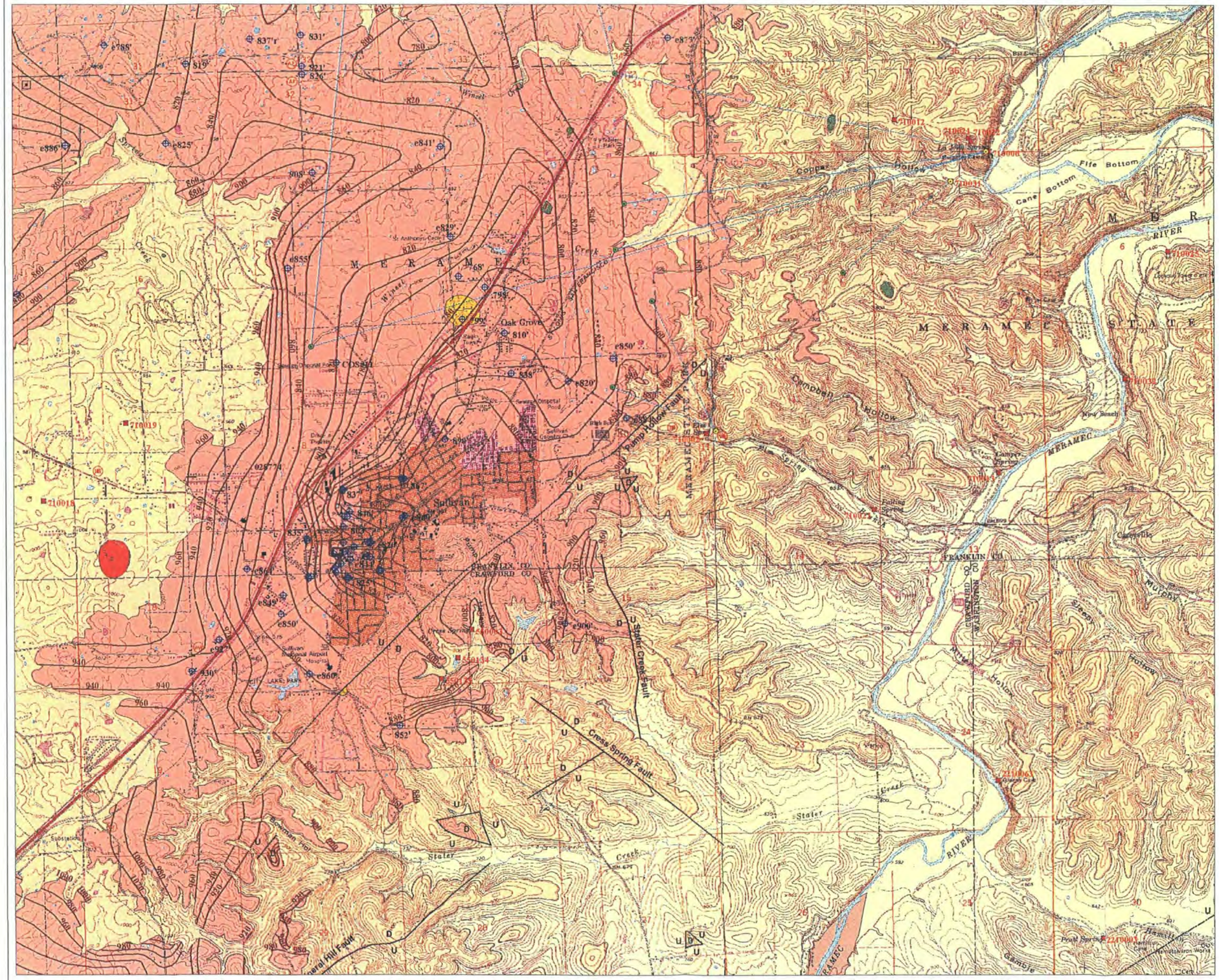


Plate 3: Structural Contours at Base of Roubidoux Formation in Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N
W E
S

- Drill hole used as control point for geologic contours
- Roubidoux Formation Base Contour
- Dye injection location
- Dye reception location
- Dye trace line (A straight line is used to connect injection and reception points. The exact flow path is not known due to subsurface heterogeneity.)
- Known spring location
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)
- Surface karst features (sinkholes)

Geologic Strata Located in Outcrops and Beneath Residuum and Alluvium

- Jefferson City Dolomite
- Roubidoux Formation
- Gasconade Dolomite
- Eminence Dolomite
- Potosi Dolomite
- Proterozoic Igneous Rocks

Location of Site within Franklin County, Missouri

Topographic Maps

38091-C2-TF-024 (Spring Bluff)	38091-C1-TF-024 (Stanton)
38091-B2-TF-024 (Sullivan)	38091-B1-TF-024 (Meramec State Park)

Base maps are taken from USGS 1: 24,000 scale 7.5-minute quadrangles

Scale 1: 24,000

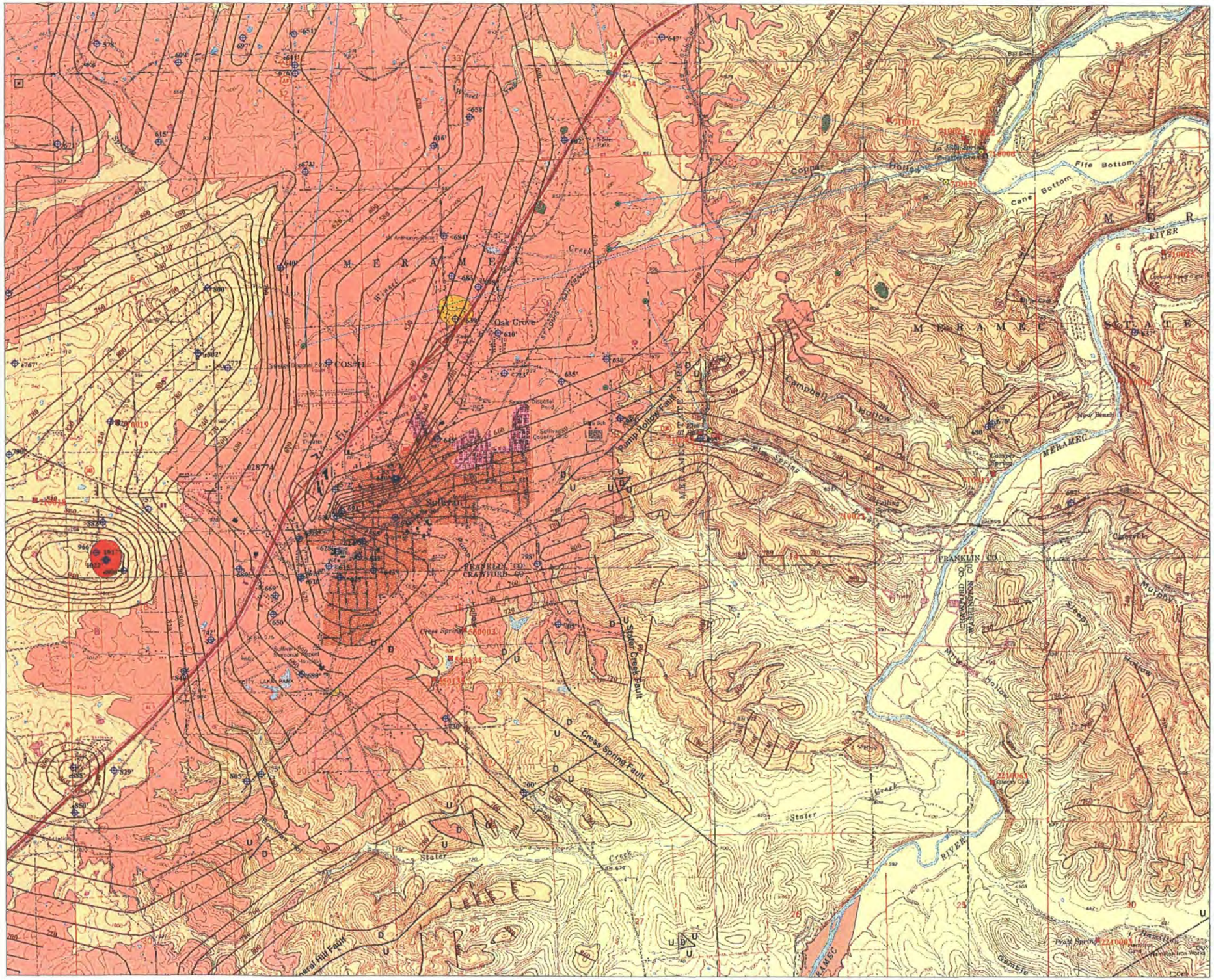


Plate 4: Structural Contours at Base of Gasconade Dolomite in Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N W E S

- Drill hole used as control point for geologic contours
- Gasconade Dolomite Base Contour
- Dye injection location
- Dye reception location
- Dye trace line (A straight line is used to connect injection and reception points. The exact flow path is not known due to subsurface heterogeneity.)
- Known spring location
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)
- Surface karst features (sinkholes)

Geologic Strata Located in Outcrops and Beneath Residuum and Alluvium

- Jefferson City Dolomite
- Roubidoux Formation
- Gasconade Dolomite
- Eminence Dolomite
- Potosi Dolomite
- Proterozoic Igneous Rocks

Location of Site within Franklin County, Missouri

Topographic Maps

38091-C2-TF-024 (Spring Bluff)	38091-C1-TF-024 (Stanton)
38091-B2-TF-024 (Sullivan)	38091-B1-TF-024 (Meramec State Park)

Base maps are taken from USGS 1: 24,000 scale 7.5-minute quadrangles

Scale 1: 24,000

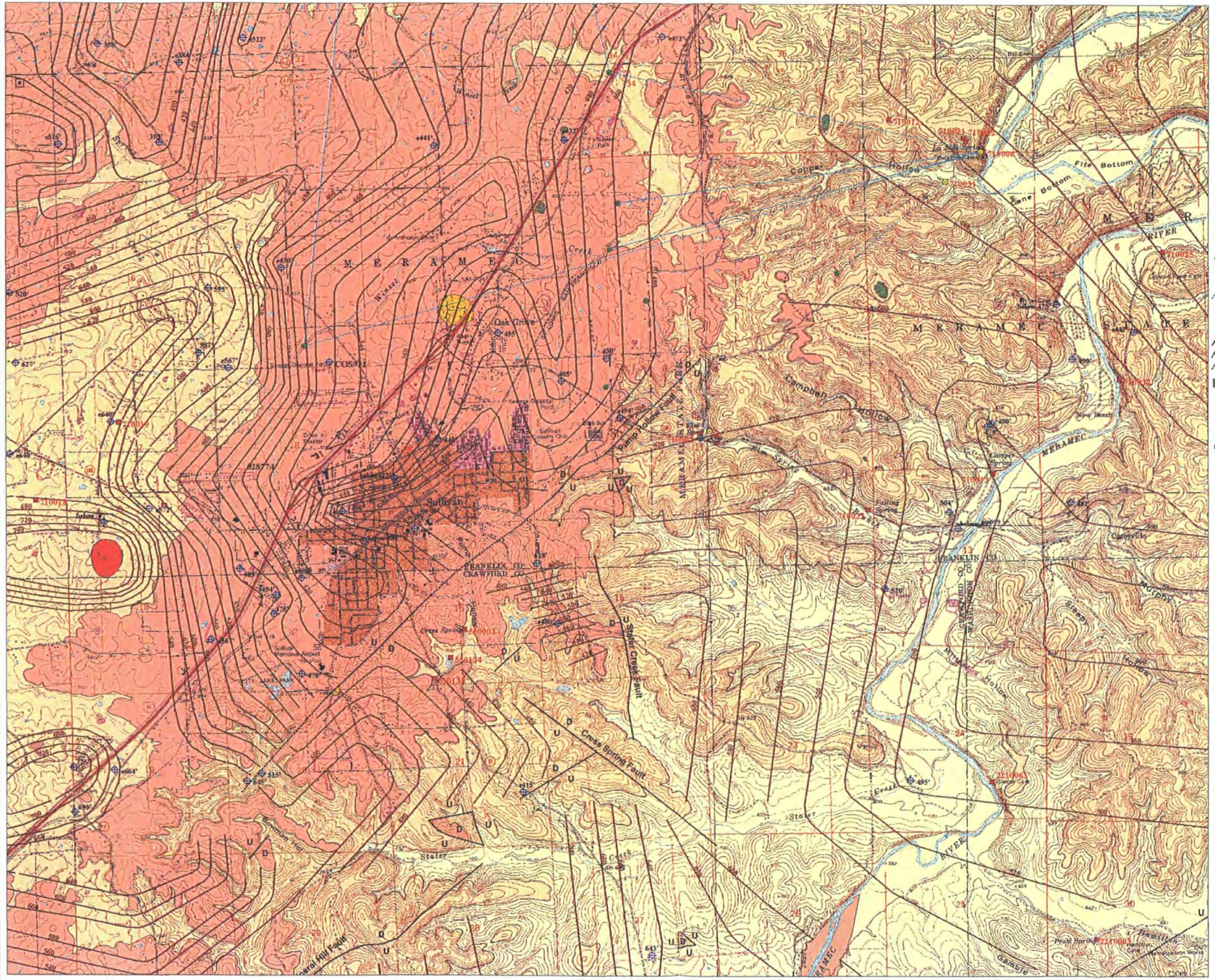


Plate 5: Structural Contours at Base of Eminence Dolomite in Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N W E S

- Drill hole used as control point for geologic contours
- Eminence Dolomite Base Contour
- Dye injection location
- Dye reception location
- Dye trace line (A straight line is used to connect injection and reception points. The exact flow path is not known due to subsurface heterogeneity.)
- Known spring location
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)
- Surface karst features (sinkholes)

Geologic Strata Located in Outcrops and Beneath Residuum and Alluvium

- Jefferson City Dolomite
- Roubidoux Formation
- Gasconade Dolomite
- Eminence Dolomite
- Potosi Dolomite
- Proterozoic Igneous Rock

Location of Site within Franklin County, Missouri

Topographic Maps

38091-C2-TF-024 (Spring Bluff)	38091-C1-TF-024 (Stanton)
38091-B2-TF-024 (Sullivan)	38091-B1-TF-024 (Meramec State Park)

Base maps are taken from USGS 1: 24,000 scale 7.5-minute quadrangles

Scale 1: 24,000

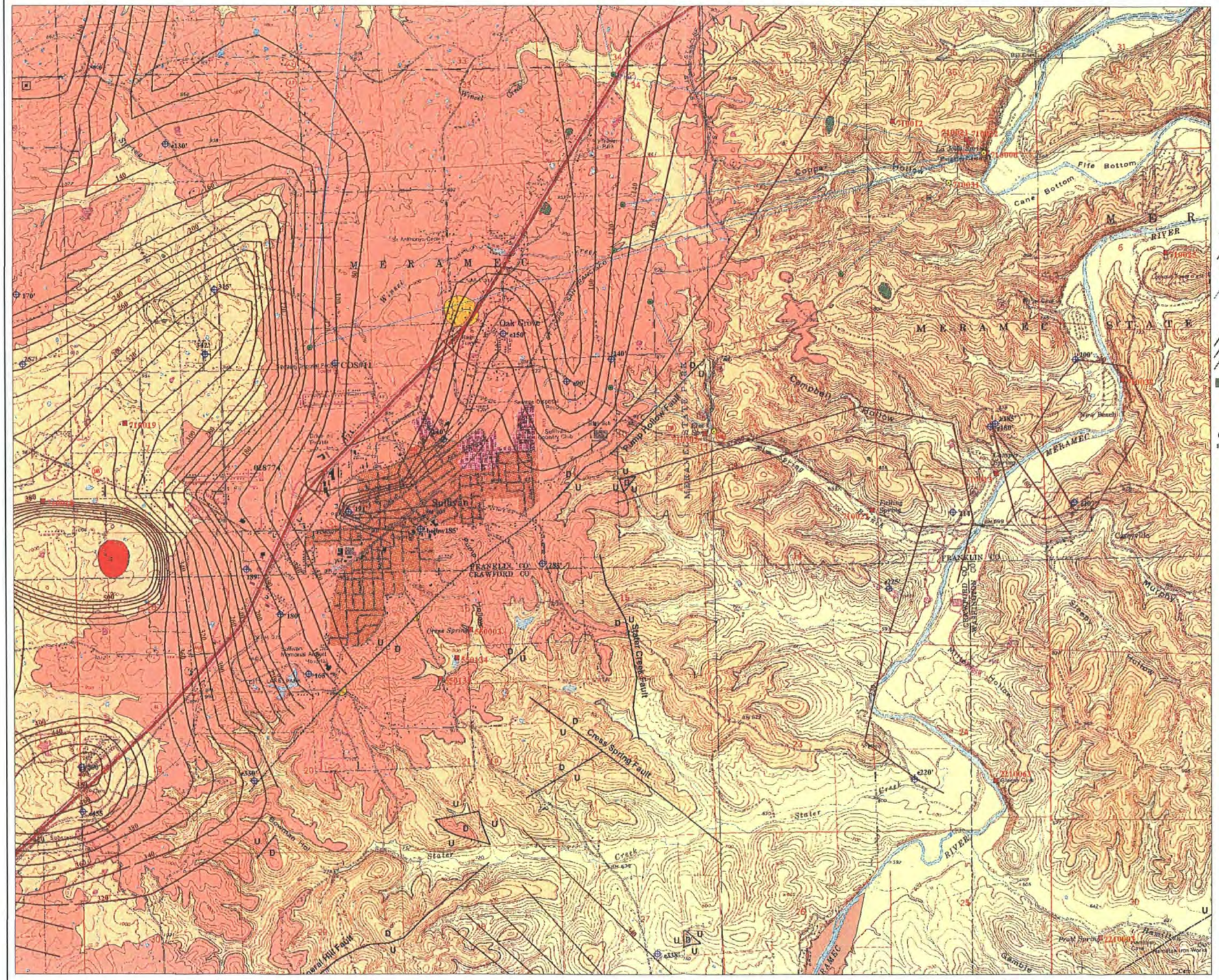


Plate 6: Structural Contours at Base of Potosi Dolomite in Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N
W E
S

- Drill hole used as control point for geologic contours
- Potosi Dolomite Base Contour
- *Dye injection location*
- Dye reception location
- Dye trace line (A straight line is used to connect injection and reception points. The exact flow path is not known due to subsurface heterogeneity.)
- Known spring location
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)
- Surface karst features (sinkholes)

Geologic Strata Located in Outcrops and Beneath Residuum and Alluvium

- Jefferson City Dolomite
- Roubidoux Formation
- Gasconade Dolomite
- Eminence Dolomite
- Potosi Dolomite
- Proterozoic Igneous Rock

Location of Site within Franklin County, Missouri

Topographic Maps

38091-C2-TF-024 (Spring Bluff)	38091-C1-TF-024 (Stanton)
38091-B2-TF-024 (Sullivan)	38091-B1-TF-024 (Meramec State Park)

Base maps are taken from USGS 1: 24,000 scale 7.5-minute quadrangles

Scale 1: 24,000

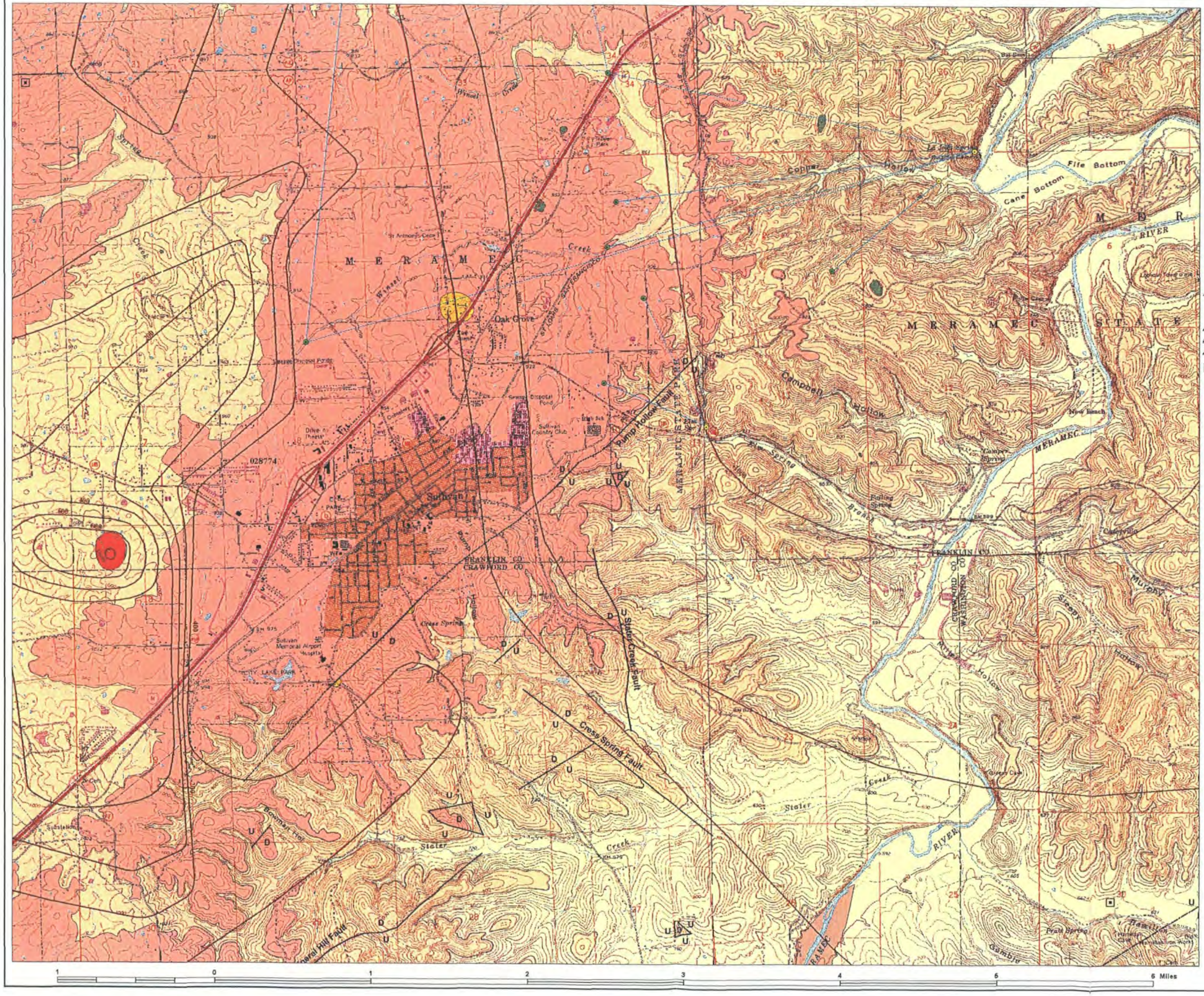


Plate 7: Structural Contours at Top of Proterozoic Basement Rocks in Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N
W E
S

- Proterozoic Basement Top Contour
- Dye injection location
- Dye reception location
- Dye trace line (A straight line is used to connect injection and reception points. The exact flow path is not known due to subsurface heterogeneity.)
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)
- Surface karst features (sinkholes)

Geologic Strata Located in Outcrops and Beneath Residuum and Alluvium

- Jefferson City Dolomite
- Roubidoux Formation
- Gasconade Dolomite
- Eminence Dolomite
- Potosi Dolomite
- Proterozoic Igneous Rocks

Location of Site within Franklin County, Missouri

Topographic Maps

38091-C2-TF-024 (Spring Bluff)	38091-C1-TF-024 (Stanton)
38091-B2-TF-024 (Sullivan)	38091-B1-TF-024 (Meramec State Park)

Base maps are taken from USGS 1: 24,000 scale 7.5-minute quadrangles

Scale 1: 24,000

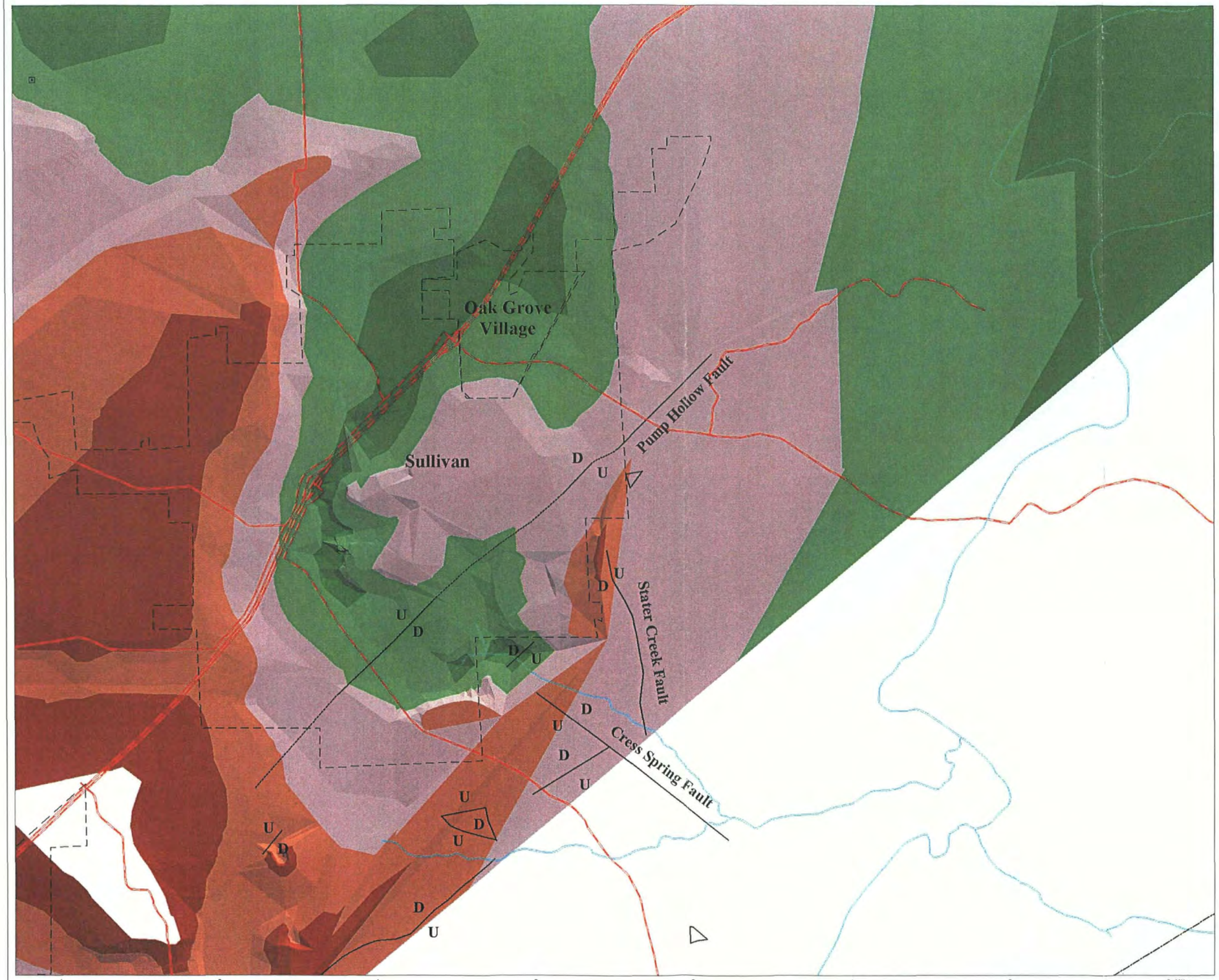


Plate 8:
Inferred Top of Gasconade Dolomite Elevation
Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N
W E
S

Elevation Range
(feet above mean sea level)
50-foot intervals

- 950 to 1000
- 900 to 950
- 850 to 900
- 800 to 850
- 750 to 800
- No Data

- Urban areas
- Major roads
- Rivers and major streams
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)

Location of Site within Franklin County, Missouri

Scale 1: 24,000

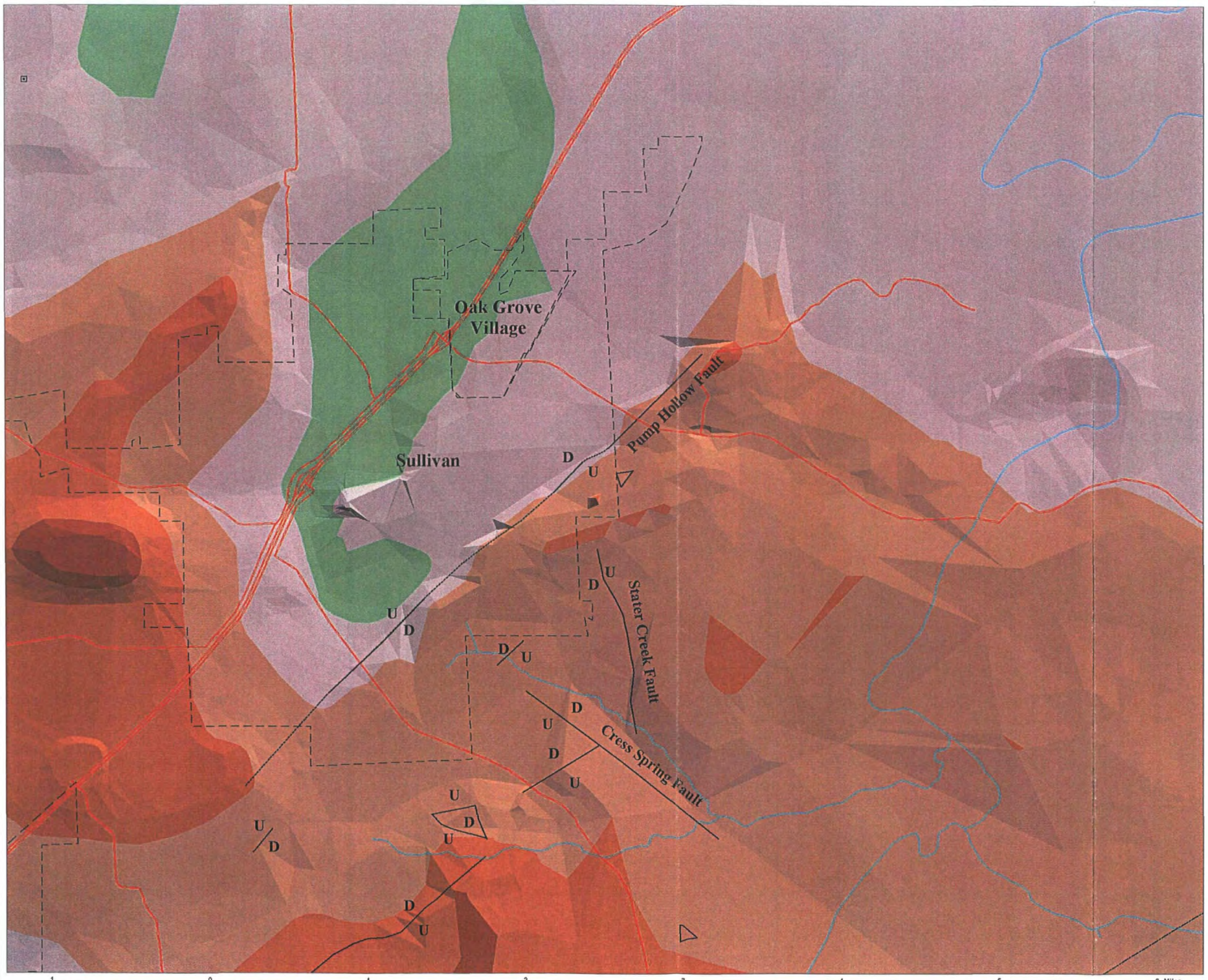


Plate 9:
Inferred Top of Eminence Dolomite Elevation
Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N W E S

Elevation Range
(feet above mean sea level)
100-foot intervals

- 900 to 1000
- 800 to 900
- 700 to 800
- 600 to 700
- 500 to 600

- Urban areas
- Major roads
- Rivers and major streams
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)

Location of Site within Franklin County, Missouri

Scale 1: 24,000

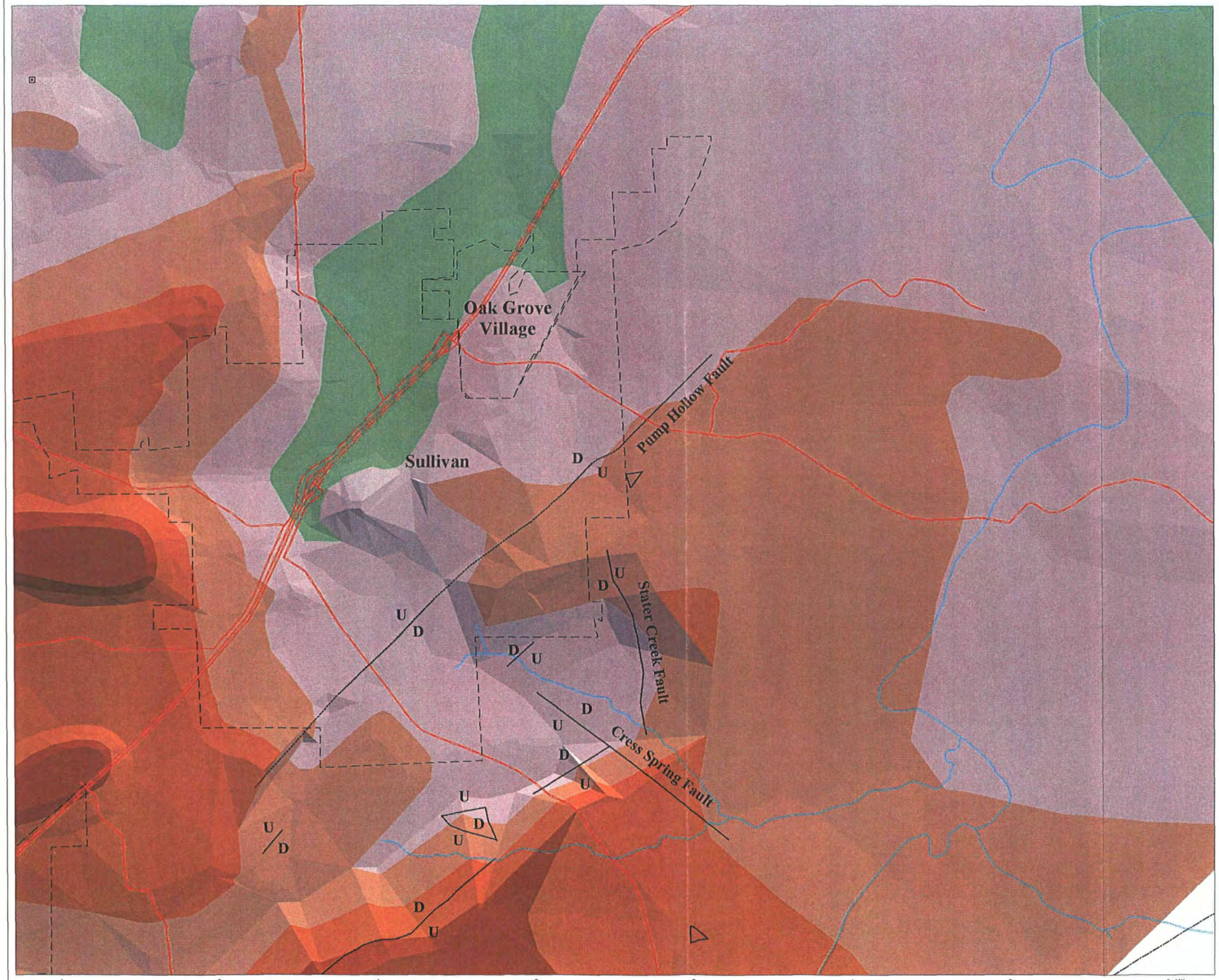


Plate 10:
Inferrred Top of Potosi Dolomite Elevation
Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N W E S

Elevation Range
(feet above mean sea level)
100-foot intervals

- 700 to 800
- 600 to 700
- 500 to 600
- 400 to 500
- 300 to 400
- No Data

- Urban areas
- Major roads
- Rivers and major streams
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)

Location of Site within Franklin County, Missouri

Scale 1: 24,000

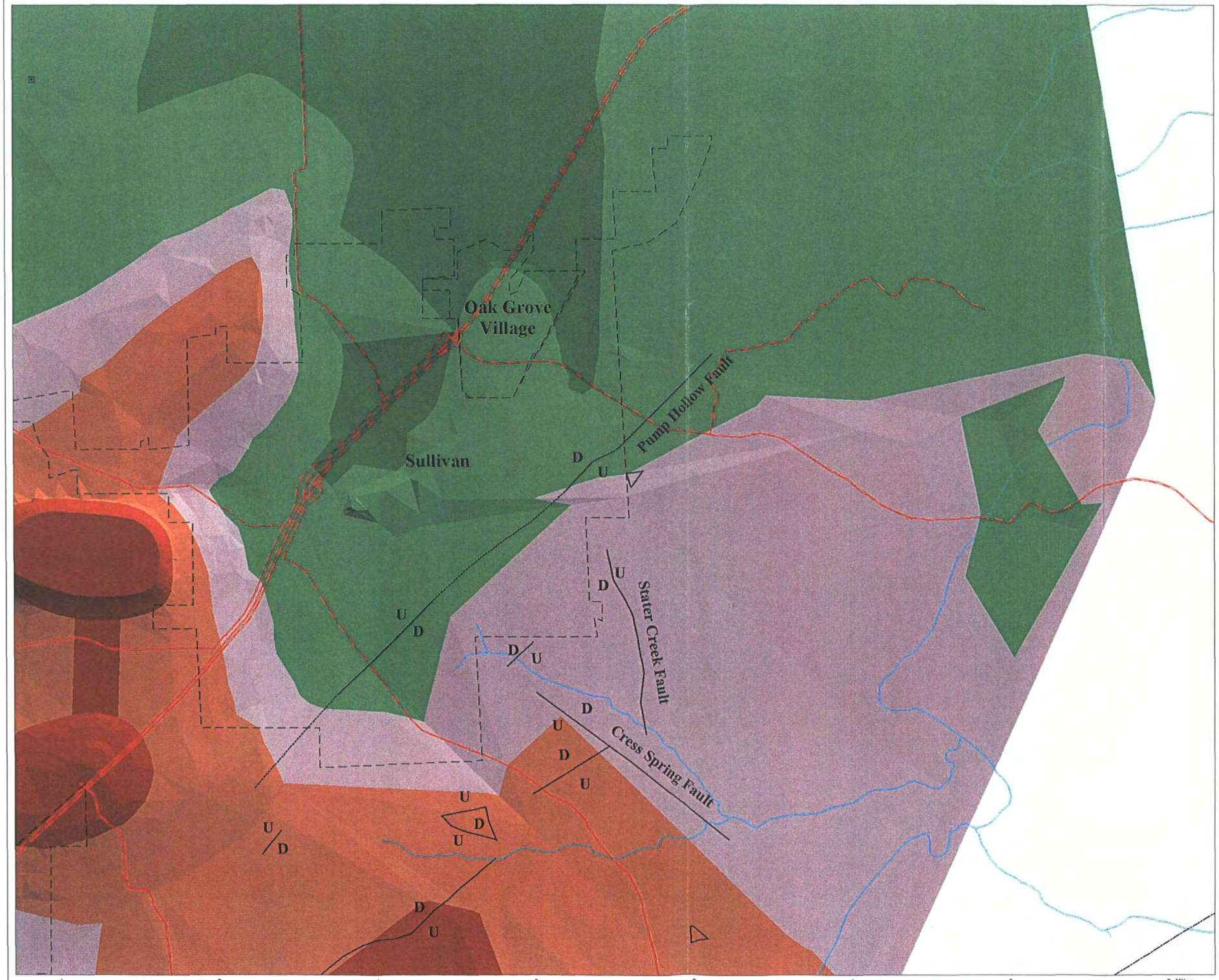


Plate 11:
Inferred Top of Derby-Doe Run Dolomite Elevation
Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N
W E
S

Elevation Range
(feet above mean sea level)
100-foot intervals

- 400 to 500
- 300 to 400
- 200 to 300
- 100 to 200
- 0 to 100
- No Data

- Urban areas
- Major roads
- Rivers and major streams
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)

Location of Site within Franklin County, Missouri

Scale 1: 24,000

Plate 12:
Inferred Top of Proterozoic Basement Rock Elevation
Oak Grove Village-Sullivan Area

Work compiled by David C. Smith, MDNR/GSRAD

N
W E
S

Elevation Range
(feet above mean sea level)
400-foot intervals

- 600 to 1000
- 200 to 600
- -200 to 200
- -600 to -200
- -1000 to -600

- Urban areas
- Major roads
- Rivers and major streams
- Fault with known surface expression
- Suspected Fault
- Speculated Fault (no surface expression)

Location of Site within Franklin County, Missouri

Scale 1: 24,000

Figure A1
Oak Grove Village-Sullivan Area
Fence Diagram Incorporating A-A', B-B' and C-C' Cross Sections

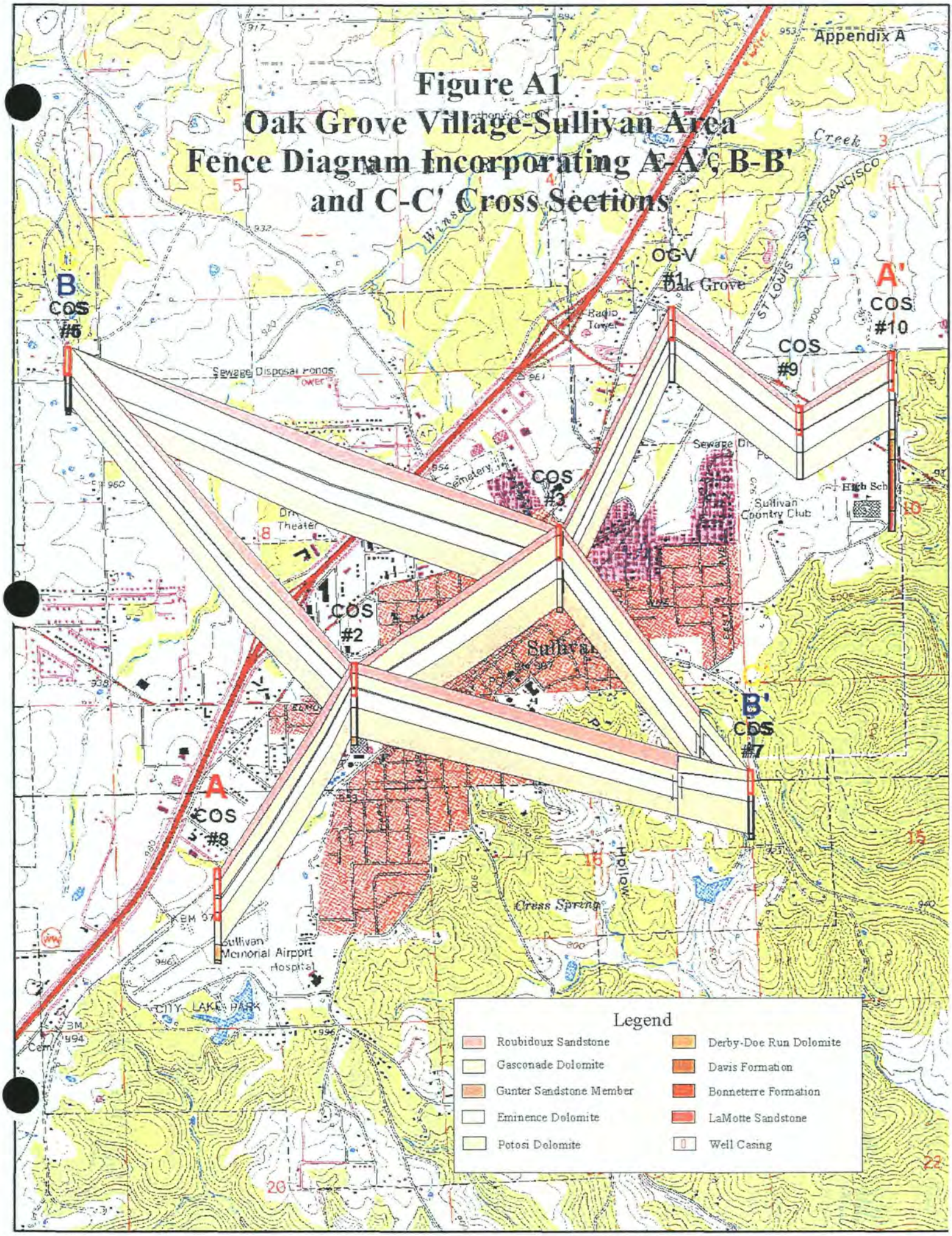
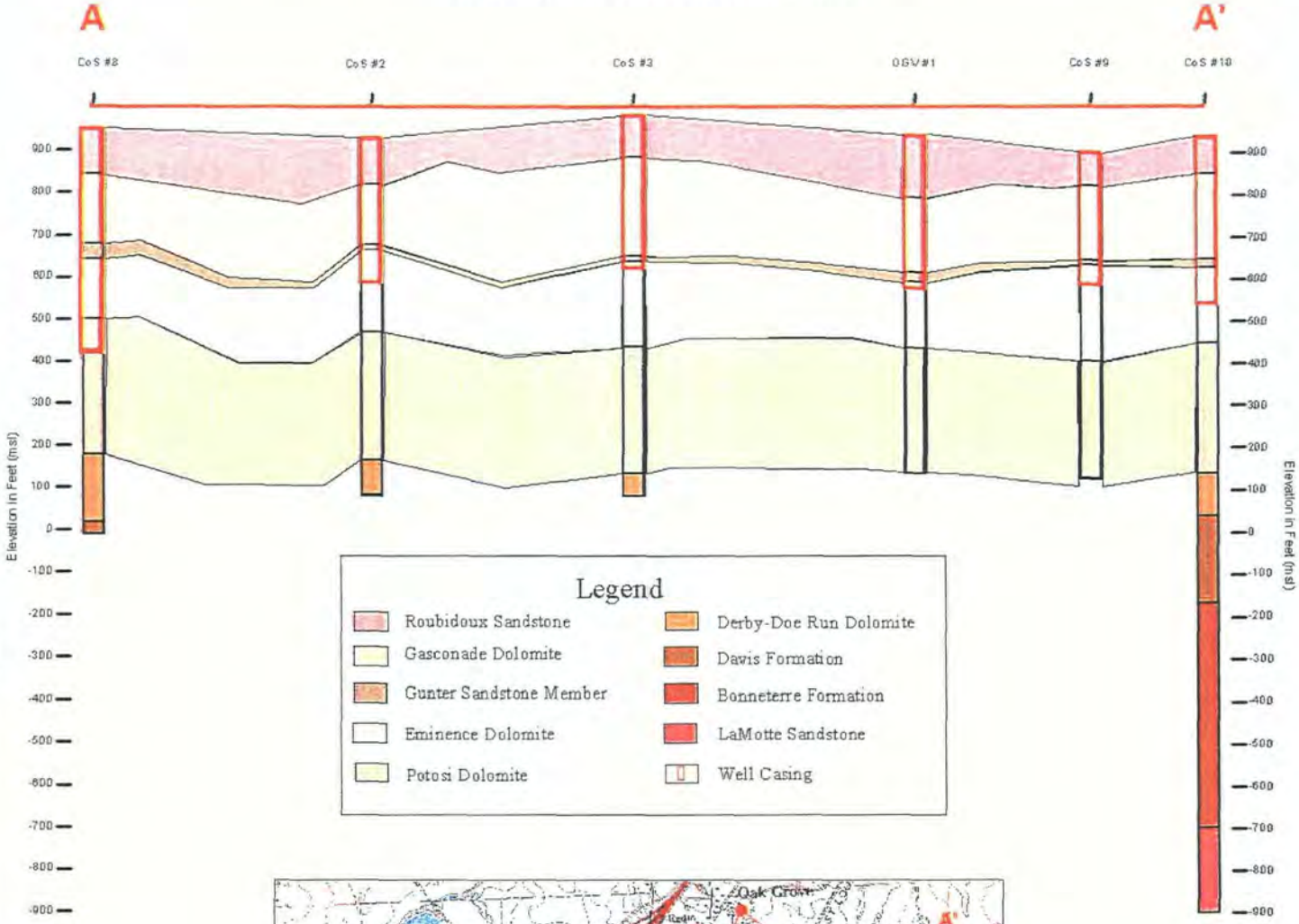
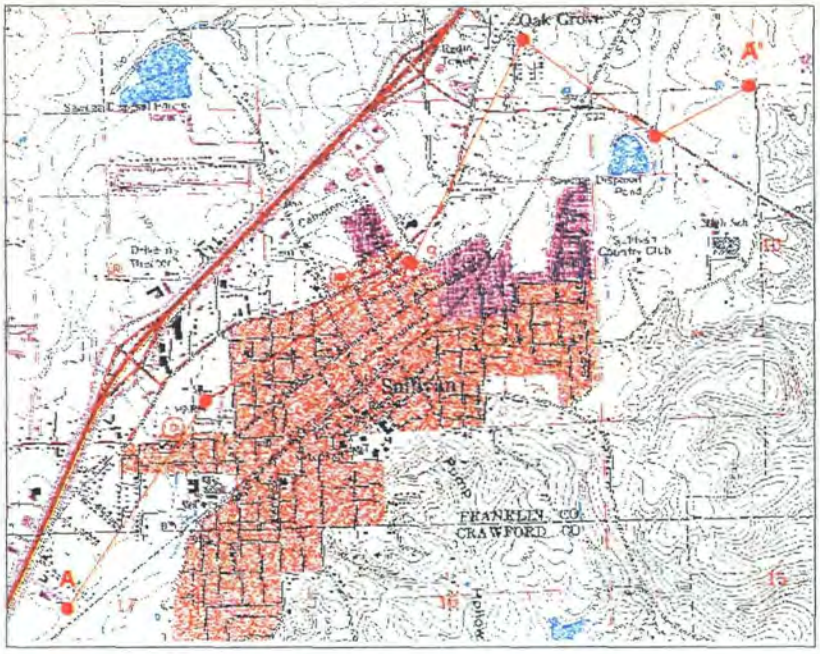


Figure A2
Oak Grove Village-Sullivan Area
Cross Section A-A'

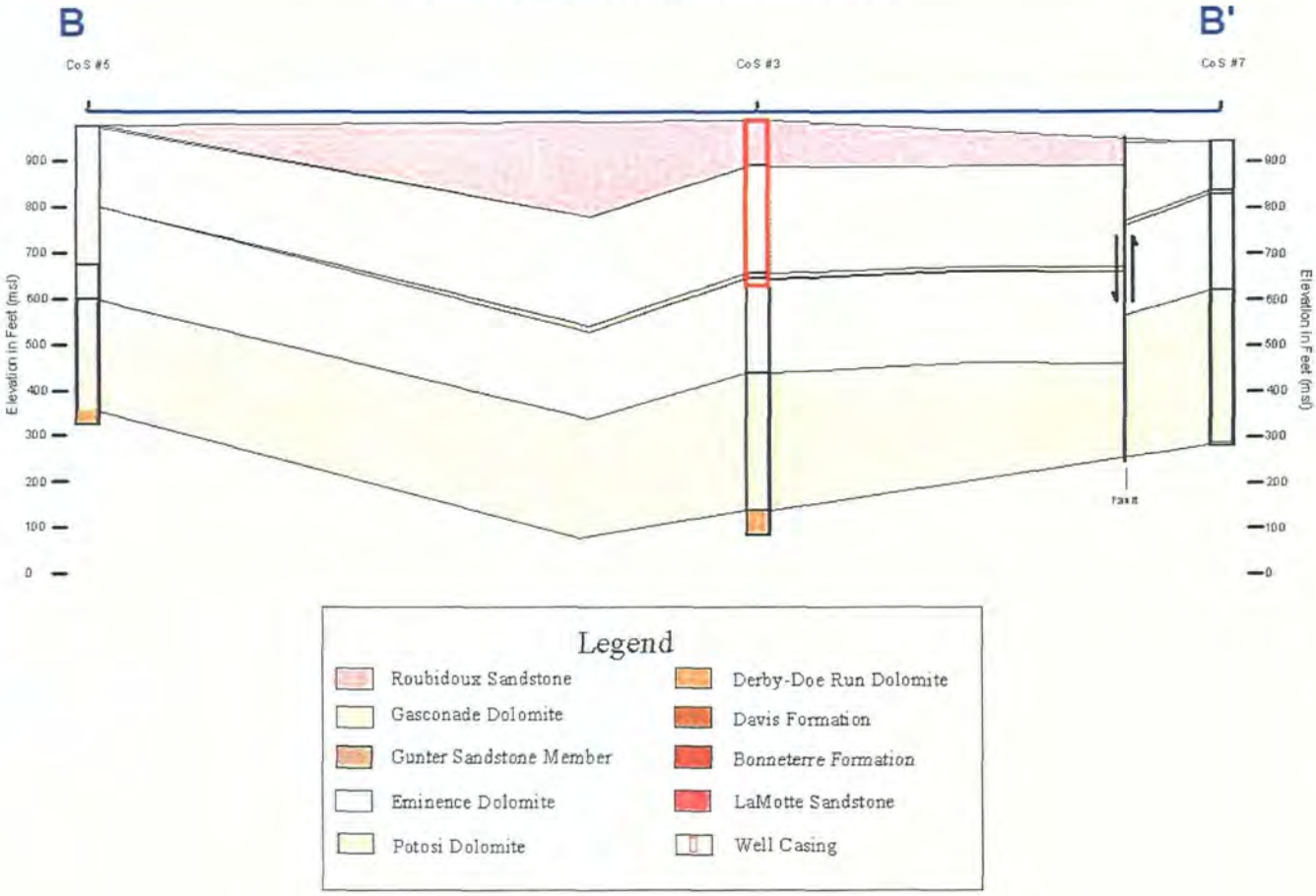


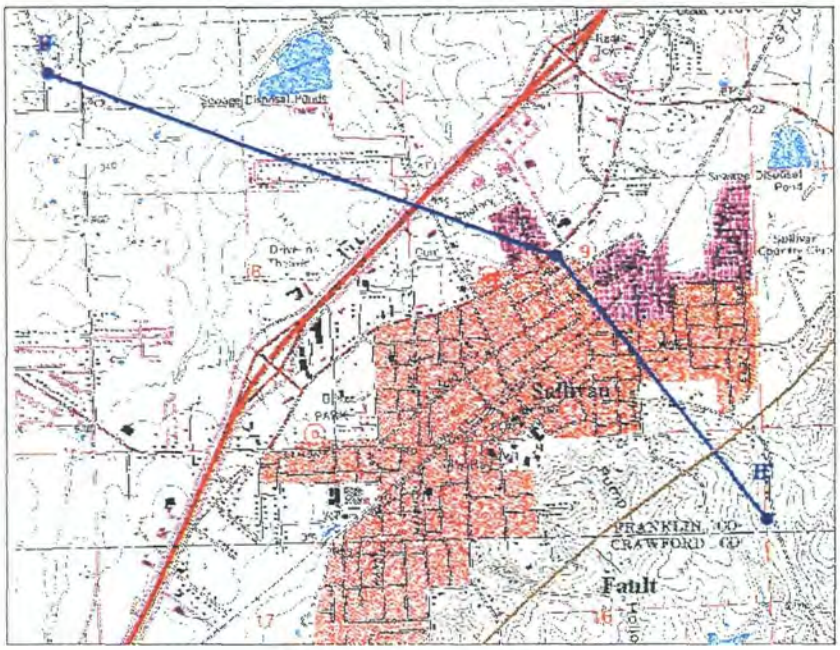


Cross section location

Interpretation provided by D.C.Smith

Figure A3
Oak Grove Village-Sullivan Area
Cross Section B-B'

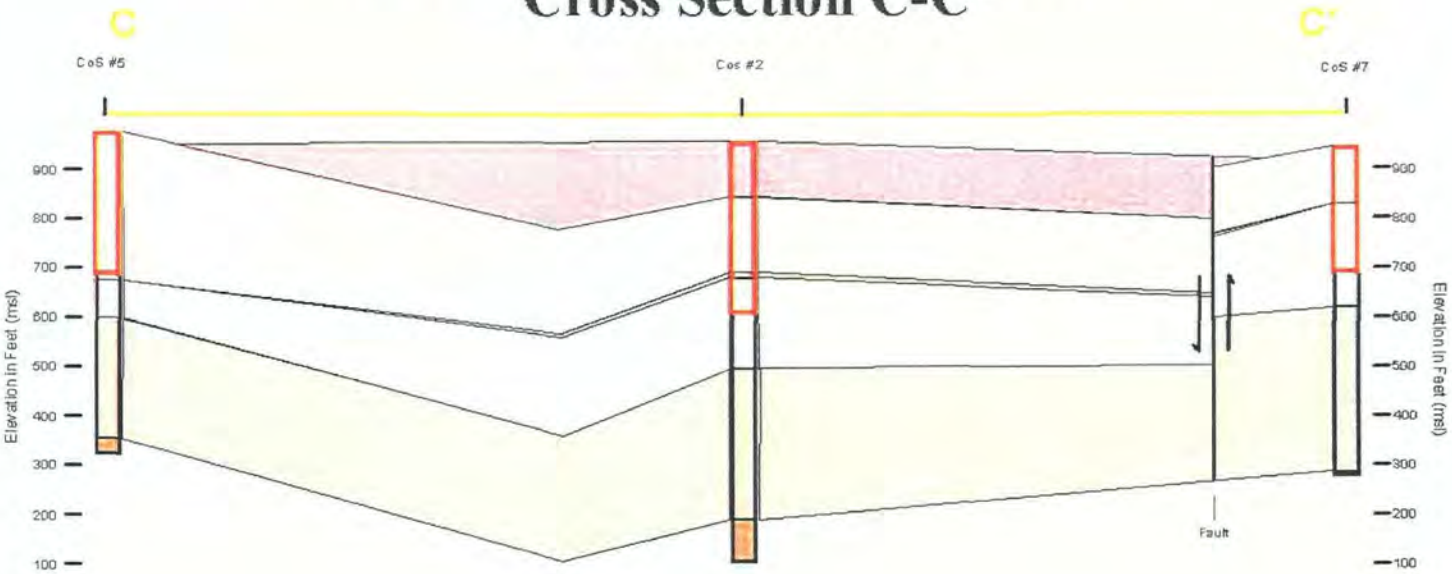


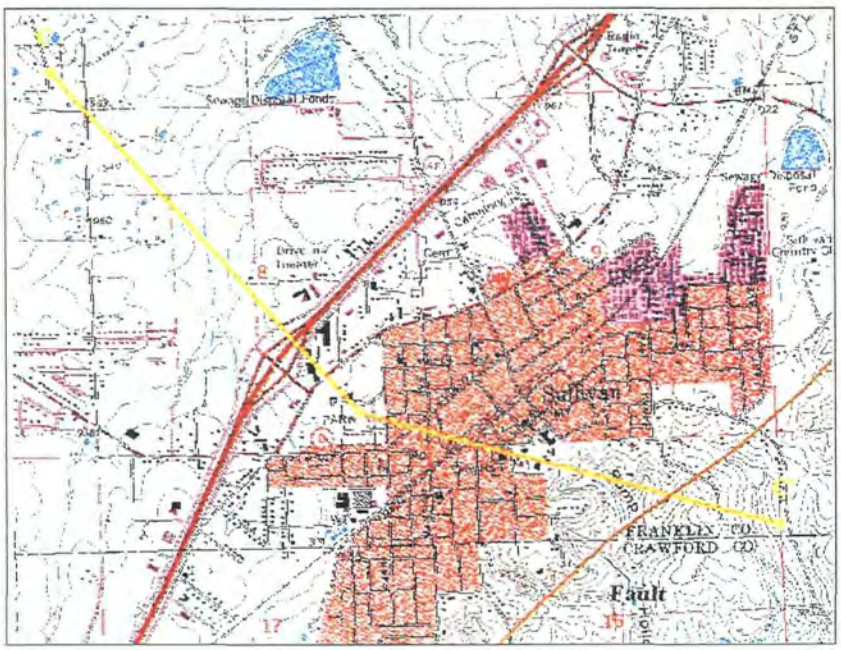


Cross section location

Interpretation provided by D.C.Smith

Figure A4
Oak Grove Village-Sullivan Area
Cross Section C-C'





Cross section location

Interpretation provided by D.C.Smith

APPENDIX B

HISTORICAL BORING LOGS AND WELL CONSTRUCTION INFORMATION

MW-1 Boring Log
MW-1 Geophysical Log
MW-1 Construction Diagram
MW-2 Boring Log
MW-3 Boring Log
MW-3 Geophysical Log
MW-3 Construction Diagram
MW-4/MW-5 Boring Log
MW-4 Construction Diagram
MW-5 Construction Diagram
MW-6 Boring Log/Construction Diagram
MW-107 Boring Log
MW-108 Boring Log
OBG-1DD Boring Log
OBG-1DD Deep Monitoring Well Diagram
OBG-14D Boring Log
OBG-14D Intermediate-Deep Monitoring Well Diagram
OBG-14D Deep Monitoring Well Diagram
OBG-18DD Boring Log
OBG-18DD Deep Monitoring Well Diagram
Oak Grove Village Municipal Well #1 Boring Log
Oak Grove Village Municipal Well #2 Construction Data
Oak Grove Village Municipal Well #2 Well Record
Oak Grove Village Municipal Well #3 Well Record and Boring Log
Sullivan Municipal Well 2 Boring Log
Sullivan Municipal Well 3 Boring Log
Sullivan Municipal Well 4 Boring Log
Sullivan Municipal Well 7 Boring Log
Sullivan Municipal Well 12 Well Record, Boring Log, and Construction Information
Table 6 Oak Grove Village Private Well Information

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BORING RECORD

GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	OVM SOIL GAS PPM x 1.0 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	OVM READING	RECOVERY	DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	0	SOD, BROWN SILTY CLAY MED. STIFF	CL							0
		BROWN SILTY CLAY, SOFT. SATURATED BY 5'	CL	TOPSOIL						
	5	AUGER REFUSAL AT 6'								5
		CLAY, CHERT, ROCK COBBLES								
	10	FAT CLAY, RESIDUAM CHERT								10
	15									15
	20					1				20
		AT 24' INTO CHERTY DOCOMITE								
	25									25
		CHERTY DOCOMITE								
	30			CASONADE		2				30
		HEAVY CHERT LENSE, DENSE								
	35									35

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-1*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
DRILLED BY LAYNE WESTERN
LOGGED BY RS
CHECKED BY BS
DRAWING NO. MDNR-1
DRAWN BY: LJ
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GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	DVM SOIL GAS PPM x 1.0 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	DVM READING	RECOVERY	DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND DVM READING: SOIL: _____ PPM AIR: _____ PPM
	35	SMALLER CHERT LENSES, HIGHER PERCENTAGE DOLOMITE		GASONADE		3				35
	40									40
	45									45
	50					4				50
	55	[LOOSE CIRCULATION AT 54.5']								55
	60	CHERTY DOLOMITE								60
	65									65
	70									70

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-1*

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	70									70
		DENSER CHERT		GASONADE						
	75									75
	80	CHERTY DOLOMITE								80
	85	QUICK DROP IN DRILL ROD, LARGE VOID								85
		CHERTY DOLOMITE								
	90									90
	95	SOFT ROCK ZONE								95
		HARD CHERTY DOLOMITE								
	100									100
		SET 15" DIA. CASING AT 102.5'								
		CHERTY DOLOMITE								
	105									105

CHE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

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BORING NUMBER *MW-1*

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	105			GASONADE						105
	110					5				110
		VOID, LOOSE CIRCULATION								
	115	SOFT, QUICK DROPS, FROM 114' TO 118'								115
		HARDER ROCK, CHERTY								
	120	STEADY DRILLING, SOLID ROCK WITH LITTLE CHERT LENSES								120
	125									125
	130									130
	135	STEADY CONSISTENT ROCK								135
	140									140

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	140									140
	145			GASONADE						145
		VOID SPACE 147' TO 148'								
		ROUGH, CHERTY								
	150	ROUGH, CHERTY								150
	155									155
	160									160
	165									165
	170									170
		CONSISTENT ROCK LESS CHERT								
	175									175

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

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		Start: Stop: GROUND SURFACE:								BACKGROUND DVM READING: SOIL: _____ PPM AIR: _____ PPM
	175									175
				GASONADE						
	180									180
	185	SCATTERED CHERT LENSES CONSISTENT ROCK								185
	190									190
	195									195
		STOP ADVANCEMENT OF 10" HOLE DUE TO BACK FLOW BINDING TOOL. GROUT HOLE AND REBORE								
	200	3/9/05 CONTINUE ADUANCINE 10" HOLE				6				200
		CHERTY DOLOMITE, SOLID ROCK, CONSISTENT								
	205									205
		CHERTY DOLOMITE								
	210									210

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE* *4100404401*

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	210					7				210
	215			GASCONADE						215
		CHERTY DOLOMITE, SOME COURSE BROWN SANDSTONE				8				
	220	SOLID ROCK, NO VOIDS. MASSIVE DOLOMITE, LITTLE CHERT, MORE BROWN SANDSTONE FRAGS								220
	225	SOLID ROCK, NO VOIDS ...GOOD WATER PRODUCTION...		GUNTER MEMBER OF GASCONADE						225
		GRAY DOLOMITE / COARSE BROWN SANDSTONE								
	230					9				230
		COARSE BROWN SANDSTONE, LITIC CHERT								
	235					10				235
	240	GRAY / GREEN DOLOMITE		EMINENCE		11				240
		SOLID ROCK, NO VOIDS								
	245									245

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	245									245
	250	GRAY DENSE DOLOMITE, DRUSE QUARTZ VOGS.				12				250
	255	SOLID DOLOMITE								255
	260	MASSIVE GRAY DOLOMITE, SOME CHERT (SOME BLACK CHERT) SMALL VOID SPACE AT 260'		EMINENCE		13				260
	265									265
	270	MASSIVE GRAY LIGHT DOLOMITE				14				270
	275									275
	280	GRAY / WHITE DOLOMITE								280

CHE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

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		Start: Stop: GROUND SURFACE:								BACKGROUND DVM READING: SOIL: _____ PPM AIR: _____ PPM
	280					15				280
	285									285
		GRAY WHITE DOLOMITE, DRUSE QUARTZ VUGS								
	290	SOLID CONSISTENT ROCK GRAY WHITE DOLOMITE				16				290
	295			EMINENCE						295
	300	GRAY DOLOMITE WITH DRUSE QUARTZ				17				300
	305									305
	310	GRAY DOLOMITE WITH DRUSE QUARTZ				18				310
	315									315

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)

WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	315									315
	320	GRAY DOLOMITE WITH DRUSE QUARTZ				19				320
	325	SOLID CONSISTENT ROCK								325
	330	GRAY DOLOMITE, SOME BROWN		EMINENCE		20				330
	335									335
	340	MASSIVE CRYSTALING GRAY / BROWN DOLOMITE				21				340
	345									345
	350									350

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

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		Start: Stop: GROUND SURFACE:								BACKGROUND DVM READING: SOIL: _____ PPM AIR: _____ PPM
	350	GRAY DOLOMITE				22				350
	355									355
	360	FINE TO MEDIUM GRAIN GRAY / BROWN DOLOMITE SOLID CONTINUOUS ROCK				23				360
	365			EMINENCE						365
	370	FINE TO MEDIUM GRAIN GRAY / BROWN DOLOMITE				24				370
	375									375
	380	MEDIUM GRAIN GRAY DOLOMITE				25				380
	385									385

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-1*

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	385									385
	390	MEDIUM GRAIN GRAY DOLOMITE		EMINENCE		26				390
	395	MEDIUM GRAIN GRAY DOLOMITE WITH SOME DARK GRAY FINE CRYSTALINE CHERT / DOLOMITE		POTOSI		27				395
	400	WHITE COARSE CRYSTALINE DOLOMITE DRUSE QUARTZ		POTOSI		28				400
	405			POTOSI						405
	410	FINE GRAIN GRAY/ BROWN DOLOMITE FEW DARK CHERT FRAGMENTS		POTOSI		29				410
	415									415
	420									420

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

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GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	OVM SOIL GAS PPM x 1.0 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	OVM READING	RECOVERY	DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	420	MEDIUM GRAIN GRAY / BROWN DOLOMITE				30				420
	425									425
	430	MEDIUM GRAIN GRAY / BROWN DOLOMITE SOME DRUSE QUARTZ [WATER TURNING REDDISH BROWN]				31				430
		GRAY / BROWN MEDIUM GRAIN DOLOMITE WITH DRUSE QUARTZ AND PYRITE / HEMATITE INCLUSIONS				32				
	435			POTOSI						435
	440	GRAY DOLOMITE WITH SOME DRUSE QUARTZ AND HEMATITE [HEAVY WATER INFLOW]				33				440
	445									445
	450									450
	455									455

CME CONTINUOUS AUGER SAMPLER.
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-1*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
DRILLED BY LAYNE WESTERN
LOGGED BY RS
CHECKED BY BS
DRAWING NO. MDNR-1
DRAWN BY: LJ
PAGE 13 OF 15

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	455									455
	460	FINE GRAIN GRAY DOLOMITE WITH SOME CHERT AND DRUSE QUARTZ				34				460
	465									465
	470	FINE GRAIN GRAY DOLOMITE, CHERT, DRUSE QUARTZ		POTOSI		35				470
	475									475
	480	FINE GRAIN GRAY DOLOMITE, DRUSE QUARTZ				36				480
	485									485
	490									490

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	490	FINE GRAIN GRAY DOLOMITE, DRUSE QUARTZ				37				490
	495									495
	500	SOFTER MATERIAL								500
	501.0	TOTAL DEPTH: 501.0 FEET								
	505			POTOSI						505
	510									510
	515									515
	520									520
	525									525

CME CONTINUOUS AUGER SAMPLER
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UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
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PAGE 15 OF 15

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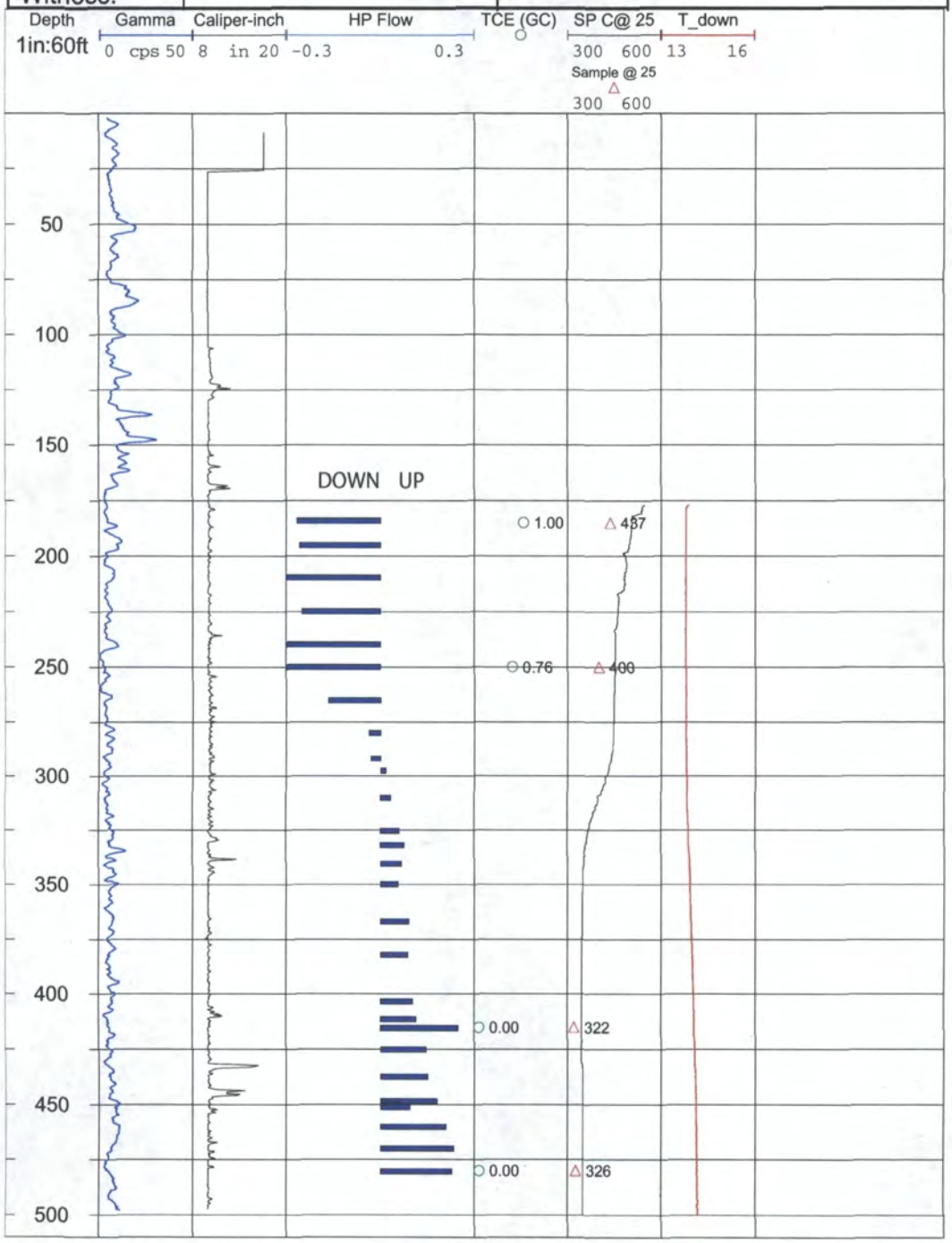
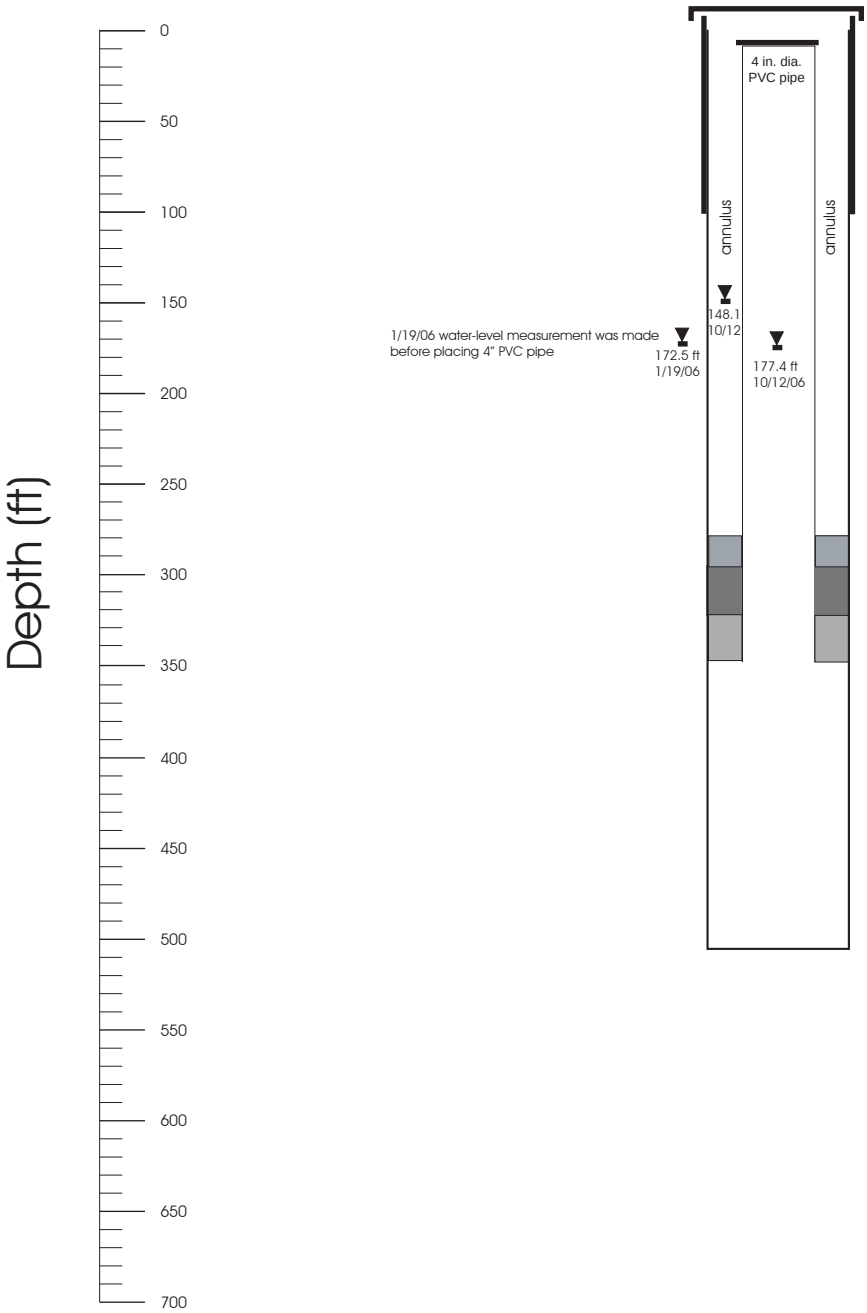
COMPANY:	
Location:	Oak Grove Village, Missouri
Well	Landfill Well (MW-1)
Date	12/13-16/2005 BH Fluid Water
Casing	10"" Steel to 104 ft
File Name	landfill_well-101206.WCL
Depth Driller	
Depth Logger	Depths from top steel (+3.2 ft)
Logged by:	D. Mugel
Witness:	

Figure 7: Geophysical Logging of Landfill Well (MW-1), Post-Phase II RI, Oak Grove Village Well Site, OU1, Oak Grove Village, Missouri





Oak Grove Village	Prepared by: D. Mugel (USGS)
Hole No: OGV-MW-1, -1A (Landfill Well)	Drilling Method: Air
Depth to BOH: 505 ft. BOW: 505 ft.	Top 4-in PVC (MW-1 mp): 859.50 ft Top 10-in steel (MW-1A mp): 860.64 ft LS Altitude: 858.38 ft. MW-1 Stickup: 1.12 ft. MW-1A Stickup: 2.26 ft.
Top of filter pack N/A; open-hole completion	Top of screen N/A Open-hole

Survey data from Arcadis

104 ft Bottom of 10-in steel casing

104-280 ft Open annulus for water-level measurements, sampling

280 ft Approx top of bentonite seal, ~ 1 ft sand on top

295 ft Approx top of cement seal

325 ft Approx top of bentonite pellets

349 ft Bottom of 4" Tri-Lock PVC pipe
with 5 ft packer at bottom
(bentonite between grout cups)

505 ft Bottom of 10-in diameter borehole

Abbreviations:

ATD - At Time of Drilling
BOH - Bottom of Hole
BOW - Bottom of Well
SCH - Schedule
SWL - Static Water Level
LS - Land Surface

Note: All depths below
land surface

BORING RECORD

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	0	SURFACE TO 6" GRAY BROWN SILT LOAM	ML	TOPSOIL						0
		6" TO 4' - BOWN SILTY CLAY MEDIUM - STIFF	CL							
		HARD CHERTY CLAY,GRAY/BROWN/RED MOTTLE				1				
	5	CHEAT & DOLOMITE RESIDUUM		RESIDUUA						5
						2				
	10	FINE GRAIN WHITE SANDSTONE		ROUBIDOUX						10
	15									15
	20	FINE GRAIN WHITE SANDSTONE, BROWN FINE GRAIN DOLOMITIE MUDSTONEAT				3				20
	25									25
	30	BROWN FINE GRAIN QUARTZOSE SANDSTONE, SOME CHERT, FINE BROWN DOLOMITE				4				30
	35									35

CME CONTINUOUS AUGER SAMPLER
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UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-2*

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PAGE 1 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	35									35
		BROWN FINE GRAIN DOLOMITE/ MUD STONE, SOME QUARTZOSE & CHERT		ROUBIDOUX						
	40					5				40
	45									45
		CHERTY BANDS - RIG JUMPING, HARD DRILLING								
	50	VERY FINE GRAIN GRAY/ BROWN DOLOMITE, CHERTY, SOME SOLITIE CHERTY, SOME FLAT LIGHT GRAY PORCELAIN CHERT				6				50
	55									55
	60	BROWN DOLOMITE SANDSTONE WITH CHERT				7				60
	65									65
	70	BROWN DOLOMITIC SANDSTONE & DOLOMITE WITH CHERT				8				70

CHE CONTINUOUS AUGER SAMPLER
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WATER TABLE (TIME OF BORING)
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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	70									70
	75	DENSER CHERTY LENS, TOUGH DRILLING		ROUBIDOUX						75
	80	GRAY BROWN FINE GRAIN DOLOMITE, CHERT				5				80
	85	BROWN DOLOMITE QUARTZOSE, SOME CHERT, SOME RED CLAY NOTED				10				85
	90	BROWN DOLOMITE, QUARTZOSE, CHERT SOFTER ROCK LENS 90' - 100'				11				90
	95									95
	100	BROWN FINE GRIAN DOLOMITIE, MEDIUM GRAIN SANDSTONE, CHERT				12				100
	105									105

CME CONTINUOUS AUGER SAMPLER
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UNDISTURBED SAMPLE
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WATER TABLE (TIME OF BORING)
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PAGE 3 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	105									105
	110	GRAY/ BROWN DOLOMITE, QUARTZOSE, FLAT WHITE CHERT		ROUBIDOUX		13				110
	115									115
	120	GRAY/ BROWN DOLOMITE, CHERT, VERY DARK BROWN QUARTZOSE				14				120
	125									125
	130	GRAY BROWN DOLOMITE, GRAY CLAYSTONE, CHERT, VERY DARK BROWN QUARTZOSE				15				130
		SOFT ZONE 133' - 135'								
	135									135
	140	FINE MEDIUM GRAIN LIGHT BROWN SANDSTONE, CHERT				16				140

CHE CONTINUOUS AUGER SAMPLER
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		Start: Stop: GROUND SURFACE:								BACKGROUND DVM READING: SOIL: _____ PPM AIR: _____ PPM
	140									140
		SOME WATER PRODUCTION		ROUBIDOUX						
	145									145
		LIGHT SANDSTON WITH CHERT				17				
	150	FROM 146.5' TO 155' USE 10" HAMMER, REDUCE FROM 15" BORING TO 6" BORING								150
	155	AT 155' BEGIN 6" HAMMER								155
	160	FINE GRAIN WHITE DOLOMITE & CHERT		GASCONADE		18				160
	165									165
	170	FINE GRAIN DOLOMITE, WHITE & RED CHERT				19				170
	175									175

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
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PAGE 5 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND DVM READING: SOIL: _____ PPM AIR: _____ PPM
	175									175
	180	FINE GRAIN DOLOMITE, WHITE/ RED CHERT		GASONADE		20				180
	185									185
	190	MEDIUM GRAIN DOLOMITE, WHITE CHERT, TRANSLUCENT GRAY CHERT				21				190
		SOFT ZONE, LOT OF RED MUD, ROUNDED GRAVELS, INTERMITTENT ROCK LAYERS, THEN BACK INTO MUD								
	195									195
		INTERMITTENT SOFT ZONES RUN 192' - 221'								
	200	GRAY DOLOMITE, WHITE/ GRAY CHERT				22				200
	205									205
	210	FINE GRAIN DOLOMITE, MUCH CHERT, RED CLAY LUMPS				23				210

CHE CONTINUOUS AUGER SAMPLER
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UNDISTURBED SAMPLE
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WATER TABLE (TIME OF BORING)
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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	210									210
	215			GASONADE						215
	220	GRAY BROWN DOLOMITE, BANDED GRAY CHERTY, WHITE CHERT, RED MUD END OF SOFT ZONE				24				220
	225									225
	230	GRAY/ BROWN DOLOMITE, TRANSLUCENT GRAY CHERT, RED CLAY				25				230
		SOFT ZONE 230' - 234'								
	235	INTERMITTENT SMOU SOFT ZONES TO 250'								235
	240	GRAY/ BROWN DOLOMITE, TRANSLUCENT GRAY CHERTY, WHITE CHERT				26				240
	245									245

CME CONTINUOUS AUGER SAMPLER
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PAGE 7 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	245			GASONADE						245
	250	MEDIUM COARSE GRAIN GRAY/ BROWN DOLOMITE, TRANSLUCENT GRAY CHERTY, PYRITE/ LIMONITE				27				250
	255									255
	260	MEDIUM COARSE GRAIN GRAY/ BROWN DOLOMITE, TRANSLUCENT GRAY CHERT, PYRITE/ LIMONITE				28				260
	265									265
	270	MEDIUM COARSE GRAIN GRAY/ BROWN DOLOMITE, TRANSLUCENT GRAY CHERT, PYRITE/ LIMONITE				29				270
	275									275
	280	MEDIUM COARSE GRAIN GRAY/ BROWN DOLOMITE, TRANSLUCENT GRAY CHERT, PYRITE/ LIMONITE				30				280

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	280									280
	285			GASONADE						285
	290	MEDIUM COARSE GRAIN GRAY/ BROWN DOLOMITE, TRANSLUCENT GRAY CHERT, PYRITE/ LIMONITE				31				290
	295									295
	300	MEDIUM COARSE GRAIN GRAY/ BROWN DOLOMITE, TRANSLUCENT GRAY CHERT, PYRITE/ LIMONITE				32				300
	305									305
	310	MEDIUM COARSE GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT,				33				310
	315									315

CME CONTINUOUS AUGER SAMPLER
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PAGE 9 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	315			GASONADE						315
	320	FINE TO MEDIUM GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT				34				320
	325									325
	330	FINE TO MEDIUM GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT				35				330
	335	FRACTURED & LUMPY DRILL ROD 335' - 340'								335
	340	FINE TO MEDIUM GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT, COARSE DARK BROWN QUARTZOSE				36				340
	345									345
	350	FINE GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT, PYRITE/ LIMONITE				37				350

CHE CONTINUOUS AUGER SAMPLER
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GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	OVM SOIL GAS PPM x 1.0 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	OVM READING	RECOVERY	DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: ____ PPM AIR: ____ PPM
	350									350
				GASONADE						
	355									355
	360	FINE GRAIN DOLOMITE, WHITE/ GRAY CHERT				38				360
	365									365
	370	GRAY DOLOMITE, GRAY/ WHITE CHERT, LIMONITE/ PYRITE				39				370
	375									375
	380	FINE GRAIN DOLOMITE, WHITE/ GRAY CHERT, LIMONITE/ PYRITE				40				380
	385									385

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-2*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
DRILLED BY LAYNE WESTERN
LOGGED BY RS
CHECKED BY BS
DRAWING NO. MDNR-2
DRAWN BY: LJ
PAGE 11 OF 19

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BORING RECORD

GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	OVM SOIL GAS PPM x 1.0 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	OVM READING	RECOVERY	DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	385									385
	390	LIGHT BROWN DOLOMITE, GRAY CHERT, SOME DARK BROWN COASE SANDSTONE		GASONADE		41				390
	395									395
	400	GRAY/ WHITE FINE DOLOMITE, GRAY TRANSLUCENT CHERT, LIMONITE/ HEMATITE DRUSE QUARTS		EMINENCE		42				400
	405									405
	410	FINE GRAIN GRAY DOLOMITE, GRAY/ WHITE CHERT, DRUSE QUARTZ				43				410
	415									415
	420	COASER GRAY DOLOMITE, GRAY/ WHITE CHERT, LIMONITE/ DOLOMITE, DRUSE QUARTZ				44				420

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
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PAGE 12 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	420									420
	425									425
	430	MEDIUM GRAIN GRAY / BROWN DOLOMITE, GRAY & WHITE CHERT, LIMONITE/ PYRITE		EMINENCE		45				430
	435									435
	440	MEDIUM GRAIN GRAY / BROWN DOLOMITE, GRAY & WHITE CHERT, LIMONITE/ PYRITE				46				440
	445									445
	450	MEDIUM GRAIN GRAY DOLOMITE, GRAY & WHITE CHERT, LIMONITE/ PYRITE				47				450
	455									455

CHE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
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PAGE 13 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	455									455
	460	COARSE GRAY DOLOMITE, GRAY & WHITE CHERT, LIMONITE/ PYRITE				48				460
	465									465
	470	MEDIUM GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT, LIMONITE/ PYRITE		EMINENCE		49				470
	475	[WATER PRODUCTION VERY GOOD]								475
	480	MEDIUM GRAIN GRAY DOLOMITE, GRAY/ WHITE CHERT, LIMONITE/ PYRITE				50				480
	485									485
	490	MEDIUM GRAIN GRAY DOLOMITE, GRAY/ WHITE CHERT, LIMONITE/ PYRITE HEAVY WATER PRODUCTION				51				490

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	490									490
	495									495
	500	FINE TO MEDIUM GRAIN GRAY DOLOMITE, GRAY/ WHITE CHERT, DRUSE QUARTZ				52				500
	505			EMINENCE						505
	510	FINE TO MEDIUM GRAIN GRAY DOLOMITE, GRAY/ WHITE CHERT, DRUSE QUARTZ LIMONITE/ PYRITE				53				510
	515									515
	520	FINE TO MEDIUM GRAIN GRAY DOLOMITE, GRAY/ WHITE CHERT, DRUSE QUARTZ				54				520
	525									525

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
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PENETROMETER (TONS/SQ. FT.)
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GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	DVM SOIL GAS PPM x 1.0 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	SAMPLE DVM READING	SAMPLE RECOVERY	SAMPLE DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	525									525
	530	FINE GRAIN DOLOMITE, GRAY/ WHITE CHERT, DRUSE QUARTZ								530
	535					52				535
	540	FINE GRAIN WHITE DOLOMITE, GRAY/ WHITE CHERT, DRUSE QUARTZ		EMINENCE						540
	545					53				545
	550	FINE GRAIN WHITE DOLOMITE, GRAY/ WHITE CHERT, DRUSE QUARTZ								550
	555					54				555
	560	FINE GRAIN WHITE DOLOMITE, GRAY/ WHITE CHERT, DRUSE QUARTZ		POTOSI						560

CHE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
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PAGE 16 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	560									560
		562' WATER DISCHARGE TURNING MORE REDISH COLOR								
	565									565
	570	FINE GRAIN WHITE DOLOMITE, GRAY/ WHITE CHERT, DRUSE LIMONITE/ PYRITE 570' - 579' SEVERAL VERY CHERTY LENSES				52				570
	575			EMINENCE						575
	580	MEDIUM TO COARSE GRAIN GRAY/ WHITE DOLOMITE, GRAY/ WHITE CHERT, DISCHARGE HAS SLIGHT BITUMINOUS ODER				53				580
	585									585
	590	MEDIUM GRAIN GRAY/ WHITE DOLOMITE, GRAY/ WHITE CHERT, LIMONITE/ HEMATITE, HEAVY VOLUME OF WATER				54				590
	595									595

CME CONTINUOUS AUGER SAMPLER
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PAGE 17 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	595									595
	600	GRAY/ WHITE CHERT				62				600
	605									605
	610	MEDIUM GRAIN GRAY/ WHITE DOLOMITE, GRAY/ WHITE CHERT		POTOSI		63				610
	615									615
	620	MEDIUM GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT, QUARTZOSE, DRUSE QUARTZ				64				620
	625									625
	630	FINE TO MEDIUM GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT, QUARTZOSE, DRUSE QUARTZ				65				630

CHE CONTINUOUS AUGER SAMPLER
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UNDISTURBED SAMPLE
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WATER TABLE (TIME OF BORING)
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PAGE 18 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	630									630
	631.0	TERMINATE AT 631'								
	635									635
	640									640
	645									645
	650									650
	655									655
	660									660
	665									665

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
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PAGE 19 OF 19

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	0	SURFACE TO 6" GRAY BROWN SILT LOAM (SOD) 6" - 1.5' SILTY CLAY LOAM								0
		1.5' - 4' SILTY CLAY WITH GRAVEL		TOPSOIL						
		VERY COMPACT BROWN CLAY, CHERT COLLUUIUM								
	5									5
		RED CLAY GRAVEL, COLLUUIUM/ RESIDUUM		COLLUUIUM/ RESIDUUM						
	10									10
	15					1				15
		ORANGISH/ BROWN CLAY/ GRAVEL RESIDUUM		RESIDUUM						
	20					2				20
	25									25
	30	BROWN COASE GRAIN SANDSTONE, SOME CHERT INCLUSIONS		ROUBIDOUX		3				30
	35									35

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-3*

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	35									35
	40	LIGHT BROWN AND WHITE COARSE GRAIN SANDSTONE, SOME CHERTY INCLUSION 41' - 75' INTERMITTENT SOFT AND HARD LENSES, VOIDS NO CIRCULATION/ RECOVERY		ROUBIDOUX		4				40
	45									45
	50									50
	55									55
	60									60
	65									65
	70									70

CHE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)

WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
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JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

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PAGE 2 OF 15

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	70									70
	75			ROUBIDOUX						75
	80	80' - 88' MORE SOLID, CONSISTENT ROCK								80
	85									85
		AT 88' REDUCE TO 6" DIAMITER HAMMER SET 10" CASING TO 88'								
	90	MEDIUM GRAIN BROWN SANDSTONE GRAY/ WHITE CHERT				5				90
		92' - 122' SOFT, VOIDS								
	95									95
	100	RED CLAY LUMPS, ERODED CHERT				6				100
	105									105

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
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WATER TABLE (TIME OF BORING)
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PAGE 3 OF 15

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	105									105
	110	GRAY/ WHITE DOLOMITE, GRAY/ WHITE CHERT		ROUBIDOUX		7				110
	115									115
	120	GRAY/ WHITE DOLOMITE & CHERT RED CLAY		GASCONADE		8				120
	125									125
	130	GRAY/ WHITE DOLOMITE & CHERT				9				130
	135									135
	140	GRAY/ WHITE DOLOMITE & CHERT				10				140

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	140									140
	145			GASONADE						145
	150	GRAY/ WHITE DOLOMITE & CHERT				11				150
	155									155
	160	GRAY/ WHITE DOLOMITE & CHERT				12				160
	165									165
	170	GRAY/ WHITE DOLOMITE & CHERT				13				170
	175									175

CME CONTINUOUS AUGER SAMPLER
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PAGE 5 OF 15

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	175									175
	180	GRAY/ WHITE DOLOMITE & CHERT, SOME BLACK CHERT		GASONADE		14				180
	185									185
	190	GRAY/ WHITE DOLOMITE & CHERT				15				190
		SOFT LENS 193' - 197'								
	195									195
	200	GRAY/ WHITE DOLOMITE, DARK BROWN QUARTZOSE				16				200
	205									205
	210	GRAY/ WHITE DOLOMITE & CHERT				17				210

CHE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
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WATER TABLE (TIME OF BORING)
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BORING RECORD

GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	OVM SOIL GAS PPM x 10 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	SAMPLE OVM READING	SAMPLE RECOVERY	SAMPLE DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	210									210
				GASONADE						
	215									215
	220	GRAY/ WHITE DOLOMITE & CHERT				18				220
	225									225
	230	GRAY COARSE GRAIN DOLOMITE, GRAY/ WHITE CHERT				19				230
	235									235
	240	GRAY COARSE GRAIN DOLOMITE, GRAY/ WHITE CHERT				20				240
	245									245

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE* *4100404401*

BORING NUMBER *MW-3*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
DRILLED BY LAYNE WESTERN
LOGGED BY RS
CHECKED BY BS
DRAWING NO. MDNR-3
DRAWN BY: LJ
PAGE 7 OF 15

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GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	OVM SOIL GAS PPM X 1.0 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	OVM READING	RECOVERY	DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	245									245
	250	MEDIUM GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT				21				250
	255									255
	260	MEDIUM GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT		GASCONADE		22				260
	265									265
	270	MEDIUM GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT				23				270
	275									275
	280	MEDIUM GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT				24				280

CHE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-3*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
DRILLED BY LAYNE WESTERN
LOGGED BY RS
CHECKED BY BS DRAWING N
DRAWN BY: LJ PAGE 8 OF

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	280									280
	285									285
	290	FINE GRAIN GRAY DOLOMITE, LIGHT BROWN COARSE SANDSTONE, GRAY/ WHITE CHERT				25				290
	295			GASCONADE						295
	300	MEDIUM GRAIN GRAY DOLOMITE, GRAY/ WHITE CHERT				26				300
	305									305
	310	GRAY/ BROWN DOLOMITE, COARSE GRAIN LIGHT BROWN SANDSTONE, GRAY/ WHITE CHERT, FEMG				27				310
	315									315

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-3*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
DRILLED BY LAYNE WESTERN
LOGGED BY RS
CHECKED BY BS
DRAWING NO. MDNR-3
DRAWN BY: LJ
PAGE 9 OF 15

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GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	DVM SOIL GAS PPM X 1.0 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	SAMPLE DVM READING	SAMPLE RECOVERY	SAMPLE DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND DVM READING: SOIL: _____ PPM AIR: _____ PPM
	315									315
	320	MEDIUM TO FINE GRAIN DOLOMITE, VERY LITTLE GRAY CHERT		GASCONADE		28				320
	325									325
	330	GRAY FINE DOLOMITE, COARSE BROWN SANDSTONE, MULTI COLOERD CHERT		EMINENCE		29				330
	335									335
	340	GRAY/ BROWN FINE TO MEDIUM DOLOMITE, GRAY/ WHITE CHERT, DRUSE QUARTZ				30				340
	345									345
	350	GRAY/ BROWN FINE TO MEDIUM DOLOMITE, GRAY/ WHITE CHERT				31				350

CHE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-3*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
DRILLED BY LAYNE WESTERN
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PAGE 10 OF 15

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GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	OVM SOIL GAS PPM x 1.0 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	OVM READING	RECOVERY	DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	350	GRAY DOLOMITE				22				350
	355									355
	360	MEDIUM GRAIN GRAY DOLOMITE, SOME GRAY/ WHITE CHERT				32				360
	365	MEDIUM GRAIN GRAY DOLOMITE, SOME GRAY/ WHITE CHERT		EMINENCE						365
	370					33				370
	375									375
	380	MEDIUM GRAIN GRAY/ WHITE DOLOMITE, SOME GRAY/ WHITE CHERT, DRUSE QUARTZ				34				380
	385									385

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-3*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
DRILLED BY LAYNE WESTERN
LOGGED BY RS
CHECKED BY BS
DRAWING NO. MDNR-3
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PAGE 11 OF 15

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GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	OVM SOIL GAS PPM x 1.0 (2 4 6 8 10 12 14 16 18)	SAMPLE NUMBER	OVM READING	RECOVERY	DEPTH	REMARKS
		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	385									385
	390			EMINENCE						390
	395									395
	400	GRAY DOLOMITE, GRAY/ WHITE CHERT (LOT OF RED CLAY IN DISCHARGE FROM HIGHER UP				35				400
	405									405
	410	GRAY DOLOMITE, GRAY/ WHITE CHERT				36				410
	415	414' - 416' SOFTZONE								415
	420	GRAY DOLOMITE, GRAY/ WHITE CHERT				37				420

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE* *4100404401*

BORING NUMBER *MW-3*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
DRILLED BY LAYNE WESTERN
LOGGED BY RS
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PAGE 12 OF 15

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	420	MEDIUM GRAIN GRAY / BROWN DOLOMITE				30				420
	425									425
	430	MEDIUM GRAIN GRAY / BROWN DOLOMITE, GRAY/ WHITE CHERT				38				430
		HEAVY CHERT LENSE 434' - 436'								
	435			EMINENCE						435
	440	FINE GRAIN GRAY/ BROWN DOLOMITE, GRAY/ WHITE CHERT, DRUSE QUARTZ				39				440
	445									445
	450	GRAY DOLOMITE, GRAY/ WHITE CHERT, FEMG				40				450
	455									455

CNE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-3*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
DRILLED BY LAYNE WESTERN
LOGGED BY RS
CHECKED BY BS
DRAWING NO. MDNR-3
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PAGE 13 OF 15

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	455									455
	460	MEDIUM GRAIN GRAY DOLOMITE, FEMG				41				460
	465									465
	470	GRAY DOLOMITE, GRAY/ WHITE CHERT		EMINENCE		42				470
	475									475
	480	FINE TO MEDIUM GRAIN GRAY DOLOMITE, GRAY/ WHITE CHERT, FEMG, OOLITIC CHERT				43				480
	485	WATER DISHCHARGE INCREASING, MORE REDISH COLOR		POTOSI						485
	490	FINE GRAIN GRAY DOLOMITE, GRAY/ WHITE CHERT, FEMG, LIMONITE				44				490

CHE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-3*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
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PAGE 14 OF 15

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		Start: Stop: GROUND SURFACE:								BACKGROUND OVM READING: SOIL: _____ PPM AIR: _____ PPM
	560									560
	565									565
	570	FINE GRAIN GRAY DOLOMITE, GRAY/ WHITE CHERT, FEMG				52				570
	575			POTOSI						575
	580									580
	581.0	TERMINATED AT 581'								
	585									585
	590									590
	595									595

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY

JOB NAME/NUMBER *OAK GROVE VILLAGE 4100404401*

BORING NUMBER *MW-3*

DATE DRILLED 3/1/05
DRILLING METHOD AIR ROTARY
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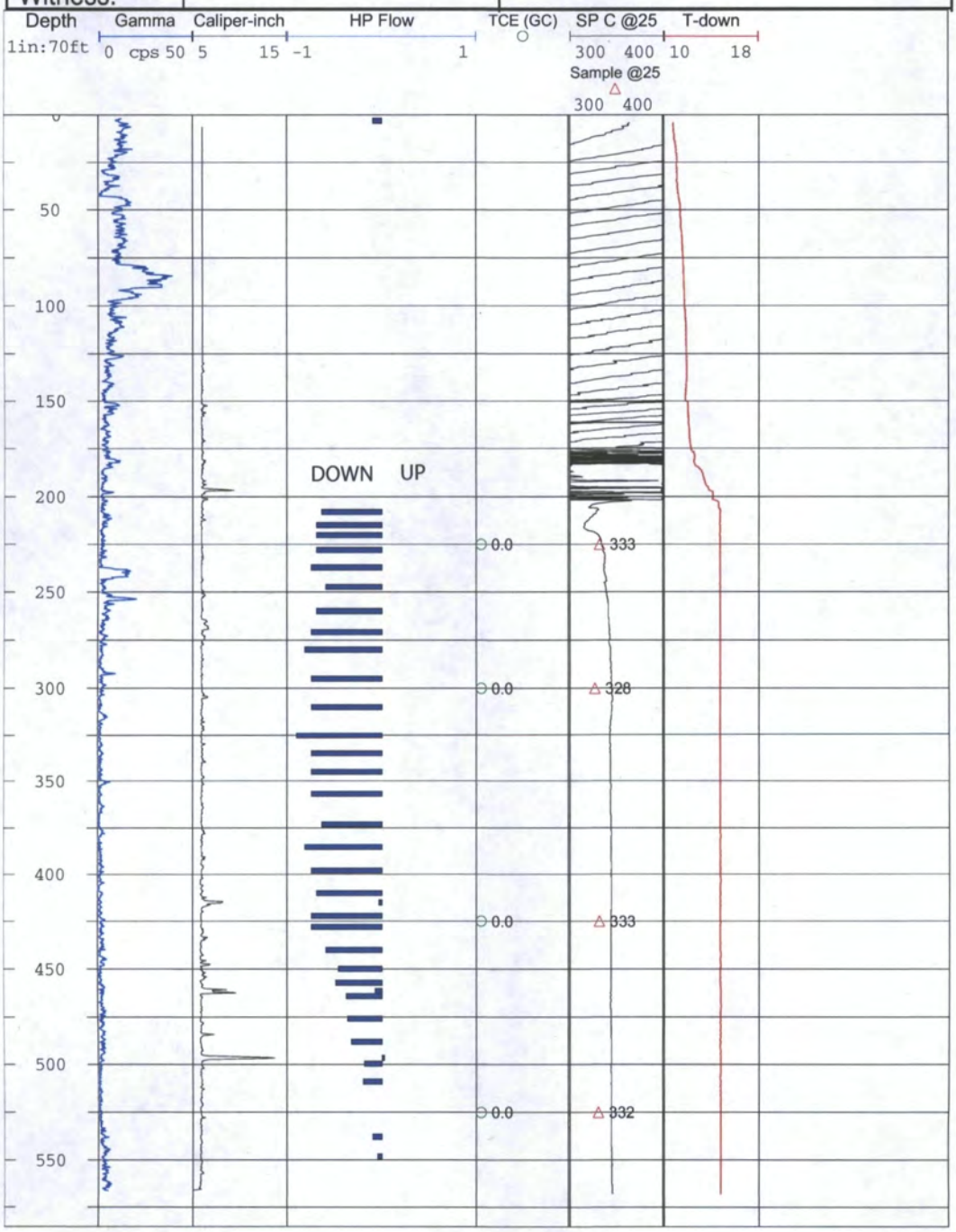
COMPANY:	U.S. Geological Survey
Location:	Oak Grove Village, Missouri

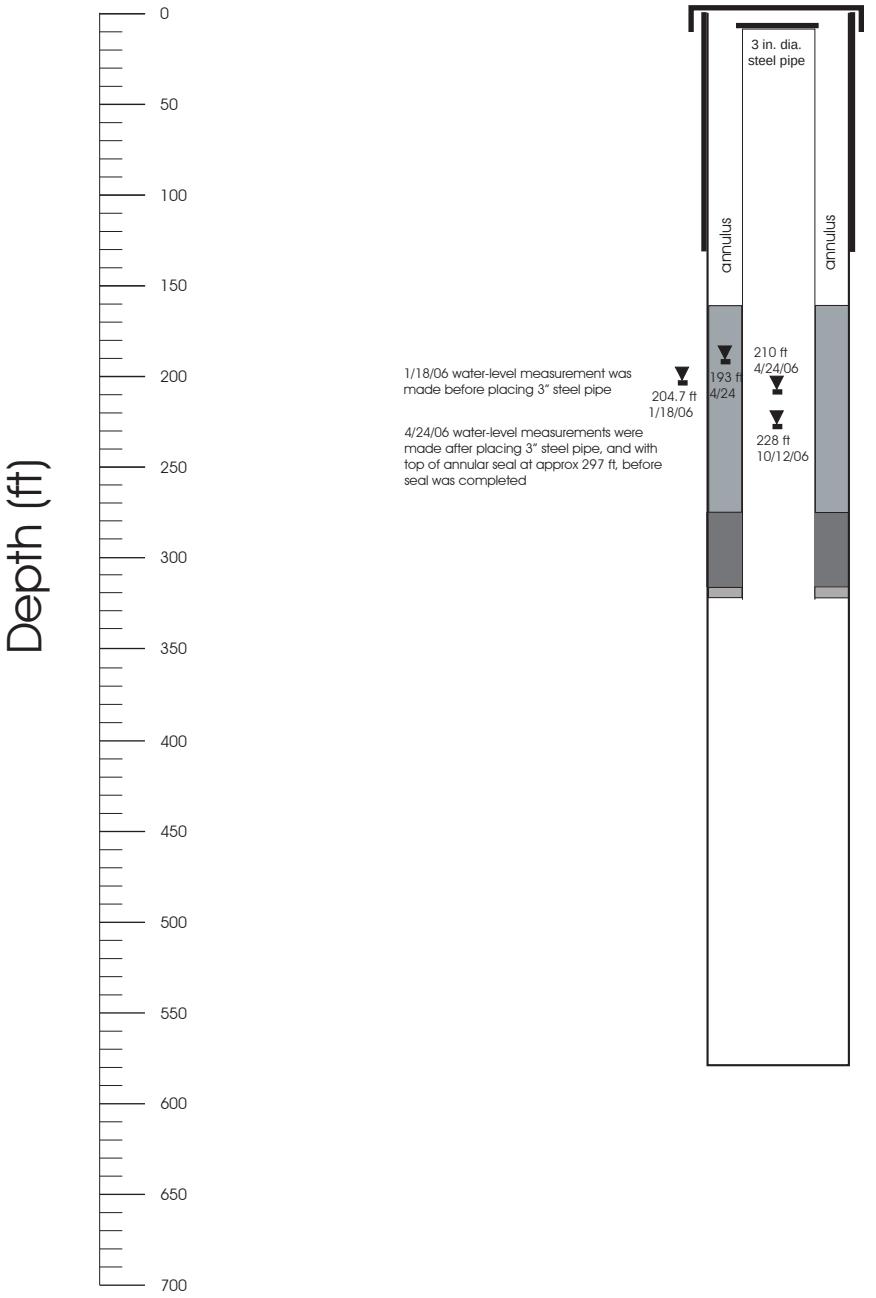
Well	VFW Well (MW-3)		
Date	12/12-19/2005	BH Fluid	Water
Casing	6" steel to 132 ft		
File Name	vfw well.072506.WCL		
Depth Driller			
Depth Logger			
Logged by:	D. Mugel		
Witness:			

Figure 9: Geophysical Logging of VFW Well (MW-3), Post-Phase II RI, Oak Grove Village Well Site, OU1, Oak Grove Village, Missouri.



Oak Grove Village	Prepared by: D. Mugel (USGS)
Hole No. VFW Well (MW-3)	Drilling Method: Air
Depth to BOW: 580 ft. BOH: 580 ft.	Top 6" casing (mp): 938.63 ft. LS Altitude: 939.10 ft. Stickup: - 0.47 ft.
Top of filter pack N/A; open-hole completion	Top of screen N/A Open-hole

Surveyed land surface is top of flush-mount steel bolt-down cover, in concrete slab



132 ft Bottom of 6-in steel casing
132-160 (approx) ft Open annulus

160 ft Approx top of cement-bentonite mix seal

274 ft Approx top of cement seal

327 ft Bottom of 3" steel pipe
with 3.5 ft packer at bottom
(bentonite between grout cups)

580 ft Bottom of 6-in diameter borehole

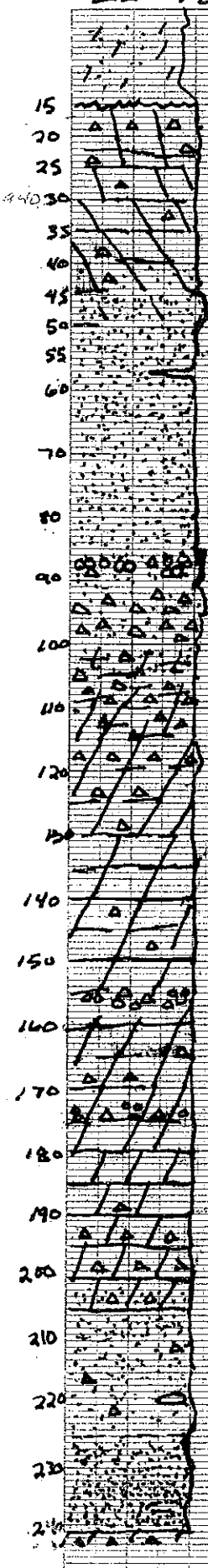
Abbreviations:

ATD - At Time of Drilling
BOH - Bottom of Hole
BOW - Bottom of Well
SCH - Schedule
SWL - Static Water Level
LS - Land Surface

Note: All depths below land surface

EL 952.90 Ditch Witch

185 Garage



Sandy clay soil

Bedrock

45% Fine sand 45% med. sand 10% dolomite

Fine sub rounded Qtz sandstone white

57-60 mud seam

Qtz. Arenite

oolitic Qtz rose sand

25% Qtz 75% chert

50% chert 50% dolomite

Frosted sand / oolites in clusters

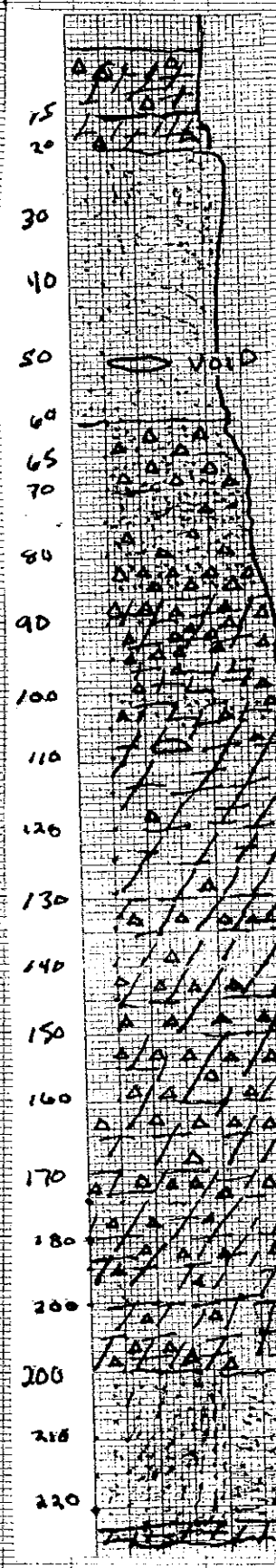
80% dolomite 20% chert, Trace mafic fragments?

100% dolomite, Buff to white

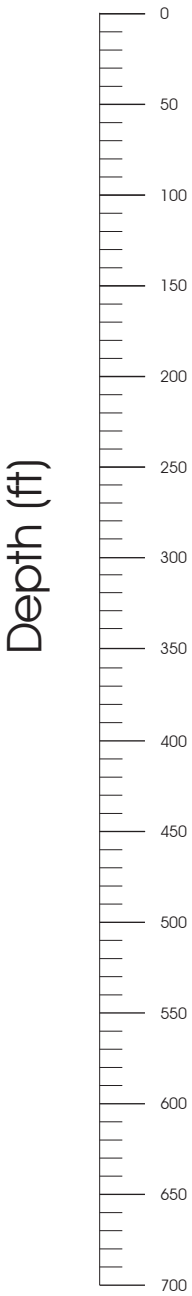
Fine GZ Running Lime 10% chert,

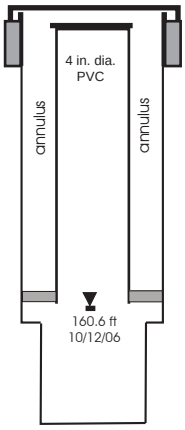
Soft yellow-Gray Clay

pure running lime No chert



Oak Grove Village	Prepared by: D. Mugel (USGS)
Hole No. 185 Garage Well	Drilling Method: Cable
Depth to BOW: 225 ft. BOH: 225 ft.	Top PVC riser: 946.83 ft LS Altitude: 944.70 ft. Riser Stickup: 2.13 ft.
Top of filter pack N/A; open-hole completion	Top of screen N/A Open-hole





29 ft Bottom of 8-in steel casing (12-in ID borehole)

29-156 ft Open annulus

160 ft Bottom of 4" PVC with 3 ft packer at bottom
(bentonite between grout cups), and ~ 1 ft bentonite above

170 ft Bottom of 8-in diameter borehole

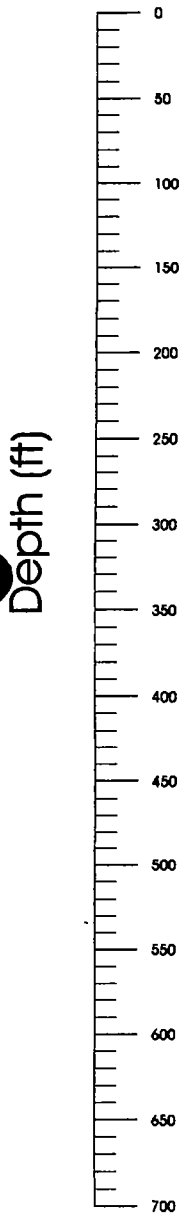
225 ft Bottom of 6-in diameter borehole

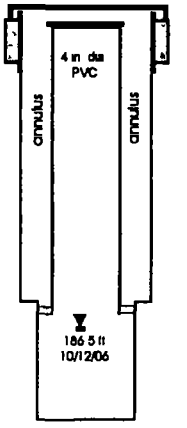
Abbreviations:

ATD - At Time of Drilling
BOH - Bottom of Hole
BOW - Bottom of Well
SCH - Schedule
SWL - Static Water Level
LS - Land Surface

Note: All depths below land surface

Oak Grove Village	Prepared by D Mugel (USGS)
Hole No Ditch Witch Well	Drilling Method Cable
Depth to BOW 240 ft BOH 240 ft	Top PVC riser 955 46 ft LS Altitude 952 90 ft Riser Stickup 2 56 ft
Top of filter pack N/A, open hole completion	Top of screen N/A Open-hole





35 5 ft Bottom of 8-in steel casing in 12-in borehole

35 5-174 ft Open annulus

170 ft Bottom of 8-in diameter borehole
178 ft Bottom of 4" PVC with 3 ft packer at bottom (bentonite between grout cups), and ~ 1 ft bentonite above

240 ft Bottom of 6-in diameter borehole

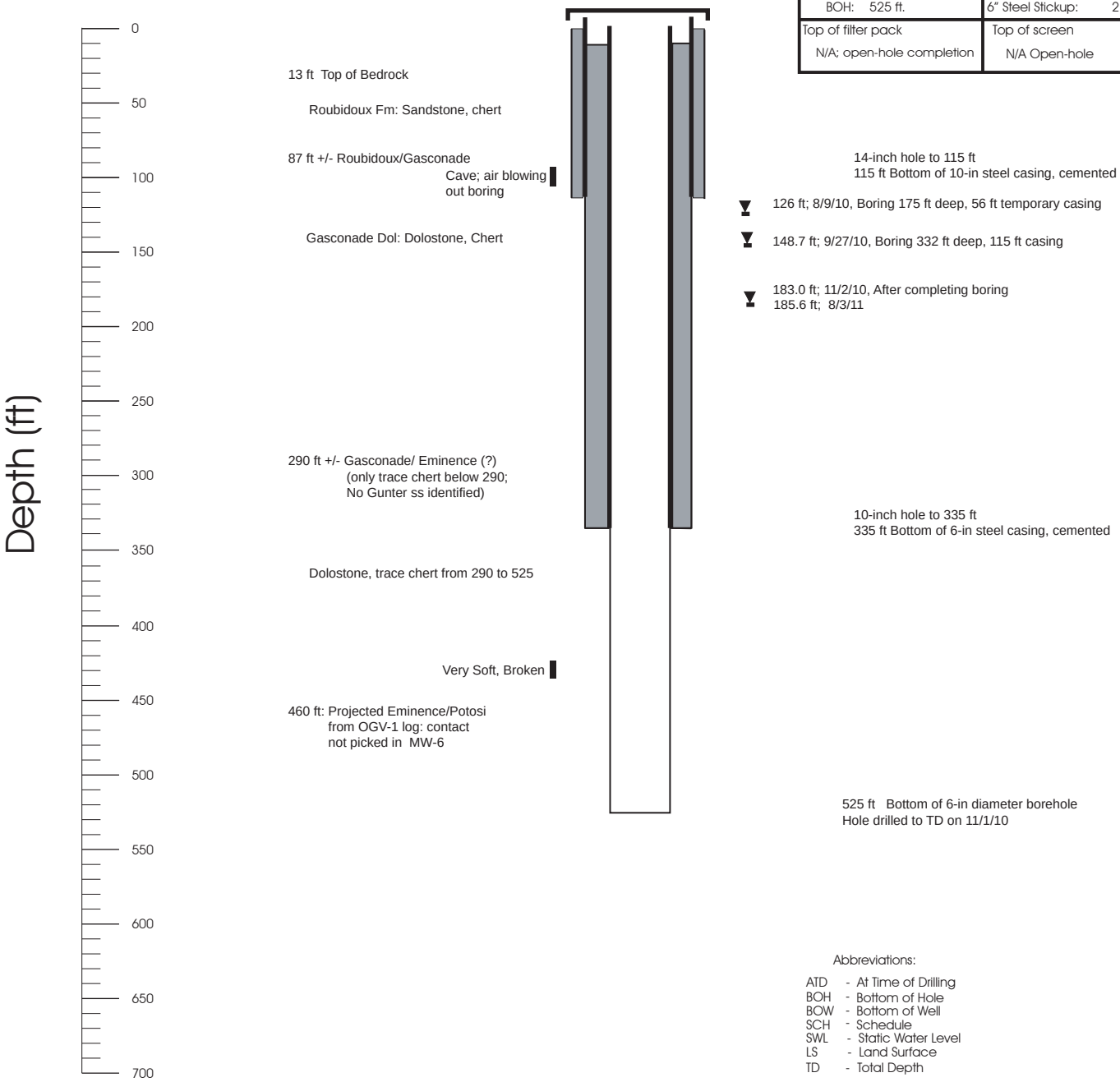
Abbreviations

ATD - At Time of Drilling
BOH - Bottom of Hole
BOW - Bottom of Well
SCH - Schedule
SWL - Static Water Level
LS - Land Surface

Note All depths below land surface

Figure 12: Well Construction Diagram of Ditch Witch Well (MW-5), Post-Phase II RI, Oak Grove Village Well Site, OU1, Oak Grove Village, Missouri.

Oak Grove Village	Prepared by: D. Mugel (USGS)
Hole No: MW-6	Drilling Method: Cable and Air Rotary
Depth to BOW: 525 ft. BOH: 525 ft.	Top 6" Steel: Not Surveyed LS Altitude: 920 ft. (est) 6" Steel Stickup: 2 ft. (est)
Top of filter pack N/A; open-hole completion	Top of screen N/A Open-hole



Abbreviations:

ATD - At Time of Drilling
BOH - Bottom of Hole
BOW - Bottom of Well
SCH - Schedule
SWL - Static Water Level
LS - Land Surface
TD - Total Depth

Note: All depths below land surface

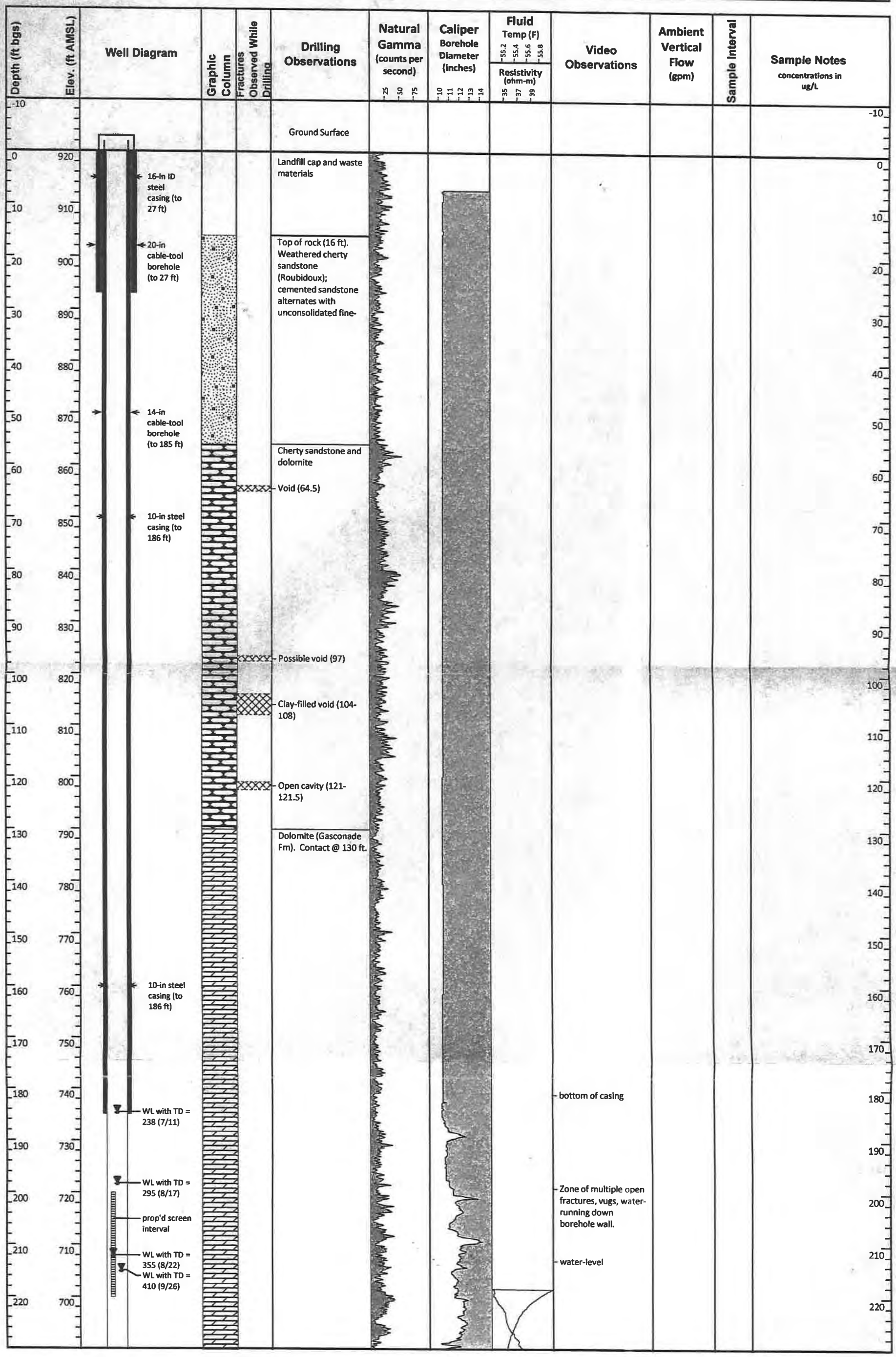
Large Opening, Cave, or Very Soft, Broken Zone

ARCADIS **DRAFT/PRELIMINARY SUMMARY LOG** **Boring/Well ID: MW-107**

Site: Oak Grove Village Landfill, MO
Client/Proj. TRW

Date Completed: 8/23/2011
Geologist: L Benolkin

Borehole Depth (ft bgs): 410
Surface Elevation (ft AMSL): 920



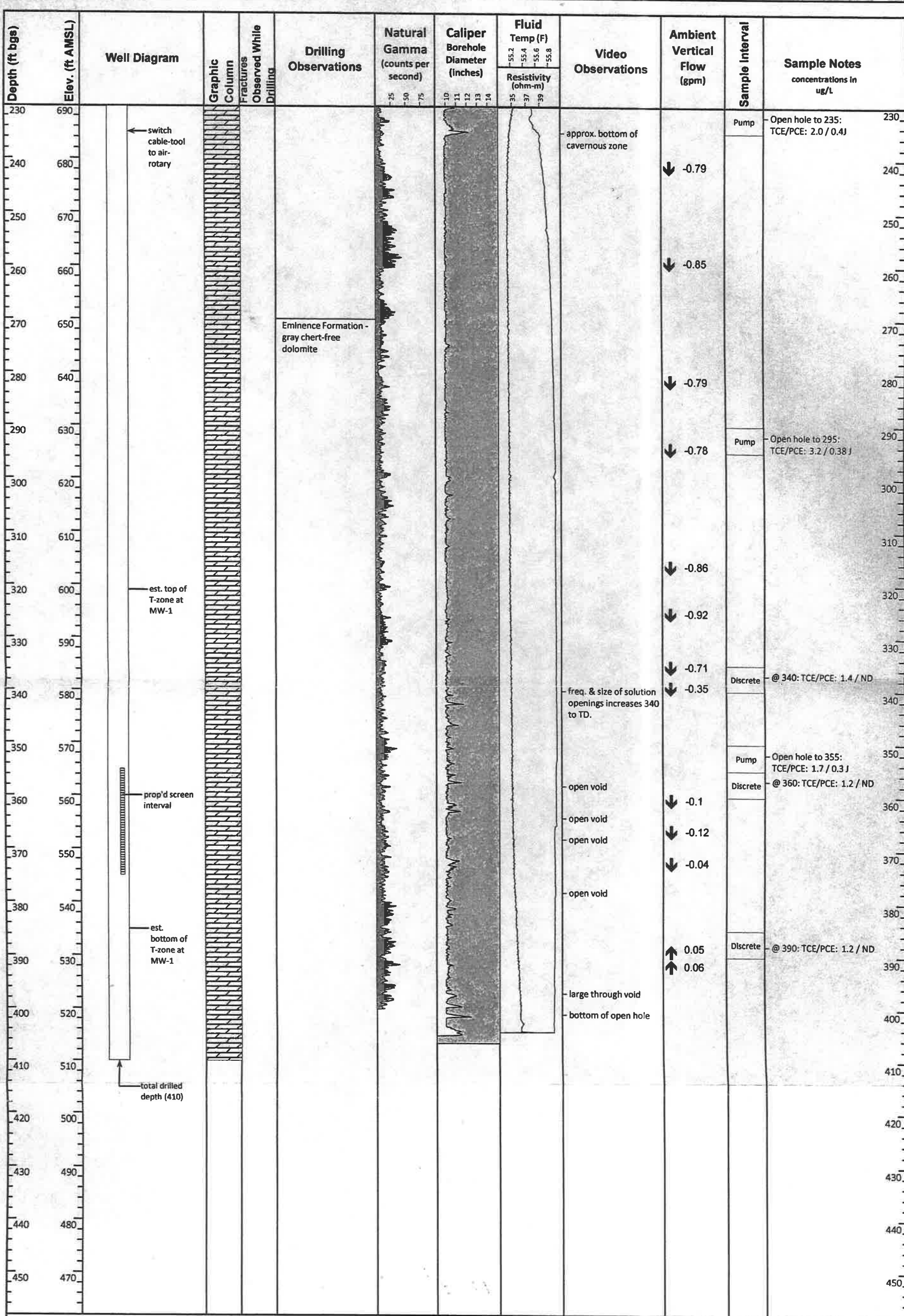
ARCADIS — **DRAFT/PRELIMINARY SUMMARY LOG**

Boring/Well ID: **MW-107**

Site: Oak Grove Village Landfill, MO
Client/Proj. TRW

Date Completed: 8/23/2011
Geologist: L Benolkin

Borehole Depth (ft bgs): 410
Surface Elevation (ft AMSL): 920



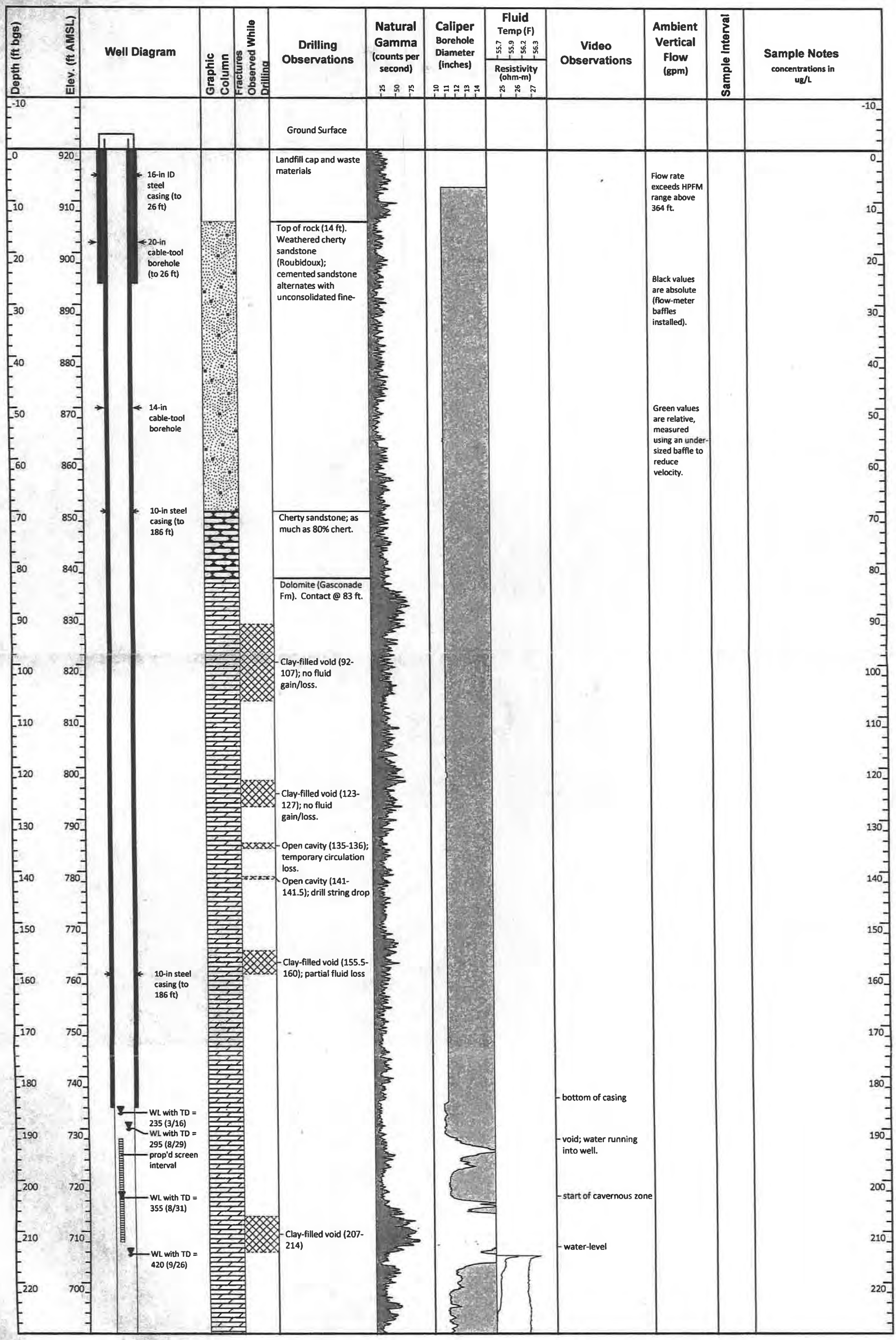
Acronyms & Abbreviations: ft bgs = feet below ground surface; AMSL = above Mean Seal Level; SAA = same as above; NA = not available; SS = stainless steel; PVC = polyvinyl chloride; ppm = parts per million; ID = inner diameter; OD= outer diameter; bkz = broken zone

ARCADIS — **DRAFT/PRELIMINARY SUMMARY LOG** — **Boring/Well ID: MW-108**

Site: Oak Grove Village Landfill, MO
Client/Proj. TRW

Date Completed: 9/1/2011
Geologist: L Benolkin

Borehole Depth (ft bgs): 420
Surface Elevation (ft AMSL): 920



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ARCADIS

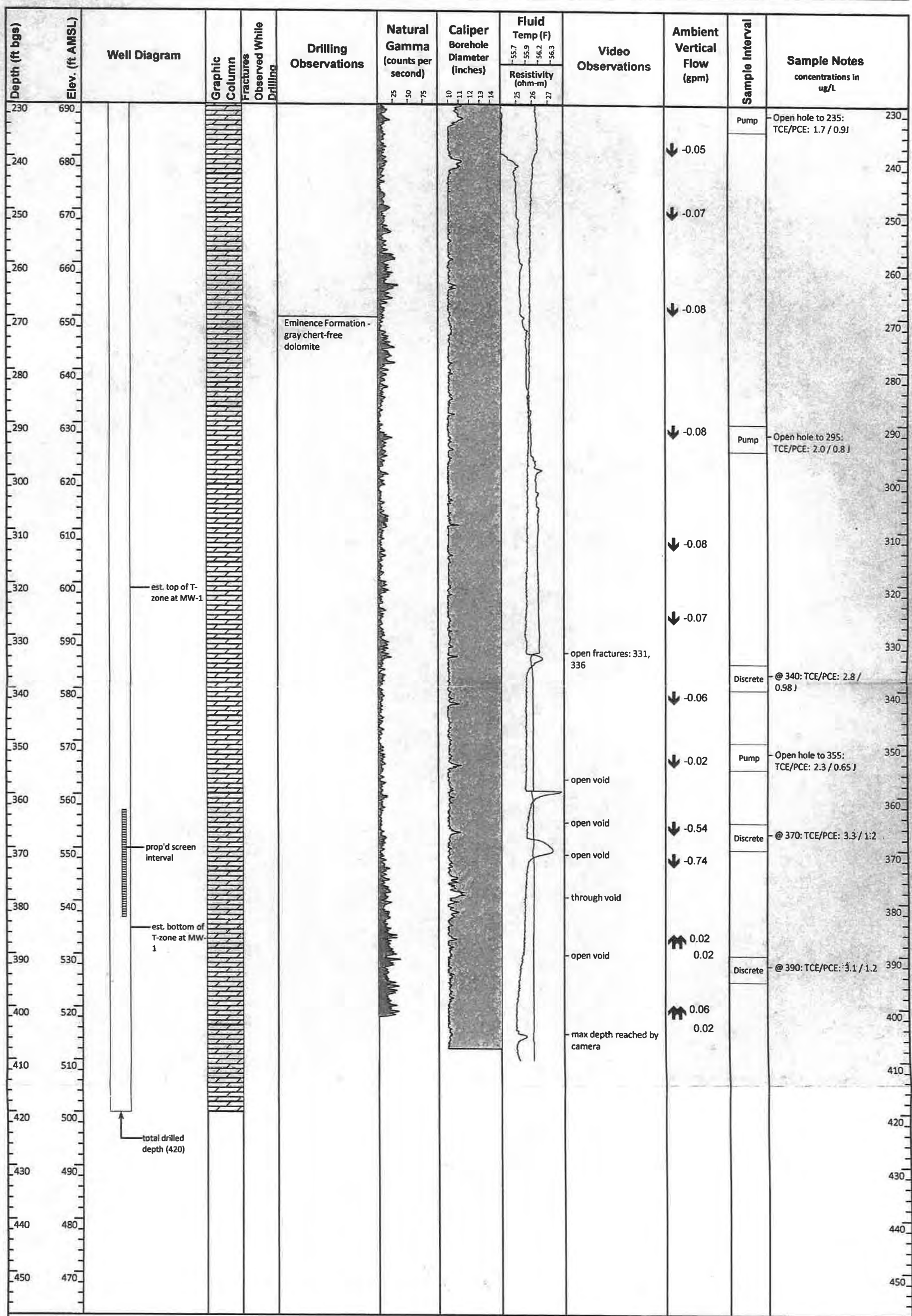
DRAFT/PRELIMINARY SUMMARY LOG

Boring/Well ID: **MW-108**

Site: Oak Grove Village Landfill, MO
Client/Proj. TRW

Date Completed: 9/1/2011
Geologist: L Benolkin

Borehole Depth (ft bgs): 420
Surface Elevation (ft AMSL): 920



Acronyms & Abbreviations: ft bgs = feet below ground surface; AMSL = above Mean Seal Level; SAA = same as above; NA = not available; SS = stainless steel; PVC = polyvinyl chloride; ppm = parts per million; ID = inner diameter; OD= outer diameter; bkz = broken zone

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 1 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIWM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
0						
5	1		medium reddish brown CLAY with CHERT, some red CLAY, trace yellow CLAY			
10	2		white CHERT, gray CHERT and very fine grained SANDSTONE, some red CLAY			
15	3		yellow brown CHERT, red CHERT, white CHERT, gray CHERT and some red, very fine grained SANDSTONE, some red CLAY			
20	4		yellowish brown CHERT, red CHERT, some white CHERT, trace white, very fine grained SANDSTONE			
25	5		white CHERT, and red CHERT; trace to some black "oxide" ROCK, trace very fine grained SAND			
30	6		red CLAY, with red, very fine grained SANDSTONE; some white CHERT, some red CHERT, trace to some black ROCK			
35	7		reddish, very fine grained SANDSTONE and CLAY; trace to some white CHERT, trace gray CHERT			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	Page 2 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
40			reddish brown CLAY and reddish, very fine grained SANDSTTONE, some white CHERT and gray CHERT, trace yellow CLAY			
45			reddish brown CLAY and reddish, very fine grained SANDSTONE, trace to some CHERT (yellow, gray, white), trace dark brown CLAY			
50			orangish brown, very fine grained SANDSTONE and CLAY, with white and and some gray CHERT			
55			orangish tan, very fine grained SANDSTONE with orangish CLAY, some white CHERT, trace gray CLAY			
60			orangish tan, very fine grained SANDSTONE and CLAY; with white CHERT some gray CHERT			
65			same as previous, with trace red CLAY and trace brown CLAY			
70			tan, very fine grained SANDSTONE with some CLAY, and with white CHERT			
75			tan, very fine grained SANDSTONE with some CLAY; and with some white CHERT			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORIN OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 3 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DAT 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING
80			tan, very fine grained SANDSTONE with some CLAY, some white CHERT		
85			same as above		
90			same as above		
95			same as above		
100			tan, very fine grained SANDSTONE and CLAY, with white CHERT		
105			tan, very fine grained SANDSTONE with some CLAY, and white CHERT		
110			tan, very fine grained SANDSTONE and CLAY with some white CHERT		
115			tan, very fine grained SANDSTONE with some CLAY; with to some CHERT		

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 4 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
120			tan, very fine grained SANDSTONE and CLAY, with white CHERT, trace gray CHERT			
125			no recovery 125' – 200'			
			void 125' – 129'			
			soft drilling 163' – 165'			
130			harder drilling 165' – 176.5'			
135						
140						
145						
150						
155						

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 5 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST:

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
160						
165						
170						
175						
180						
185						
190						
195						

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 6 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
200			mostly CHERT, white, light gray, yellowish brown and some black; all the CHERT is porcellaneous, maybe trace to some off-white DOLOMITE			
205			mix of CHERT of various colors and a very light tan (buff?) DOLOMITE the CHERT colors range from white-grays to ochre, to rust yellow, a few pieces of purplish quartzitic rock, one medium, gravel sized piece of oolittie purplish-red chert			
210			mostly grayish to buff DOLOMITE which has very fine grainy texture; remainder of sample is CHERT mostly white and light gray porcellaneous; one piece of white QUARTZITE, very fine grained SANDSTONE			
215			grayish, grainy DOLOMITE and grayish tan DOLOMITE; some light gray porcellaneous CHERT; one piece of grayish green SHALE			
220			grayish DOLOMITE with some very light gray, light gray porcellaneous CHERT, trace to some tan grainy CHERT			
225			approx 50/50 mix of CHERT and DOLOMITE; CHERT is very light gray to gray and porcelaneous; DOLOMITE is a very light tan to light gray, crystalline; trace of med brown, very fine grained SANDSTONE, trace black ore type rock			
230			same as previous sample with exception of more white CHERT			
235			light gray DOLOMITE, grainy, with white CHERT and light gray CHERT; some of the DOLOMITE has a greenish cast to it; trace green SHALE			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 7 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN.
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
240			gray DOLOMITE with white to light gray CHERT, trace to some yellow ochre CHERT, trace greenish SHALE; one piece of sandy SHALE appears to have gray DOLOMITE with in it			
245			light tan, finely crystalline DOLOMITE with some white and light gray porcellaneous CHERT; trace to some CALCITE crystals, trace reddish black HEMATITE			
250			light tan DOLOMITE with some white CHERT, trace to some yellow ochre CHERT; trace CALCITE, 1 piece HEMATITE			
255			mostly light gray CHERT with light tan DOLOMITE, yellow ochre CHERT, some white CHERT; trace CALCITE crystals			
260			light gray DOLOMITE with light gray CHERT, some light brown CHERT			
265			light tan to light grayish tan DOLOMITE, trace to some white or light gray CHERT, trace light green SHALE			
270			light tan DOLOMITE with a trace light gray CHERT, trace light green SHALE			
275			light tan DOLOMITE with a trace of light gray CHERT			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 8 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
280			light tan DOLOMITE with some light grayish tan DOLOMITE, trace grayish green DOLOMITE			
285			light tan DOLOMITE with some purplish DOLOMITE; some white CHERT, trace light tan CHERT			
290			light grayish tan DOLOMITE with some white CHERT; some purplish brown DOLOMITE?; trace CALCITE crystals			
295			light tan and light grayish tan DOLOMITE; some tan CHERT, trace white CHERT, trace black CHERT			
300			light grayish DOLOMITE with a trace to some CHERT(white and yellow brown) trace CALCITE crystals			
305			light tan and light gray DOLOMITE, some red, purplish gray DOLOMITE, trace white CHERT			
310			light tan DOLOMITE, some light to medium gray DOLOMITE; trace to some sandy light gray DOLOMITE; trace black OXIDES, trace gray green SHALE			
315			very light tan (almost white) DOLOMITE with some light gray "sandy" DOLOMITE, trace CHERT, trace CALCITE			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 9 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
320			same as previous sample			
325			very light tan and light gray DOLOMITE, trace white CHERT, trace rusty yellow CHERT, trace grayish green SHALE			
330			very light tan DOLOMITE and purplish gray DOLOMITE; some tan CHERT			
335			light tan DOLOMITE, light gray DOLOMITE and light sandy DOLOMITE, some light gray CHERT, trace dark gray to black CHERT; trace grayish green SHALE			
340			light grayish tan DOLOMITE with light tan DOLOMITE; trace light gray CHERT, trace grayish green SHALE, trace CALCITE			
345			very light grayish tan DOLOMITE with tan pitted DOLOMITE; trace gray CHERT			
350			very light grayish tan DOLOMITE and tan "sandy" DOLOMITE			
355			very light grayish tan DOLOMITE and tan "sandy" DOLOMITE			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 10 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
360			same			
365			very light grayish tan DOLOMITE and light tan DOLOMITE, trace white CHERT			
370			very light gray and very light tan DOLOMITE, trace CALCITE			
375			very light gray DOLOMITE with light tan DOLOMITE, trace light gray and white banded CHERT			
380			very light gray DOLOMITE with light tan DOLOMITE			
385			very light gray DOLOMITE and light tan DOLOMITE, trace tan, sandy DOLOMITE, trace greenish SHALE			
390			very light gray DOLOMITE with light tan DOLOMITE, trace tan, pitted, very fine grained SANDSTONE			
395			very light gray and very light tan DOLOMITE, some light to medium gray DOLOMITE, some tan, sandy CHERT, trace gray CHERT, trace CALCITE			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 11 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
400			light gray DOLOMITE, some very light gray DOLOMITE, trace to some tan to yellowish tan, very fine grained SANDSTONE			
405			very light tan and light gray DOLOMITE, trace to some dark gray to black DOLOMITE, some yellowish tan DOLOMITE			
410			light tan DOLOMITE with some yellowish tan DOLOMITE, trace dark gray DOLOMITE, trace greenish SHALE, trace pinkish DOLOMITE			
415			light tan DOLOMITE with some light gray DOLOMITE, some yellowish tan very fine grained SANDSTONE			
420			light grayish tan DOLOMITE with some yellowish tan DOLOMITE, trace yellowish tan, very fine grained SANDSTONE			
425			light grayish tan DOLOMITE with some tan DOLOMITE, some of the DOLOMITE appears to have some very fine sand			
430			very light grayish tan DOLOMITE with some light tan DOLOMITE; some DOLOMITE has a pinkish tint			
435			light tan DOLOMITE, trace yellowish tan DOLOMITE			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 12 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	
FILE NO.: 2795.222	FALL:	START DATE: 6/8/93 END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
440			light purplish tan DOLOMITE and light tan DOLOMITE, trace white CHERT, some tan DOLOMITE, trace CALCITE			
445			light tan DOLOMITE with trace to some yellowish tan, sandy DOLOMITE			
450			light tan DOLOMITE, trace to some yellowish tan DOLOMITE; trace pale grayish green CLAY			
455			light tan DOLOMITE with trace white to light gray CHERT, trace to some tan DOLOMITE, trace CALCITE			
460			light tan DOLOMITE some pieces have 1/8 inch and smaller vugs, trace to some quartzitic SANDSTONE, trace to some pale greenish tan clay			
465			light tan DOLOMITE with some sandy DOLOMITE, some light gray to white CHERT, some of the chert appears to be polished, trace quartzitic SANDSTONE, trace pale green SHALE			
470			light tan DOLOMITE and light gray and white CHERT; some brown to reddish brown CLAY, trace CALCITE, trace black crystaline ROCK (ore)			
475			tan to light gray DOLOMITE with some light gray to white CHERT, trace black CHERT, trace CALCITE crysatls; few pieces yellowish brown, very fine grained SANDSTONE; a few CHERT pieces appear pollished			

NOTES: 1. Water return became an orange-brown at approx. 460 feet.
2. From 455 to 480 had zone of "fractured clay filled rock and clay layers", driller
3. Mud had very fine sand in it

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG PETROGRAPHIC ANALYSIS	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 13 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	
FILE NO.: 2795.222	FALL:	START DATE: 6/8/93 END DATE:

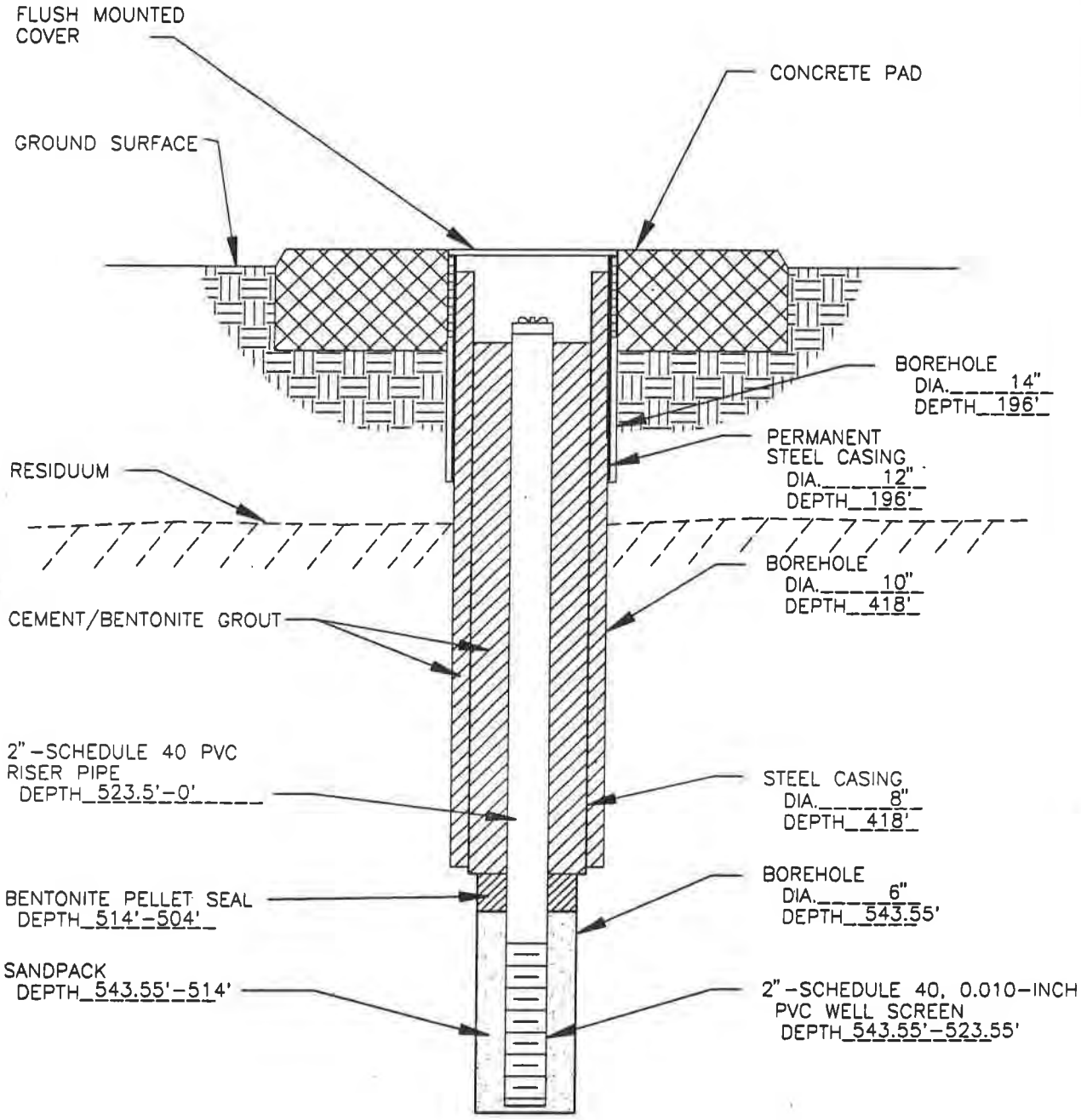
BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
480			light gray DOLOMITE, some tan DOLOMITE, trace light gray polished CHERT; trace CALCITE crystals			
485			light gray DOLOMITE, trace grayish green SHALE; trace to some light gray and white CHERT, trace to some black OXIDE pieces, trace reddish brown CLAY			
490			light gray DOLOMITE, trace of DOLOMITE appears oolitic, trace pale green SHALE			
495			light gray DOLOMITE, trace CHERT, trace pale grayish green SHALE, trace crystals, trace black OXIDES			
500			light gray DOLOMITE, trace gray CHERT, trace CALCITE crystals, trace grayish green SHALE			
505			light gray DOLOMITE with trace to some light gray CHERT, trace to some pale yellow CLAY, trace black OXIDES, trace QUARTZ crystals, trace green SHALE			
510			very light gray DOLOMITE, trace white, very fine grained SANDSTONE, trace light gray CHERT			
515			light gray DOLOMITE, trace to some black OXIDES, trace yellowish tan, very fine grained SANDSTONE; trace pale yellow CLAY			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-1DD
CLIENT: TRW	SAMPLER: AIR ROTARY	PAGE 14 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	START DATE: 6/8/93
FILE NO.: 2795.222	FALL:	END DATE:

BORING COMPANY: LAYNE WESTERN
FOREMAN: TIM ELDERS
OBG GEOLOGIST: WILLIAM WRIGHT

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
520			light gray DOLOMITE with trace pale yellow CLAY, trace tan very fine grained SANDSTONE, trace black OXIDE			
525			light gray DOLOMITE, trace white CHERT, trace yellowish tan very fine grained SANDSTONE, trace pale greenish yellow CLAY, trace pale green SHALE			
530			light gray DOLOMITE, trace pale yellow CLAY, trace white CHERT, one piece black ORE with PYRITE coating			
535			light gray DOLOMITE, trace white CHERT, trace black ORE			
540			light gray DOLOMITE, trace QUARTZ, trace pale yellow CLAY, trace green SHALE, trace black ORE			
545			BOTTOM OF BORING 542'			
550						
555						



OBG-1DD

FORMER TRW FACILITY
SULLIVAN, MISSOURI

DEEP MONITORING WELL DIAGRAM

NOT TO SCALE

H:\PROJECTS\111111\76\TRWSUL26, SCALE FACTOR: 1=1
9/16/93
2795.222.991
LAYERS- ALL ON

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-14D PAGE 1 OF 8
CLIENT: TRW	SAMPLER: N/A	LOCATION:
PROJECT LOCATION: Sullivan, MO	HAMMER: N/A	START DATE: 9/14/92 END DATE: 9/23/92
FILE NO.: 2795.222	FALL: N/A	

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: William E. Wright

LEGEND: Grout, Sand Pack, Pellets, Screen, Riser

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	BLOWS /6"	PENETR/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	EQUIPMENT INSTALLED	FIELD TESTING HNu (ppm)
0						GRAVEL and grayish-brown CLAY			1.3
5						Grayish-brown CLAY, trace gravel			1.3
10						Grayish-tan CLAY			1.4
15						Tan to light brown CLAY, trace chert			1.3
20						No recovery			1.4
25						Tan to light brown CLAY			1.3
30						Tan to light brown CLAY			1.4
35						Tan to light brown CLAY			1.3

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-14D PAGE 2 OF 8
CLIENT: TRW	SAMPLER: N/A	LOCATION:
PROJECT LOCATION: Sullivan, MO	HAMMER: N/A	START DATE: 9/14/92 END DATE: 9/23/92
FILE NO.: 2795.222	FALL: N/A	

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: William E. Wright

LEGEND: Grout, Sand Pack, Pellets, Screen, Riser

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	BLOWS /6"	PENETR/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	EQUIPMENT INSTALLED	FIELD TESTING HNu (ppm)
40						Tan to light brown CLAY			1.3
45						Tan to light brown CLAY			1.3
50						Tan CLAY, trace white chert			1.3
55						Tan CLAY and fine-grained SANDSTONE, trace red rock and chert			1.4
60						Tan, fine-grained SANDSTONE with tan and reddish-tan clay			1.5
65						White, fine-grained SANDSTONE, some clay			1.5
70						Tan to light tan, fine-grained SANDSTONE, some clay, trace white chert			1.5
75						Tan, fine-grained SANDSTONE, some clay			1.4

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-14D PAGE 3 OF 8
CLIENT: TRW	SAMPLER: N/A	LOCATION:
PROJECT LOCATION: Sullivan, MO	HAMMER: N/A	START DATE: 9/14/92 END DATE: 9/23/92
FILE NO.: 2795.222	FALL: N/A	

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: William E. Wright

LEGEND: Grout, Sand Pack, Pellets, Screen, Riser

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	BLOWS /6"	PENETR/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	EQUIPMENT INSTALLED	FIELD TESTING HNu (ppm)
80						Tan, fine SAND, some clay, trace chert			1.5
85						Tan CLAY and fine SAND, trace to some chert			1.6
90						Reddish-brown CLAY and fine SAND, some chert			1.6
95						Reddish-brown CLAY, some fine sand, some chert			1.5
100						Reddish-brown CLAY, some fine sand, some chert			1.4
105						Reddish-brown CLAY and fine-grained SANDSTONE, some white chert and yellowish chert			1.3
110						Tan and reddish-brown, fine-grained SANDSTONE, trace chert			1.4
115						White CHERT and reddish-brown CLAY, trace black rock			1.4

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-14D PAGE 4 OF 8
CLIENT: TRW	SAMPLER: N/A	LOCATION:
PROJECT LOCATION: Sullivan, MO	HAMMER: N/A	START DATE: 9/14/92 END DATE: 9/23/92
FILE NO.: 2795.222	FALL: N/A	
BORING COMPANY: Layne Western FOREMAN: Mike Vogt OBG GEOLOGIST: William E. Wright		LEGEND: Grout, Sand Pack, Pellets, Screen, Riser

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	BLOWS /6"	PENETR/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	EQUIPMENT INSTALLED	FIELD TESTING HNu (ppm)
120						White CHERT and reddish-brown CLAY, trace black rock			1.5
125						Reddish-brown and white, fine-grained SANDSTONE with white chert and gray chert, some reddish-brown clay			1.4
130						White CHERT and gray CHERT with some yellowish clay, trace to some fine sand, trace black rock			1.5
135						White CHERT, gray CHERT and yellowish CLAY, trace to some fine sand			1.4
140						White CHERT, reddish-brown, fine-grained SANDSTONE and light brown CLAY			1.2
145						Reddish-brown CLAY and fine-grained SANDSTONE with white chert and gray chert, trace to some black rock			1.3
150						Gray CHERT, white CHERT and light brown CLAY, some fine-grained sandstone			1.3
155						Light brown CLAY and fine-grained SANDSTONE with white chert, some gray chert, some black rock			1.4

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-14D PAGE 5 OF 8
CLIENT: TRW	SAMPLER: N/A	LOCATION:
PROJECT LOCATION: Sullivan, MO	HAMMER: N/A	START DATE: 9/14/92 END DATE: 9/23/92
FILE NO.: 2795.222	FALL: N/A	

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: William E. Wright

LEGEND: Grout, Sand Pack, Pellets, Screen, Riser

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	BLOWS /6"	PENETR/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	EQUIPMENT INSTALLED	FIELD TESTING HNu (ppm)
160						Light gray and white CHERT with tan, fine-grained sandstone, some red clay, trace black rock			1.4
165						Tan, sandy CLAY with gray and white chert, trace black rock			1.3
170						White and gray CHERT with fine sand, some clay, trace red rock			1.4
175						White CHERT with light gray chert, trace to some reddish clay, trace red rock			1.3
180						Light gray and white CHERT, trace reddish clay, trace black rock, trace red rock			1.4
185						Light gray and white CHERT, trace to some red rock fragments, trace fine-grained sandstone			1.3
190						Light gray and white CHERT with some yellowish-tan CLAY, trace red rock			1.4
195						Light gray and white CHERT, trace to some red rock, trace black rock			1.6

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-14D PAGE 6 OF 8
CLIENT: TRW	SAMPLER: N/A	LOCATION:
PROJECT LOCATION: Sullivan, MO	HAMMER: N/A	START DATE: 9/14/92 END DATE: 9/23/92
FILE NO.: 2795.222	FALL: N/A	

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: William E. Wright

LEGEND: Grout, Sand Pack, Pellets, Screen, Riser

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	BLOWS /6"	PENETR/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	EQUIPMENT INSTALLED	FIELD TESTING HNu (ppm)
200						Light gray and white CHERT, trace buff dolomite, trace red rock			1.4
205						Buff DOLOMITE and red CLAY			1.4
210						Buff DOLOMITE and light gray CHERT			1.6
215						Buff DOLOMITE and light gray CHERT, trace black rock			1.4
220						Buff DOLOMITE with light gray chert, some white dolomite			1.4
225						Buff DOLOMITE			1.5
230						Buff DOLOMITE, trace light gray chert			1.4
235						Buff DOLOMITE, trace to some light gray and white chert			1.3

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-14D PAGE 7 OF 8
CLIENT: TRW	SAMPLER: N/A	LOCATION:
PROJECT LOCATION: Sullivan, MO	HAMMER: N/A	START DATE: 9/14/92 END DATE: 9/23/92
FILE NO.: 2795.222	FALL: N/A	

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: William E. Wright

LEGEND: Grout, Sand Pack, Pellets, Screen, Riser

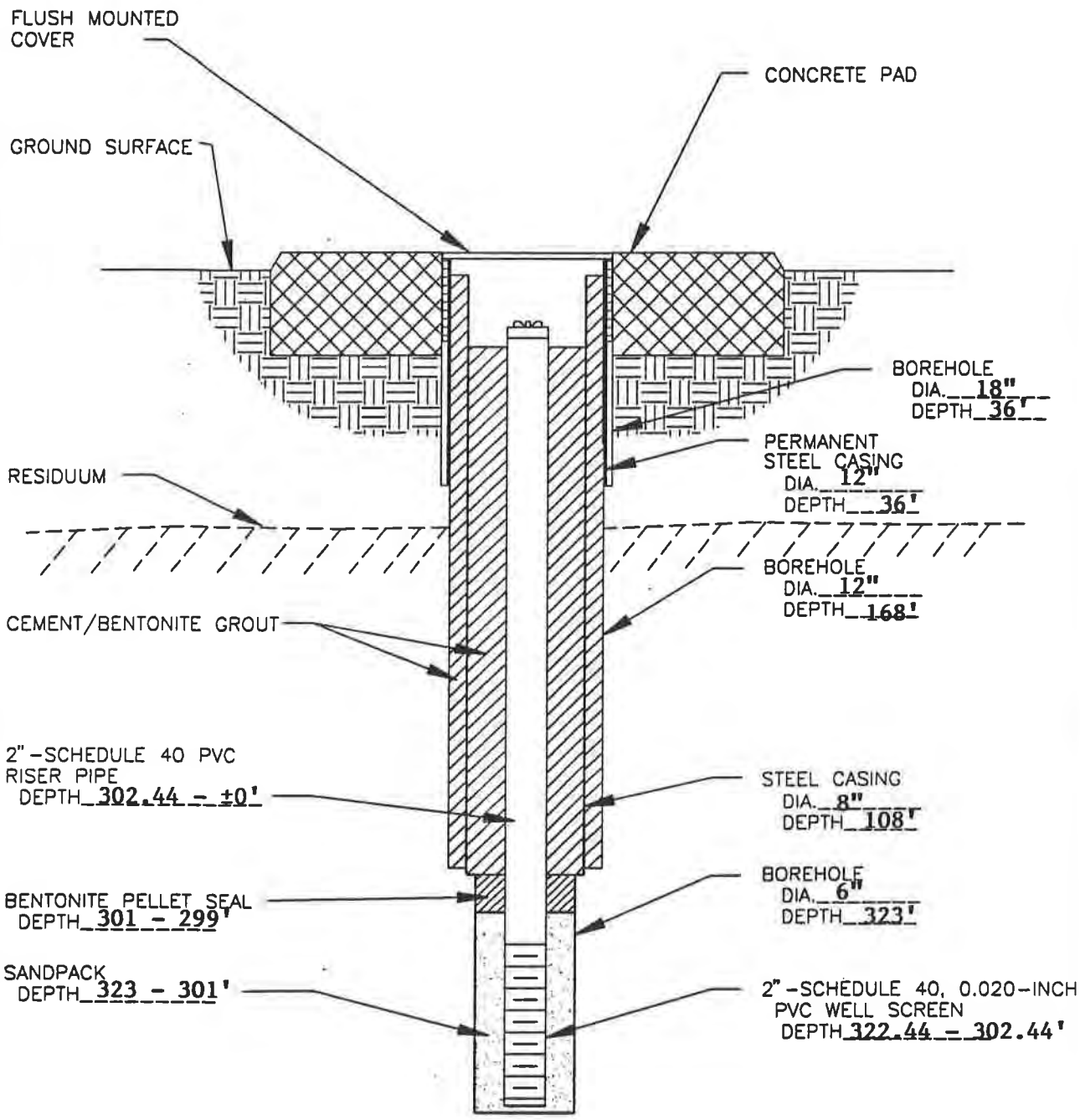
DEPTH BELOW GRADE	NO.	DEPTH (FEET)	BLOWS /6"	PENETR/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	EQUIPMENT INSTALLED	FIELD TESTING HNu (ppm)
240						Buff DOLOMITE and light gray CHERT, trace grayish-green shale			1.2
245						Buff DOLOMITE, trace light gray chert and white chert			1.2
250						Buff DOLOMITE with some light gray dolomite, trace to some light gray chert			1.5
255						Light to medium gray DOLOMITE with buff dolomite, trace black rock chips			1.4
260						Light to medium gray DOLOMITE and buff DOLOMITE, trace light gray to white chert			1.4
265						Buff DOLOMITE and light gray DOLOMITE with light gray and white chert			1.3
270						Darker buff DOLOMITE, trace to some light gray chert, trace grayish-green shale partings			1.4
275						Buff DOLOMITE and some light gray dolomite, trace light gray chert			1.5

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-14D PAGE 8 OF 8
CLIENT: TRW	SAMPLER: N/A	LOCATION:
PROJECT LOCATION: Sullivan, MO	HAMMER: N/A	START DATE: 9/14/92 END DATE: 9/23/92
FILE NO.: 2795.222	FALL: N/A	

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: William E. Wright

LEGEND: Grout, Sand Pack, Pellets, Screen, Riser

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	BLOWS /6"	PENETR/ RECOVERY	"N" VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	EQUIPMENT INSTALLED	FIELD TESTING HNu (ppm)
280						Buff DOLOMITE, trace white chert			1.4
285						Buff DOLOMITE with trace white chert, trace green shale partings			1.4
290						Buff DOLOMITE, trace light gray chert			1.5
295						Buff DOLOMITE and white CHERT, trace brown dolomite			1.2
300						Buff DOLOMITE and white CHERT, trace black rock, trace brown dolomite			1.4
305						Buff DOLOMITE and light gray, vuggy CHERT			1.2
310						Buff DOLOMITE, trace to some light brown dolomite			1.4
315						Buff DOLOMITE with trace light brown dolomite			1.2
320						Buff DOLOMITE with trace light brown dolomite			1.3
325						Buff DOLOMITE with trace light brown dolomite			1.4



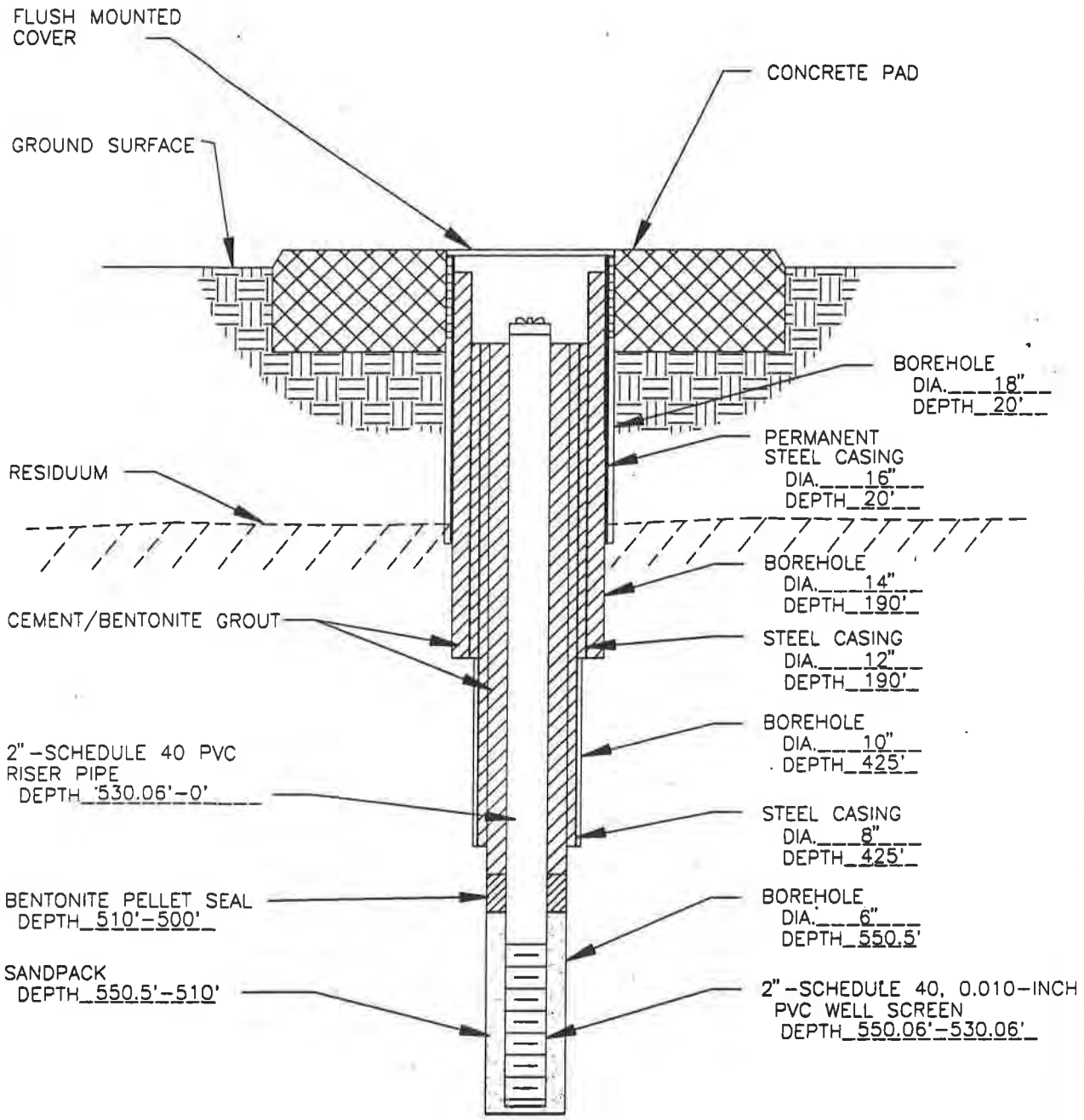
OBG-14D

FORMER TRW FACILITY
SULLIVAN, MISSOURI

INTERMEDIATE - DEEP MONITORING WELL DIAGRAM

NOT TO SCALE

H:\PROJECTS\111111\76\TRWSUL2, SCALE FACTOR: 1=1
LAYERS- ALL ON 2795.222.183 9/15/93



OBG-14DD

FORMER TRW FACILITY
SULLIVAN, MISSOURI

DEEP MONITORING WELL DIAGRAM

NOT TO SCALE

H:\PROJECTS\111111\76\TRWSUL25, SCALE FACTOR: 1=1
LAYERS- 1,2, 2795.222.991 9/17/93

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 1 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	LOCATION: Clark and Elm Ste
FILE NO.: 2795.222	FALL:	Start Date: 8/16/93 End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
0			Clays with varying amounts of Chert and Sand to 16.5 ft			
5						
10						
15						
16.5			Sandstone, very fine grained, clayey			
20						
25			reddish orange, slightly clayey, fine to very fine Sandstone			
30			reddish orange, slightly clayey, fine to very fine Sandstone			
35			reddish orange, slightly clayey, fine to very fine Sandstone			

Notes: 16" steel casing to 16.5' below grade
12" steel casing to 119' below existing grade
8" steel casing to 425' below existing grade

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	Page 2 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	LOCATION: Clark and Elm Sts
FILE NO.: 2795.222	FALL:	Start Date: 8/16/93 End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
40			reddish orange, slightly clayey, fine to very fine Sandstone			
45			reddish orange, slightly clayey, fine to very fine Sandstone			
50			reddish orange, slightly clayey, fine to very fine Sandstone			
55			reddish orange, slightly clayey, fine to very fine Sandstone			
60			tannish orange, clayey, fine to very fine grained Sandstone, some white Chert			
65			tannish brown, clayey fine to very fine grained Sandstone, some white Chert, trace to some gray Chert			
70			light brown, clayey, fine to very fine grained Sandstone with white Chert, some grey Chert, some white Sandstone			
75			light brown, very clayey, fine to very fine grained Sandstone with white Chert and some gray Chert some light grey Clay			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORIN OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 3 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	LOCATION: Clark and Elm Sts
FILE NO.: 2795.222	FALL:	Start Date: 8/16/93 End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: John M. Mason

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING
80			light brown, very clayey,		
			fine to very fine grained Sandstone		
			with white Chert and some gray Chert		
85			light brown, very clayey,		
			fine to very fine grained Sandstone		
			Chert (Chert is predominantly white		
			to light gray)		
90			light brown very clayey,		
			fine to very fine grained Sandstone		
			and Chert		
95			light brown, very clayey,		
			fine to very fine grained Sandstone		
			with some Chert		
100			light brown, sandy Clay with		
			some white to light gray Chert		
105			white Chert with some light gray		
			to a few pieces black Chert		
			trace to some quartzitic Sandstone,		
			trace to some reddish brown Clay		
110			tan Dolomite with Chert of white		
			to gray, some white		
			quartzitic Sandstone, trace to some		
			reddish, very fine grained Sandstone		
115			tan Dolomite with trace to some pinkish		
			Dolomite; with some Chert from white to		
			light gray, light weight to dense and crystalline;		
			trace very fine grained Sandstone, white to gray		

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 4 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	LOCATION: Clark and Elm Sts
FILE NO.: 2795.222	FALL:	Start Date: 8/16/93 End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: John M. Mason

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
120			light tan Dolomite and white Chert;			
			some light gray to gray Chert			
			one piece pinkish Chert			
125			light tan Dolomite and white Chert			
			some gray Chert			
130			white Chert and light tan Dolomite			
135			light tan Dolomite and white Chert			
140			tan Dolomite and trace pinkish Dolomite,			
			trace white, light Chert			
			trace dark gray Chert			
145			tan Dolomite with white Chert			
			and some gray chert			
150			light tan Dolomite and			
			Chert of white, light gray and black			
155			light tan Dolomite with to			
			some white Chert,			
			some light gray Chert			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 5 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	Start Date: 8/16/93
FILE NO.: 2795.222	FALL:	End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
160			light tan Dolomite with white Chert and some light gray Chert			
165			white and light gray Chert with tan Dolomite			
170			light tan and pinkish tan Dolomite with white Chert, trace to some light gray Chert			
175			tan Dolomite and pinkish tan Dolomite with light gray to gray Chert, some white Chert, trace light grayish green Shale			
180			tan Dolomite and light gray Chert trace to some white Chert			
185			tan Dolomite, white Chert and light gray Chert			
190			light tan Dolomite with white Chert			
195			light tan Dolomite with white Chert and light gray Chert			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 6 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	Start Date: 8/16/93
FILE NO.: 2795.222	FALL:	End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
200			light tan Dolomite with light gray Chert and white Chert			
205			light tan Dolomite with some light gray Chert			
210			light tan Dolomite (some Dolomite has a very slight gray tint) trace to some light gray Chert			
215			light gray Dolomite with some purplish gray Chert (some Dolomite has a greenish tinge)			
220			light gray Dolomite with trace to some tan Dolomite, trace white Chert			
225			light gray Dolomite, trace Chert			
230			light gray Dolomite trace to some light gray and white Chert			
235			light gray Dolomite with some white Chert, light gray Chert, and trace black Chert			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 7 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	Start Date: 8/16/93
FILE NO.: 2795.222	FALL:	End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
240			gray Dolomite with some gray Chert trace to some white Chert			
245			gray Dolomite with light gray Chert some white Chert			
250			grayish tan Dolomite with gray Chert			
255			gray Dolomite with gray Chert and very light gray Chert			
260			gray to grayish tan Dolomite with white Chert and gray Chert trace light grayish green Shale			
265			grayish Dolomite and tan Dolomite with some white Chert, trace light grayish green Shale			
270			Cherts (light gray, off white, dark gray to black) some gray Dolomite trace pale green Shale, trace yellow brown Clay			
275			gray to black Chert with some tan Dolomite, trace to some very light gray to white Chert, trace green Shale			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 8 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	Start Date: 8/16/93
FILE NO.: 2795.222	FALL:	End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
280			tan and pinkish tan and gray			
			Dolomite and gray Chert, some black			
			Chert, trace Calcite crystalls;			
			some "rust" stains on Chert and Dolomite			
285			gray Dolomite, tan Dolomite and purplish			
			tan Dolomite with gray Chert			
			trace to some light gray Chert			
290			gray Dolomite and tan Dolomite			
			with trace to some white or light gray Chert			
295			light gray Dolomite and light tan			
			Dolomite with trace to some grayish			
			green Shale, trace Chert			
300			light tan/grayish tan Dolomite			
			with some greenish white Chert			
305			light grayish tan Dolomite with white			
			Chert, one small Calcite crystal(rhombohedron)			
310			light grayish tan and light greenish			
			tan Dolomite with trace white chert,			
			2 black crystals with apparent Pyrite coatings			
315			tan, pale greenish tan and purplish			
			tan Dolomite with, trace pale			
			green Shale, one Calcite rhombohedron			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 9 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	Start Date: 8/16/93
FILE NO.: 2795.222	FALL:	End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
320			light gray Dolomite, some light tan Dolomite, trace gray Chert			
325			very light grayish tan Dolomite trace gray Chert			
330			very light tan Dolomite, trace light tan Dolomite, trace white Chert			
335			very light tan Dolomite, trace gray Chert			
340			light gray, light greenish gray and light tan Dolomite, trace pale green Shale			
345			light tan, grayish green and trace to some light gray Dolomite; with trace to some light gray Chert, trace yellow brown "Claystone"			
350			very light gray Dolomite with some light gray Chert			
355			very light grayish tan Dolomite with a trace to some light gray Chert trace black crystals			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 10 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	Start Date: 8/16/93
FILE NO.: 2795.222	FALL:	End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
360			very light grayish tan Dolomite with a trace to some light gray Chert			
365			very light grayish tan Dolomite with trace light gray Chert, one black crystal with pyrite			
370			light tan and very light grayish tan Dolomite with a trace to some light gray Chert, trace yellow brown Claystone			
375			light tan and very light gray Dolomite with a trace light gray Chert			
380			very light tan Dolomite, some light grayish tan Dolomite, trace gray Chert, one black crystal			
385			light tan Dolomite, one black crystal			
390			light tan Dolomite with trace yellow brown Claystone(one piece has rusty brown "stain" one piece has pale green flecks on it) trace gray Chert			
395			light tan Dolomite with trace to some yellow brown "Claystone", trace gray Chert, one Calcite rhombohedron			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 11 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	Start Date: 8/16/93
FILE NO.: 2795.222	FALL:	End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
400			light grayish tan Dolomite very			
405			very light grayish tan Dolomite, trace to some tan Dolomite trace black crystals			
410			very light grayish tan Dolomite, trace dark reddish brown to black crystals, trace light gray Chert			
415			very light grayish tan to very light tan Dolomite, trace green Shale,trace light gray Chert, trace to some tan Dolomite			
420			very light tan Dolomite, trace light gray Chert			
425			very light tan and light grayish tan Dolomite with a trace of pale green Shale, one piece vuggy Dolomite crystals			
430			light tan Dolomite, trace to some tan Dolomite			
435			light tan Dolomite, trace to some tan Dolomite			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 12 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	Start Date: 8/16/93
FILE NO.: 2795.222	FALL:	End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING
440			light tan Dolomite, trace to some tan Dolomite		
445			light tan Dolomite and gray Dolomite with trace to some tan Dolomite		
450			light gray Dolomite with light tan Dolomite trace to some tan Dolomite; trace Pyrite		
455			light gray to gray Dolomite		
460			light gray Dolomite, trace Pyrite		
465			light gray Dolomite, trace to some dark gray Dolomite		
470			light gray to gray Dolomite		
475			very light gray to light tan Dolomite trace black crystals		

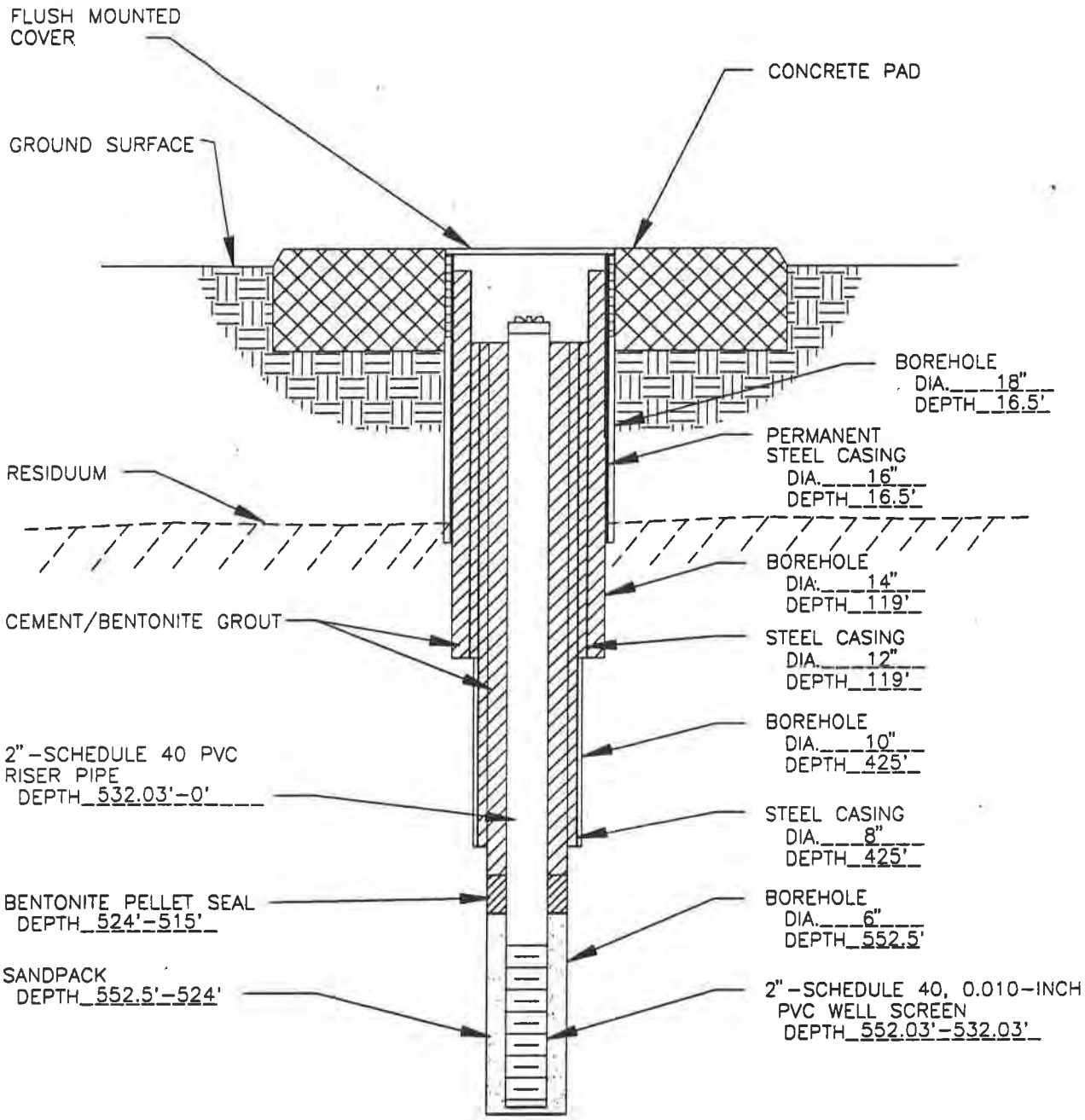
O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 13 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	Start Date: 8/16/93
FILE NO.: 2795.222	FALL:	End Date:
BORING COMPANY: Layne Western FOREMAN: Mike Vogt OBG GEOLOGIST: Wm. Wright		

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
480			light gray Dolomite			
485			very light gray Dolomite, some light gray Dolomite			
490			very light gray Dolomite trace to some clear small Calcite crystals			
495			very light gray Dolomite, some tan Dolomite, trace to some small Calcite crystals			
500			very light gray Dolomite with some light gray Dolomite, trace pinkish Dolomite, trace Calcite crystals			
505			light to very light gray Dolomite withe trace to some pinkish Dolomite trace Calcite crystals			
510			light gray Dolomite with some yellowish tan Dolomite;trace pinkish Dolomite, trace Calcite, trace green Shale			
515			light gray Dolomite with some gray Dolomite,trace pinkish Dolomite trace to some yellowish tan Dolomite			

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING OBG-18DD
CLIENT: TRW	SAMPLER: Air Rotary	PAGE 14 of 14
PROJECT LOCATION: Sullivan, MO	HAMMER:	Start Date: 8/16/93
FILE NO.: 2795.222	FALL:	End Date:

BORING COMPANY: Layne Western
FOREMAN: Mike Vogt
OBG GEOLOGIST: Wm. Wright

DEPTH BELOW GRADE	NO.	DEPTH (FEET)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPTION	FIELD TESTING	
520			light gray Dolomite with trace to some yellowish tan Dolomite			
525			light gray Dolomite with pinkish Dolomite, with trace Calcite crystals			
530			gray Dolomite with trace to some tan Dolomite			
535			gray Dolomite with trace to some dark tan Dolomite, one Pyrite crystal			
540			light gray, and brownish gray Dolomite with some tan Dolomite, trace to some dark gray Dolomite, trace to some Calcite, trace Pyrite			
545			gray Dolomite with trace to some brown Clay			
550			light gray Dolomite with yellowish tan Dolomite, trace Calcite trace green Shale			
555			BOTTOM OF BORING 550 FEET			



OBG-18DD

FORMER TRW FACILITY
SULLIVAN, MISSOURI

DEEP MONITORING WELL DIAGRAM

NOT TO SCALE

H:\PROJECTS\111111\76\RWSU.25, SCALE FACTOR: 1=1
LAYERS- 1, 3, 2795.222.991 9/17/93

John Ward Real Estate Sullivan
H08-4773

WL-153-5p15

STATE OF MISSOURI
DIVISION OF
GEOLOGICAL SURVEY AND WATER RECOURCES

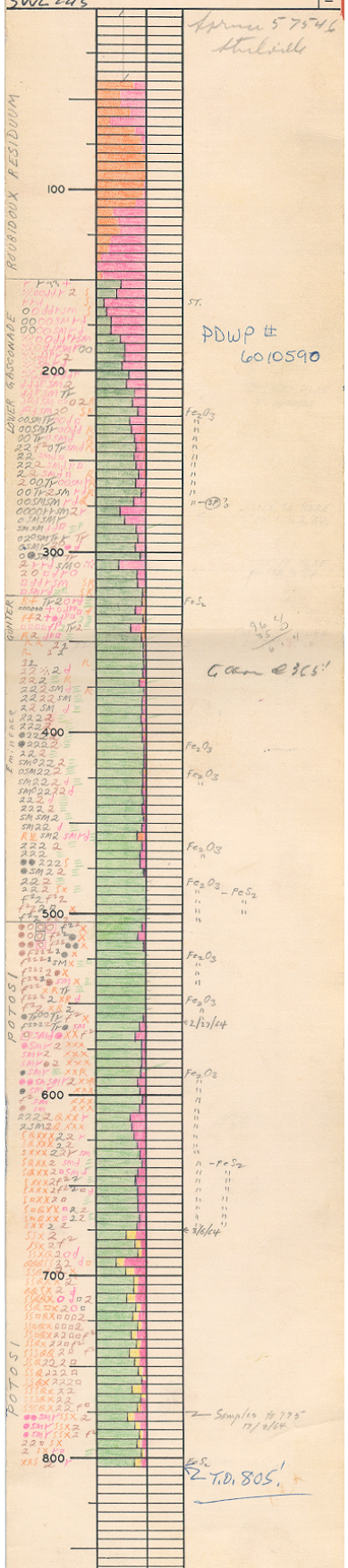
LOG NO. 22,357	OWNER OAK GROVE VILLAGE	
COUNTY FRANKLIN	FARM	WELL NO. 1
T 40N. R 2W.	DRILLER N. E. STACK	
	DATE Jan-Mar 1964	
4	ELEV Crangle 964	PROD. 135 gpm w/20' DD.
	LOGGED BY H. M. GROVES MAR. 23, 1964.	

REMARKS

INDEX SHEET NO.

SWL 245

Spruce 5 7546
Shelville



DNR **MISSOURI SAMPLE WELL-LOG LIBRARY** **DGLS**

LOG NUMBER
028918

OWNER: Oak Grove Village Well #2
PLUGGED **CONFIDENTIAL?** 0 RELEASE DATE:
WELL TYPE: Community Public Well
DRILLER: Flynn Drilling
LEASENAME:
DRILL DATE: 2002/12/ PERMIT #:
LOGGER: Keller, A. LOGDATE: 2002/12/
TYPE OF LOG: SAMPLE SAVED? 0

MISSOURI , COUNTY: **Franklin**
SECTION: 04 TOWNSHIP: 40 N RANGE 02 W
of se of se
LATITUDE:
LONGITUDE:
QUAD NAME: **SULLIVAN**

OTHER DATABASES: PUBLIC DRINKING WATE
ID NUMBER: **6010590**
DATABASE 2:
ID NUMBER:
DATABASE 3
ID NUMBER

ELEVATION: 940 BASE: **S** BEDROCK @ **FEET**
TOTAL DEPTH: **900** INTERVAL CORED: TO
YIELD: **400** DRAWDOWN:
STATIC WATER LEVEL BEFORE: AFTER: 260

WATER AT:

TOP FORMATION: **RESIDUUM**
BOTTOM FORMATION: **EMINENCE DOLOMITE**

REMARKS:

CONSTRUCTION DATA

CASING:	DEPTH:	DIAMETER	CASING MATERIAL
	460	8	

I/O:
SIZE HOLE:

DATE PLUGGED: DATE ABANDONED:
Plug Depth TOP: Plug Depth Bottom:
GROUTING:

PUMP:	Capacity	Pump Type	Set at:	Total Depth:	Screen Type:	Size:	Length:	Slot:
	150		399					

Well Treatment: Type Devised:
Type of Completion
Perforation Interval: Tube Pressure:
Top:
Bottom:
Oil Production: Gas Production:

Water Analysis:

OPEN FORMATIONS Top Formation:
Bottom Formation:

LOG NUMBER
028918

STRATIGRAPHY

TOP	BOT	FORMATION NAME	LITHOLOGY PRIMARY	LITHOLOGY SECONDARY	LITHOLOGY MINOR	MINERALS PRIMARY	OCC.	MINERALS SECONDARY	OCC	MINERALS MINOR
0	135	RESIDUUM								
135	370	LOWER GASCONADE DOLOMITE								
370	385	GUNTER SANDSTONE MEMBER								
385	900	EMINENCE DOLOMITE								
900		TOTAL DEPTH								

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGY AND LAND SURVEY
(573) 368-2165

HIGH YIELD AND PUBLIC WELL RECORD AND PUMP INFORMATION DATA

REF NO 00310990	DATE RECEIVED 02/20/2003	
CR NO		
STATE CERT NO APPROVED DATE A112789 03/19/2003	CHECK NO. 68920	
DATE ENTERED PHASE 1 PHASE 2 PHASE 3 02/24/2003 03/12/2003 03/12/2003	ROUTE PCD	REVENUE NO. 022003

INFORMATION SUPPLIED BY WELL OR PUMP INSTALLATION CONTRACTOR

DNR VARIANCE NUMBER _____
CASING DEPTH NUMBER _____
Applicable only if casing depth or variance were obtained from DNR

OWNER NAME	TELEPHONE (OPTIONAL)
VILLAGE OF OAK GROVE	573-468-4500

OWNER ADDRESS	CITY	STATE	ZIP
PO BOX 432	SULLIVAN	MO	63080

ADDRESS OF WELL (IF DIFFERENT THAN ABOVE)	CITY	STATE	ZIP
OAK GROVE COMMUNITY PWS		MO	

PROPOSED USE OF WELL **SEE BACK OF FORM FOR WELL CLASSIFICATIONS**

- [ ] Water Supply for Irrigation (capable of producing more than 70 gpm to surface)
  - Unconsolidated Material Well [ ] Bedrock Well [ ]
- [ ] Water Supply for a High-Capacity Well capable of producing more than 70 gpm to surface - get casing depth from GSRAD before start
- [ ] Open Loop Heat Pump
  - Supply Well [ ] Return Well [ ]
- [X] Water Supply to a Public Facility (convenience store, restaurant, church, business, condo, mobile home park, rural or urban water supply)

CONTACT THE DNR REGIONAL OFFICE to get instructions for water supply to a PUBLIC FACILITY

CASING DETAILS

CASING LENGTH 460.0 FT. O.D. OF CASING 8.0 IN. DIAMETER OF DRILL HOLE 12.0 IN.

CASING MATERIAL: [X] STEEL [ ] PLASTIC [ ] CONCRETE

POSITION OF GROUT SEAL: [ ] BOTTOM [X] FULL LENGTH [ ] TOP

COPY

CASING GROUT MATERIAL

CEMENT	BENTONITE		METHOD OF GROUT INSTALLATION		PRESSURE GROUT	DRILLING SUSPENDED
[X] TYPE 1	[ ] SLURRY	[ ] GRANULAR	[ ] GRAVITY	[ ] POS. DISPLACEMENT	[ ] THROUGH CASING	[ ] NO
[ ] HI-EARLY	[ ] CHIPS	[ ] PELLETS	[ ] OPEN HOLE	[ ] TREMIE	[ ] THROUGH TREMIE	[X] YES 72 HRS

NO. OF SACKS USED 322.0 POUNDS PER SACK _____

LINER DETAILS

LENGTH FT. O.D. OF LINER IN. LINER MATERIAL [ ] STEEL [ ] PLASTIC POSITION OF SEAL [ ] FULL LENGTH [ ] BOTTOM [ ] TOP

LINER GROUT MATERIAL

CEMENT	BENTONITE		METHOD OF GROUT INSTALLATION		LINER USED TO:
[ ] TYPE 1	[ ] SLURRY	[ ] GRANULAR	[ ] GRAVITY	[ ] POS. DISPLACEMENT	[ ] HOLD BACK FORMATION
[ ] HI-EARLY	[ ] CHIPS	[ ] PELLETS	[ ] OPEN HOLE	[ ] TREMIE	[ ] SEAL OUT UNDESIREABLE AQUIFER CONDITIONS
					[ ] PREVENT RUST

NO. OF SACKS USED POUNDS PER SACK 94 ABANDONED WELL ON SITE? [ ] YES PLUGGED? [ ] YES

LOCATION OF WELL

LAT. 38 ° 13' 26.2"
LONG. 91 ° 8' 50.5"
COUNTY FRANKLIN

Please be aware that we do not guarantee the accuracy of the data. It is submitted to us by a third party and has not been field verified.

DEPTH TO FIRST GROUNDWATER FEET	PUMP RATE 150.0 GPM
WELL YIELD 800.0 GPM	PUMP SET DEPTH 399.0 FEET
STATIC WATER LEVEL 260.0 FEET	PUMP INSTALLATION DATE
WELL COMPLETION DATE 01/02/2003	pump info required this record or on pump card

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION
0.0	14.0	DRT CLY
14.0	90.0	BRKN
90.0	142.0	WTHRD
142.0	145.0	BRKN MUDDY
145.0	160.0	WTHRD HVY
160.0	162.0	OPEN
162.0	168.0	HVY CHT BRKN MUDDY
168.0	210.0	CHT
210.0	225.0	LT STAINING
225.0	262.0	SM GRN
262.0	290.0	CHT PKTS DRUSE
290.0	320.0	WT SM STAINING
320.0	355.0	SM SND
355.0	370.0	STAINING BL LT GRY
370.0	386.0	STAINING CHT
386.0	410.0	SM OPENING MUDDY WTR HVY STAINING
410.0	445.0	WT STAINING
445.0	530.0	WT GRY CHT LT STAINING
530.0	545.0	HVY STAINING WTR DRUSE
545.0	630.0	STAINING
630.0	800.0	SM OPENING WTR MUDDY GRY LT BRN
800.0	830.0	WT GRY

DEPTH TO BEDROCK FEET

TOTAL DEPTH 900.0 FEET

(OPTIONAL) ELEVATION 940 FT.

LEGAL LOCATION (OPTIONAL) SE 1/4 SE 1/4 SE 1/4 SEC. 4 TWN. 40 RNG. 2 W

AREA A1

C DATA REQ'D [ ]

OTHER INFORMATION OR LOCATION DATA (OPTIONAL)

I HEREBY CERTIFY THE WELL/PUMP INFORMATION DESCRIBED HEREIN IS TRUE AND ACCURATE

PRIMARY CONTRACTOR SIGNATURE DANIEL FLYNN	PERMIT NUMBER 001120	DATE
WELL DRILLER SIGNATURE DANIEL FLYNN	PERMIT NUMBER 001120	DATE
PUMP INSTALLER SIGNATURE DANIEL FLYNN	PERMIT NUMBER 001120	DATE
APPRENTICE DRILLER SIGNATURE	PERMIT NUMBER	DATE
APPRENTICE PUMP SIGNATURE	PERMIT NUMBER	DATE

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGY AND LAND SURVEY
(573) 368-2165

HIGH YIELD AND PUBLIC WELL RECORD AND PUMP INFORMATION DATA

REF NO 00542508	DATE RECEIVED 02/08/2019	
CR NO		
STATE CERT NO APPROVED DATE A200354 02/21/2019	CHECK NO. 147795	
DATE ENTERED PHASE 1 PHASE 2 PHASE 3 02/13/2019 02/13/2019 02/13/2019	ROUTE PCD2	REVENUE NO. 020819

INFORMATION SUPPLIED BY WELL OR PUMP INSTALLATION CONTRACTOR

DNR VARIANCE NUMBER _____
CASING DEPTH NUMBER _____
Applicable only if casing depth or variance were obtained from DNR

OWNER NAME	TELEPHONE (OPTIONAL)		
VILLAGE OF OAK GROVE			
OWNER ADDRESS	CITY	STATE	ZIP
260 JAMES STREET	SULLIVAN	MO	63080
ADDRESS OF WELL (IF DIFFERENT THAN ABOVE)	CITY	STATE	ZIP
260 JAMES STREET	SULLIVAN	MO	

PROPOSED USE OF WELL **SEE BACK OF FORM FOR WELL CLASSIFICATIONS**

- [ ] Water Supply for Irrigation (capable of producing more than 70 gpm to surface)
  - Unconsolidated Material Well [ ] Bedrock Well [ ]
- [ ] Water Supply for a High-Capacity Well capable of producing more than 70 gpm to surface - get casing depth from GSRAD before start
- [ ] Open Loop Heat Pump
  - Supply Well [ ] Return Well [ ]
- [X] Water Supply to a Public Facility (convenience store, restaurant, church, business, condo, mobile home park, rural or urban water supply)

CONTACT THE DNR REGIONAL OFFICE to get Instructions for water supply to a PUBLIC FACILITY

CASING DETAILS

CASING LENGTH 420.0 FT. O.D. OF CASING 12.75 IN. DIAMETER OF DRILL HOLE 17.0 IN.

CASING MATERIAL [X] STEEL [ ] PLASTIC [ ] CONCRETE

POSITION OF GROUT SEAL [ ] BOTTOM [X] FULL LENGTH [ ] TOP

CASING GROUT MATERIAL
CEMENT: [X] TYPE 1 [ ] HI-EARLY
BENTONITE: [ ] SLURRY [ ] CHIPS [ ] GRANULAR [ ] PELLETS
METHOD OF GROUT INSTALLATION: [ ] GRAVITY [ ] OPEN HOLE [ ] POS. DISPLACEMENT [ ] TREMIE
PRESSURE GROUT: [X] THROUGH CASING [ ] THROUGH TREMIE
DRILLING SUSPENDED: [ ] NO [X] YES 72 HRS

NO. OF SACKS USED 610.0 POUNDS PER SACK 94

LINER DETAILS

LENGTH FT O.D. OF LINER IN LINER MATERIAL [ ] STEEL [ ] PLASTIC POSITION OF SEAL [ ] FULL LENGTH [ ] BOTTOM [ ] TOP

LINER GROUT MATERIAL
CEMENT: [ ] TYPE 1 [ ] HI-EARLY
BENTONITE: [ ] SLURRY [ ] CHIPS [ ] GRANULAR [ ] PELLETS
METHOD OF GROUT INSTALLATION: [ ] GRAVITY [ ] OPEN HOLE [ ] POS. DISPLACEMENT [ ] TREMIE
LINER USED TO: [ ] HOLD BACK FORMATION [ ] SEAL OUT UNDESIREABLE AQUIFER CONDITIONS [ ] PREVENT RUST

NO. OF SACKS USED POUNDS PER SACK _____ ABANDONED WELL ON SITE? [ ] YES PLUGGED? [ ] YES

LOCATION OF WELL

LAT 38 ° 13' 42.3"
LONG. 91 ° 9' 14.8"
COUNTY FRANKLIN

Please be aware that we do not guarantee the accuracy of the data. It is submitted to us by a third party and has not been field verified.

DEPTH TO FIRST GROUNDWATER FEET	PUMP RATE 150.0 GPM
WELL YIELD 400.0 GPM	PUMP SET DEPTH 399.0 FEET
STATIC WATER LEVEL 220.0 FEET	PUMP INSTALLATION DATE 12/31/2018
WELL COMPLETION DATE 12/31/2018	pump info required this record or on pump card

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION
0.0	23.0	CLY SM BRKN CHT
23.0	30.0	HVY WTHRD SND MUD SEAM
30.0	70.0	SS
70.0	80.0	SDY CHT
80.0	90.0	HVY CHT
90.0	110.0	BRKN WTHRD HVY BL MUD YLW MUD PART LOST CIRCULATION
110.0	190.0	SM OPENING
190.0	260.0	STRAINING
260.0	300.0	WT LT STRAINING
300.0	345.0	LT BL WT LT STINING
345.0	375.0	SM OPENING SOME MUD
375.0	380.0	MUD CLEAN UP
380.0	385.0	STAINING
385.0	400.0	SDY WTHRD CHT LT WHTRD BL GRN LEN
400.0	460.0	TAN SM STAIN
460.0	475.0	H20 150 GPM HVY STAINING
475.0	505.0	TN HVY STAINING
505.0	620.0	GRY CHT STAINING

DEPTH TO BEDROCK FEET

TOTAL DEPTH 620.0 FEET

(OPTIONAL) ELEVATION _____ FT. LEGAL LOCATION (OPTIONAL) _____ 1/4 _____ 1/4 _____ SE 1/4 SEC. 4 TWN. 40 RNG 2 W AREA 1A C DATA REQ'D [ ]

OTHER INFORMATION OR LOCATION DATA (OPTIONAL)

I HEREBY CERTIFY THE WELL/PUMP INFORMATION DESCRIBED HEREIN IS TRUE AND ACCURATE

PRIMARY CONTRACTOR SIGNATURE DANIEL FLYNN	PERMIT NUMBER 001120	DATE
WELL DRILLER SIGNATURE DEAN SHOCKLEE	PERMIT NUMBER 001125	DATE
PUMP INSTALLER SIGNATURE STEVEN FULLER	PERMIT NUMBER 004538	DATE
APPRENTICE DRILLER SIGNATURE SAM SHOCKLEE	PERMIT NUMBER 006496	DATE
APPRENTICE PUMP SIGNATURE COREY WEBB	PERMIT NUMBER 006497	DATE

COPY

Ref# 542508

FEB 0 8 2019

MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI GEOLOGICAL SURVEY

PUBLIC WELL/HIGH YIELD REPORT

FOR OFFICE USE ONLY	
REF. NO. 542508	DATE RECEIVED FEB 0 8 2019
STATE DIST. NO. A200354	OR NO.
CHECK NO. 147795	REVENUE NO. 020819

ROUTE	APPROVED	DATE	ENTERED	PWS ID.	
PC021 1	AH	2/13/19	MJM	MO6010590	

NAME OF BUSINESS, FACILITY OR SITE THE WELL SERVES (REQUIRED)	PHYSICAL ADDRESS OF THE PROPERTY WHERE WELL IS LOCATED	CITY
Village of Oak Grove	well # 3	

WELL OWNER OR FACILITY CONTACT NAME	TELEPHONE NUMBER WITH AREA CODE
260 James Street	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP CODE
260 James Street	Sullivan	MO	63080

SITE MAP OR FORM TO WELL CLASSIFICATIONS

TYPE OF WELL
- [x] PUBLIC SUPPLY WELL (APPROVAL MUST BE OBTAINED IN ADVANCE BY DNR REGIONAL OFFICE)*
- [ ] HIGH YIELD BEDROCK WELL (YIELD >70 GPM MUST HAVE CASING DEPTH DETERMINED BY WELLHEAD PROTECTION SECTION)*
- [ ] HIGH YIELD UNCONSOLIDATED MATERIAL WELL
- [ ] OPEN LOOP HEAT PUMP (YIELD >70 GPM MUST HAVE CASING DEPTH DETERMINED BY WELLHEAD PROTECTION SECTION)*
  - [ ] SUPPLY WELL [ ] RETURN WELL

*ATTACH COPY OF THE CASING DEPTH LETTER

DNR VARIANCE NUMBER (IF ISSUED)

CASING INFORMATION

LENGTH	OUTSIDE DIAMETER	WEIGHT (LB), SDR#, SCH#	BOREHOLE DIAMETER	MATERIAL	DRIVE SHOE USED
420 FT.	12.75 IN.	51.47	17 IN.	[x] STEEL [ ] PLASTIC	[ ] YES [x] NO

SURFACE CASING (IF USED)	SURFACE CASING GROUTED	SCREEN LENGTH (UNCONSOLIDATED MATERIAL WELLS)	SCREEN TYPE / SLOT SIZE / PACKER DEPTH
LENGTH 126 FT. OUTSIDE DIAMETER 18 IN.	[ ] YES [ ] NO	FT.	

CASING GROUT INFORMATION

POSITION OF SEAL	GROUT TYPE (CHOOSE ONE)	NUMBER OF SACKS USED	METHOD OF GROUT INSTALLATION	DRILLING SUSPENDED
[x] FULL LENGTH [ ] TOP	CEMENT: [x] TYPE I [ ] TYPE III; BENTONITE: [ ] CHIPS [ ] PELLETS [ ] SLURRY	610 LBS PER SACK 94 OR CUBIC YARDS	[x] PRESSURE THRU CASING [ ] PRESSURE THRU TREMIE [ ] TREMIE [ ] GRAVITY	[ ] NO [x] YES 72+ HRS

LINER INFORMATION

LENGTH	OUTSIDE DIAMETER	MATERIAL	WEIGHT (LB), SDR#, SCH#	USE (CHOOSE ONLY ONE)
FT.	IN.	[ ] STEEL [ ] PLASTIC		[ ] HOLD BACK FORMATION [ ] PREVENT RUST [ ] SEAL OUT UNDESIRABLE CONDITIONS

POSITION OF SEAL	GROUT TYPE (CHOOSE ONE)	NUMBER OF SACKS USED	METHOD OF GROUT INSTALLATION	PACKER DEPTHS
[ ] FULL LENGTH [ ] BOTTOM	CEMENT: [ ] TYPE I [ ] TYPE III; BENTONITE: [ ] CHIPS [ ] PELLETS [ ] SLURRY	LBS PER SACK	[ ] GRAVITY [ ] TREMIE [ ] AS LINER IS INSTALLED	/ / FT.

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION
		see attached

LOCATION OF WELL OR PUMP
LAT. 38 - ~~22~~ 13 - ~~84.2~~ 42.3
LONG. 91 - ~~15~~ 9 - ~~41.2~~ 14.8

COUNTY: wrong format AH 2/13/19 Franklin

ABANDONED WELL ON SITE: [ ] YES [x] NO
WAS THE WELL PLUGGED: [ ] YES [ ] NO

___ ¼ ___ ¼ SE ¼
SEC 4 TWP 40 N RNG 2 [ ] E [x] W

DRILL AREA (OFFICE USE ONLY): SAA

WELL COMPLETION DATE: 12/31/18

GROUNDWATER INFORMATION

WELL YIELD	400 GPM
STATIC WATER LEVEL	220 FT.
DEPTH TO FIRST GROUNDWATER	FT.

PUMP INFORMATION

PUMP INSTALLATION DATE	12-31-18
DEPTH PUMP SET	390 FT.
PUMP RATE	150 GPM

I HEREBY CERTIFY THE WELL/PUMP INFORMATION HEREIN DESCRIBED IS IN ACCORDANCE WITH THE DEPARTMENT OF NATURAL RESOURCES' REQUIREMENTS. (ALL FIELDS MUST BE COMPLETED BUT ONLY ONE SIGNATURE IS REQUIRED.)

	PERMIT NUMBER	DATE
PRIMARY CONTRACTOR (IF DIFFERENT THAN INSTALLATION CONTRACTOR)		
WELL INSTALLATION CONTRACTOR	001125	01/02/19
PUMP INSTALLATION CONTRACTOR	004538	01/02/19
WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	006496	01/02/19
PUMP INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	006497	01/02/19

TOTAL DEPTH 620 FT.
DEPTH TO BEDROCK FT.

FEB 0 8 2019

8-15-2018 City of Oak Grove

0 - 23	Clay some broken chert
23 - 30	heavy weathered sand
30 -	mud seam
42 - 70	sandstone
70 - 80	sandy chert
80 - 90	heavy chert
90 - 110	broken - weathered heavy, blue mud, yellow
- 110	- mud,
- 110	- partial lost circulation
110 -	weathered chert
110 - 190	Small openings - several holes some 6" - 12"
190 - 260	staining
260 - 300	white - lt staining
300 - 345	lt blue - white
345 -	lt staining
375 -	small opening (maybe 1') - some mud
375 - 380	muddy up - clean up
375 -	staining
390 - 400	sandy weathered
400 -	chert lt weathered - blue green lenses -
410 -	Tan - some stain
475 -	H2O - 150 GPM + heavy staining
505	Tan - heavy staining
570 - 620	gray - chert 30% - staining

FEB 0 8 2019

Oak Grove

126' 18" O.D Surface Casing
5 yds Concrete

420' 12" Casing
330 sacks cement
1000# Bentonite Gel
100# Cotton-Seed-Hulls
100# Cell-o-flake
12" Casing Plug

Topped off w/ 280 sacks cement
1st pump - thru 126' 1" pipe - 100 sacks
2nd pump - " " " - "
3rd pump - thru 84' 1" pipe - 80 sacks

1620' - 400 GPM SWL
370 - 200 "

Jeremiah W. (Jay) Nixon, Governor Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

FEB 0 8 2019

dnr.mo.gov

Legal Description:
____ ¼, ____ ¼, ____ ¼,
Sec. ____, T ____, R ____
County _____

SURVEY OF PRESSURE GROUT SEALING OF WELL CASING

Owner of Well City of Oak Grove Location _____
(If municipal well, designate by number)

Total depth of well 620' Depth of casing 420 Casing joints (collar or weld) _____

Diameter of drill hole to casing point 17" Diameter of drill hole below casing point 12"

Inside diameter of casing 12" Outside diameter of casing 12¾"

Casing weight per foot 57.47 Length and diameter of surface casing 126' - 18" O.D

Static water level before sealing 140 Static water level after sealing _____

Was water circulated before cement grout was introduced? No

Were crevices encountered which prevented or interfered with grouting? Yes Depth 160-190 320

Was any prepared compound pumped into the well in an attempt to obtain circulation? Yes

Material used Bentonite / Cottonseed / Cello-flake Amount 100# / 100# / 100#

Was cement grout forced upward from bottom of casing to ground surface? No

If not, to what elevation? 120' Who determined elevation? Driller

What was the maximum pressure exerted on cement grout? 420

Total amount of cement used 610 SACKS Amount forced upward from bottom of casing 330

Amount introduced from top of ground 280 SACKS thru trimme

How many hours was cement grout permitted to set before plug was drilled out? 72+

Name of drilling contractor Flynn Drilling

Name of cementing contractor " "

Date of cementing casing 9/07/2018

Give brief narrative of cementing operation, including difficulties encountered:

3 Pumps thru 1" trimme

cc: Drinking Water Branch
Water Resources Center

Reported by: _____

Date: _____

Recycled Paper

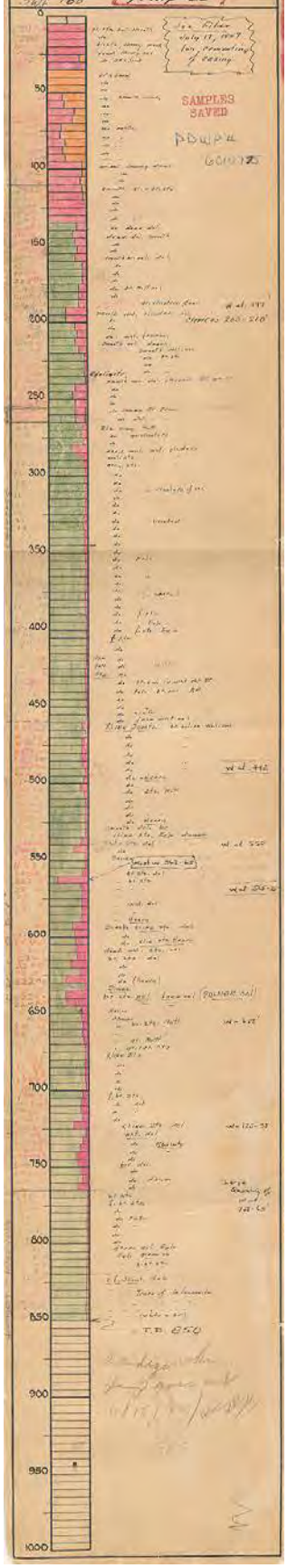
MISSOURI BUREAU OF GEOLOGY & MINES, ROLLA, MO.

MO SURVEY No 1557	OWNER City of Sullivan
COUNTY Franklin	FARM Sewage Plant — WELL No 2
T 40 R 2W	DRILLER R. Santhuff
	DATE May – July 1967
8	ELEVATION 956 ft. — PRODUCTION 420 gpm – 180' dd
	SAMPLES STUDIED Colorado McCracken

REMARKS 345 ft. of 10" I.D. grouted

Pump set: 300 ft. 6" col.; 10' bowls; 20' tail pipe

SWL 160 [Temp 60°]

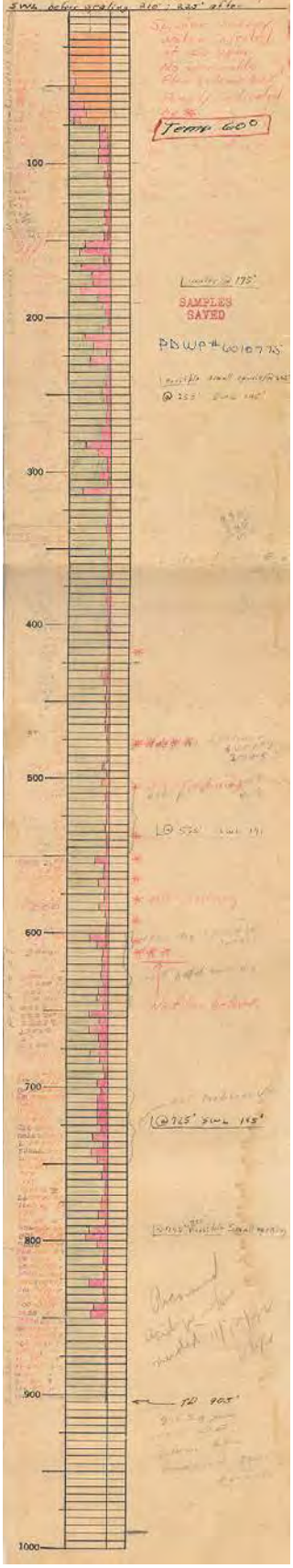


WL 189 Sp/6

STATE OF MISSOURI
DIVISION OF
GEOLOGICAL SURVEY AND WATER RESOURCES

LOG NO.	OWNER	
13267	City of Sullivan	
COUNTY	FARM	WELL No.
Franklin		3
T 40N R 2W	DRILLER Shepard Bros.	
	DATE [illegible]	
	ELEV. 990 Mid-of-Field ~~966 Creek~~	PROD. over
9	LOGGED BY E.E. Knight, Walter E. McGrathen	

REMARKS Hole diameter: 14½" to 20 feet; 10" below
E. Edge of Sullivan on old Hi-66
36½' of 10" ID casing grouted using
2 ¾ sack cement at which 43 were
introduced from surface
SWL before grating 210'; 225' after



STATE OF MISSOURI
DIVISION OF
GEOLOGICAL SURVEY AND WATER RECOURCES

LOG NO. 20913	OWNER City of Sullivan	
COUNTY Franklin	FARM	WELL NO. 4
T 40N R 2W	DRILLER Clark & Son	
	DATE 1962	
	ELEV. 972	PROD. 80 gpm After Acid Free 300 gpm.
	LOGGED BY C. Robertson	

REMARKS 440 ft. of 10" casing

INDEX SHEET NO.

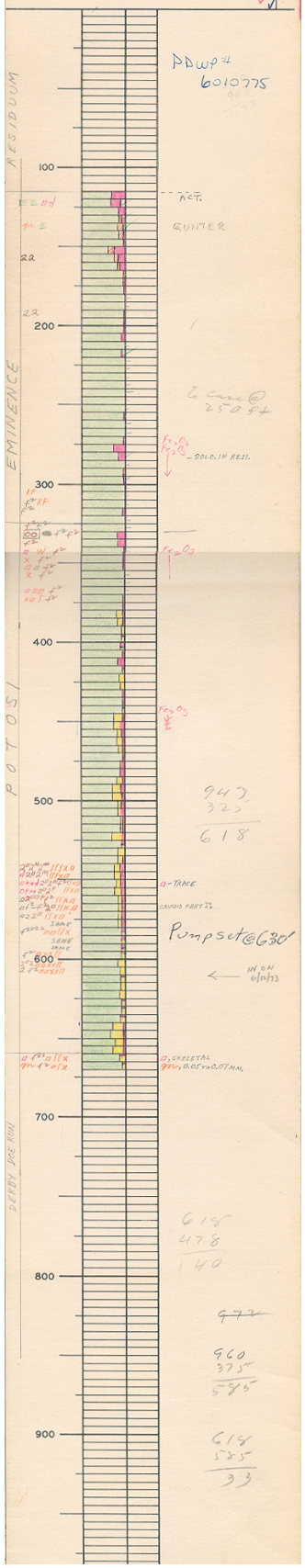
Sval. After Seal 205 ft.

T-30

STATE OF MISSOURI
DIVISION OF
GEOLOGICAL SURVEY AND WATER RESOURCES

LOG NO. 22,375	OWNER CITY OF SULLIVAN [redacted]
COUNTY FRANKLIN	FARM / WELL NO. 7
T 40N, R 2W,	DRILLER CLARK & SON
	DATE
15	ELEV. Keener Sullivan 943 / PROD. 300 gpm
	LOGGED BY H.M. GROVES JUNE 14, 1973

REMARKS 252 ft. of 12" casing grouted w/230 sacks cement



MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGY AND LAND SURVEY
(573) 368-2165

HIGH YIELD AND PUBLIC WELL RECORD AND PUMP INFORMATION DATA

REF NO	00485078
CR NO	00531337
DATE RECEIVED	08/29/2016
STATE CERT NO APPROVED DATE	A200214 09/06/2016
CHECK NO	133432
DATE ENTERED	PHASE 1 08/30/2016, PHASE 2 08/30/2016, PHASE 3 08/30/2016
ROUTE	PCD2
REVENUE NO.	082916

INFORMATION SUPPLIED BY WELL OR PUMP INSTALLATION CONTRACTOR

DNR VARIANCE NUMBER _____
CASING DEPTH NUMBER _____
Applicable only if casing depth or variance were obtained from DNR

OWNER NAME: CITY OF SULLIVAN
TELEPHONE (OPTIONAL):

OWNER ADDRESS: 210 WEST WASHINGTON
CITY: SULLIVAN
STATE: MO
ZIP: 63080

ADDRESS OF WELL (IF DIFFERENT THAN ABOVE):
CITY:
STATE: MO
ZIP:

PROPOSED USE OF WELL — **SEE BACK OF FORM FOR WELL CLASSIFICATIONS**

- [ ] Water Supply for Irrigation (capable of producing more than 70 gpm to surface)
  - Unconsolidated Material Well [ ] Bedrock Well [ ]
- [ ] Water Supply for a High-Capacity Well capable of producing more than 70 gpm to surface - get casing depth from GSRAD before start
- [ ] Open Loop Heat Pump
  - Supply Well [ ] Return Well [ ]
- [X] Water Supply to a Public Facility (convenience store, restaurant, church, business, condo, mobile home park, rural or urban water supply)

CONTACT THE DNR REGIONAL OFFICE to get Instructions for water supply to a PUBLIC FACILITY

CASING DETAILS

CASING LENGTH: 420.0 FT. O.D. OF CASING: 8.63 IN. DIAMETER OF DRILL HOLE: 17.0 IN.

CASING MATERIAL: [X] STEEL [ ] PLASTIC [ ] CONCRETE

POSITION OF GROUT SEAL: [ ] BOTTOM [X] FULL LENGTH [ ] TOP

CASING GROUT MATERIAL
- CEMENT: [X] TYPE 1 [ ] HI-EARLY
- BENTONITE: [ ] SLURRY [ ] CHIPS [ ] GRANULAR [ ] PELLETS

METHOD OF GROUT INSTALLATION: [ ] GRAVITY [ ] OPEN HOLE [ ] POS. DISPLACEMENT [ ] TREMIE

PRESSURE GROUT: [X] THROUGH CASING [ ] THROUGH TREMIE

DRILLING SUSPENDED: [ ] NO [X] YES 72 HRS

NO. OF SACKS USED 575.0 POUNDS PER SACK 94

COPY

LINER DETAILS

LENGTH FT. O.D. OF LINER IN.

LINER MATERIAL: [ ] STEEL [ ] PLASTIC

POSITION OF SEAL: [ ] FULL LENGTH [ ] BOTTOM [ ] TOP

LINER GROUT MATERIAL
- CEMENT: [ ] TYPE 1 [ ] HI-EARLY
- BENTONITE: [ ] SLURRY [ ] CHIPS [ ] GRANULAR [ ] PELLETS

METHOD OF GROUT INSTALLATION: [ ] GRAVITY [ ] OPEN HOLE [ ] POS. DISPLACEMENT [ ] TREMIE

LINER USED TO: [ ] HOLD BACK FORMATION [ ] SEAL OUT UNDESIREABLE AQUIFER CONDITIONS [ ] PREVENT RUST

NO. OF SACKS USED POUNDS PER SACK

ABANDONED WELL ON SITE? [ ] YES PLUGGED? [ ] YES

LOCATION OF WELL

LAT. 38 ° 25' 7.86"
LONG. 91 ° 7' 45.44"
COUNTY FRANKLIN

Please be aware that we do not guarantee the accuracy of the data. It is submitted to us by a third party and has not been field verified.

DEPTH TO FIRST GROUNDWATER FEET
WELL YIELD 300.0 GPM
STATIC WATER LEVEL 207.0 FEET
WELL COMPLETION DATE 08/01/2016

PUMP RATE 125.0 GPM
PUMP SET DEPTH 504.0 FEET
PUMP INSTALLATION DATE 08/24/2017
pump info required this record or on pump card

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION
0.0	11.0	FILL RED CLY BRKN
11.0	32.0	DRT CLT
32.0	41.0	WTHRD LM
41.0	69.0	RED CLY
69.0	76.0	BLDR
76.0	247.0	RED CLY BRKN CHT
247.0	300.0	WHT HVY CHT
300.0	340.0	HVY CHT BRKN
340.0	375.0	STAIN LT GRY BRKN
375.0	379.0	SOFT OPEN
379.0	450.0	LT GRY CHT STAIN
450.0	470.0	GRY TAN
470.0	500.0	CHT STAIN
500.0	550.0	MUD
550.0	570.0	STAIN
570.0	785.0	LT GRY WTR
785.0	965.0	SHLY BLU GRN
965.0	1000.0	LT GRY WHT

DEPTH TO BEDROCK 250.0 FEET
TOTAL DEPTH 1000.0 FEET

(OPTIONAL) ELEVATION _____ FT.

LEGAL LOCATION (OPTIONAL): _____ 1/4 _____ 1/4 NE 1/4
SEC. 34 TWN 41 RNG 2 W

AREA A1
C DATA REQ'D [ ]

OTHER INFORMATION OR LOCATION DATA (OPTIONAL)

I HEREBY CERTIFY THE WELL/PUMP INFORMATION DESCRIBED HEREIN IS TRUE AND ACCURATE

PRIMARY CONTRACTOR SIGNATURE: DANIEL FLYNN	PERMIT NUMBER: 001120	DATE
WELL DRILLER SIGNATURE: DEAN SHOCKLEE	PERMIT NUMBER: 001125	DATE
PUMP INSTALLER SIGNATURE: STEVEN FULLER	PERMIT NUMBER: 004538	DATE
APPRENTICE DRILLER SIGNATURE: NICKLAUS SHOCKLEE	PERMIT NUMBER: 006330	DATE
APPRENTICE PUMP SIGNATURE	PERMIT NUMBER	DATE

MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI GEOLOGICAL SURVEY
PUBLIC WELL/HIGH YIELD RECORD

FOR OFFICE USE ONLY

REF. NO.	DATE RECEIVED
485078	AUG 29 2016
STATE CERT. NO. A200214	CR NO. 133432

ROUTE	APPROVED	DATE	ENTERED	PWS ID	CHECK NO.	REVENUE NO.
IRCD21	AH	9/2/16	KKK	MO6010775		082916

NAME OF BUSINESS, FACILITY OR SITE THE WELL SERVES (REQUIRED)	PHYSICAL ADDRESS OF THE PROPERTY WHERE WELL IS LOCATED	CITY
City of Sullivan	Menards Facility	

WELL OWNER OR FACILITY CONTACT NAME	TELEPHONE NUMBER WITH AREA CODE

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP CODE
210 West Washington	Sullivan	MO	63080

SEE BACK OF FORM FOR WELL CLASSIFICATIONS

TYPE OF WELL
- ■ PUBLIC SUPPLY WELL (APPROVAL MUST BE OBTAINED IN ADVANCE BY DNR REGIONAL OFFICE)*
- ☐ HIGH YIELD BEDROCK WELL (YIELD >70 GPM MUST HAVE CASING DEPTH DETERMINED BY WELLHEAD PROTECTION SECTION)*
- ☐ HIGH YIELD UNCONSOLIDATED MATERIAL WELL
- ☐ OPEN LOOP HEAT PUMP (YIELD >70 GPM MUST HAVE CASING DEPTH DETERMINED BY WELLHEAD PROTECTION SECTION)*
  - ☐ SUPPLY WELL ☐ RETURN WELL

*ATTACH COPY OF THE CASING DEPTH LETTER

DNR VARIANCE NUMBER (IF ISSUED)

CASING AND SCREEN INFORMATION

LENGTH	OUTSIDE DIAMETER	WEIGHT (LB), SDR#, SCH#	BOREHOLE DIAMETER	MATERIAL	DRIVE SHOE USED
420 FT.	8.625 IN.	28.58	17 IN.	■ STEEL ☐ PLASTIC	☐ YES ■ NO

SURFACE CASING (IF USED)	SURFACE CASING GROUTED	SCREEN LENGTH (UNCONSOLIDATED MATERIAL WELLS)	SCREEN TYPE / SLOT SIZE / PACKER DEPTH
LENGTH 250 FT. OUTSIDE DIAMETER 18 IN.	■ YES ☐ NO	FT.	

CASING GROUT INFORMATION

POSITION OF SEAL	GROUT TYPE (CHOOSE ONE)	NUMBER OF SACKS USED	METHOD OF GROUT INSTALLATION	DRILLING SUSPENDED
■ FULL LENGTH ☐ TOP	CEMENT: ■ TYPE I ☐ TYPE III BENTONITE: ☐ CHIPS ☐ PELLETS ☐ SLURRY	575 LBS PER SACK 94 OR CUBIC YARDS	■ PRESSURE THRU CASING ☐ PRESSURE THRU TREMIE ☐ TREMIE ☐ GRAVITY	☐ NO ■ YES 72+ HRS

LINER INFORMATION

LENGTH	OUTSIDE DIAMETER	DEPTH TO TOP OF LINER	MATERIAL	WEIGHT (LB), SDR#, SCH#	USE (CHOOSE ONLY ONE)
FT.	IN.	FT.	☐ STEEL ☐ PLASTIC		☐ HOLD BACK FORMATION ☐ PREVENT RUST ☐ SEAL OUT UNDESIRABLE CONDITIONS

POSITION OF SEAL	GROUT TYPE (CHOOSE ONE)	NUMBER OF SACKS USED	METHOD OF GROUT INSTALLATION	PACKER DEPTHS
☐ FULL LENGTH ☐ BOTTOM	CEMENT: ☐ TYPE I ☐ TYPE III BENTONITE: ☐ CHIPS ☐ PELLETS ☐ SLURRY	LBS PER SACK	☐ GRAVITY ☐ TREMIE ☐ AS LINER IS INSTALLED	____ / ____ / ____ FT.

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION
		incorrect conversion problem AH 9/2/16

LOCATION OF WELL OR PUMP
LAT. 38 . 25 15 . 21 7.86 .
LONG. 91 . 12 7 . 92 15.44 .
____ ¼ ____ ¼ NE ¼ 685 FSL
SEC 34 TWP 41 N RNG 2 ☐ E ☒ W

COUNTY: Franklin ~~Crawford~~

ABANDONED WELL ON SITE: ☐ YES ■ NO

WAS THE WELL PLUGGED: ☐ YES ☐ NO

DRILL AREA (OFFICE USE ONLY): A1

WELL COMPLETION DATE: 08/01/16

GROUNDWATER INFORMATION	PUMP INFORMATION
WELL YIELD 300 GPM	PUMP INSTALLATION DATE
STATIC WATER LEVEL 207 FT.	DEPTH PUMP SET FT.
DEPTH TO FIRST GROUNDWATER FT.	PUMP RATE GPM

I HEREBY CERTIFY THE WELL/PUMP INFORMATION HEREIN DESCRIBED IS IN ACCORDANCE WITH THE DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS. (ALL FIELDS MUST BE COMPLETED BUT ONLY ONE SIGNATURE IS REQUIRED.)

	PERMIT NUMBER	DATE
PRIMARY CONTRACTOR (IF DIFFERENT THAN INSTALLATION CONTRACTOR)	001120	08/04/16
WELL INSTALLATION CONTRACTOR: Sturdilla	001125	08/04/16
PUMP INSTALLATION CONTRACTOR		
WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	006330	08/04/16
PUMP INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)		

TOTAL DEPTH 1000 FT.
DEPTH TO BEDROCK 250 FT.

AUG 29 2016

City Stallion

0 - 11 Fill (Red Clay & Broken rock)
11 - 32 Dirt & Clay
32 - 41 weathered lime (Boulder)
41 - 69 Red Clay
69 - 76 Boulder
76 Red Clay & Broken chert
- 247 Sandy - heavy weathered
247 - 300 white - heavy chert

- 17" Hole -

No Surface (10' Conductor Pipe 20" plate)

70 Bag Bentonite Gel (Quick Gel)
2 - 5 Gallon Jugs Penatrol
1 - ~~1 Gallon~~ 10# E Z. Mud Gold
8 - 50# Soda Ash

300 chert staining

AUG 29 2016

City of Sullivan

300 -	heavy chert - staining - some broken
340 -	staining lt grey - some broken
375-379	soft - semi open
379 - 450	lt grey - some chert & staining
450 - 470	grey & tan - some Druse Quartz
470	Some chert - staining
500	grey & Brown - chert - staining
550	washed out surface - some mud washing
570	staining
- 785	lt grey - H20 -
785 -	Shaly
~~[illegible]~~ - 965	blue & green layered
965	lt grey & white

AUG 20 20

250' 18" O.D. Surface Casing

100 sacks cement + 5 yds Concrete

420' 8" Casing

450 sacks Cement

stopped off w/ 125 sacks cement

2700# Bentonite Gel

Cement at 160' pumped 125 sacks Cement thru

1" trimme pipe

AUG 29 2016

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

June 13, 2016

Mr. Dennis Watz
City of Sullivan
210 W Washington
Sullivan, MO 63080

Franklin County
NW ¼, SE ¼, NE ¼, Sec. 34, T 41 N, R 2 W
(38.2521838° N, -91.1292876° W)
City of Sullivan Well #12 (MO #6010775)
Community Public Water Supply Well

RE: INITIAL CASING DEPTH APPROVAL

Dear Mr. Watz:

We have received and examined "well cuttings" to a depth of 1,000 feet from Flynn Drilling Company for the above mentioned well. There are multiple subsurface geologic factors that are presenting a problem for the successful completion of this well in addition to the water issues at this site, both quantity and quality.

In order to insure that this well will be able to produce a sufficient amount of high quality water, the driller intends to collect samples for analysis to determine the water quality and perform a pump test to verify the amount of water the well is capable of producing. The original intent was to construct a pilot hole and perform these tests before applying for a public well construction permit. If the test results were favorable, the permit would be applied for and the well completed to meet public well standards.

However, this site has an unusual amount of residual material necessitating the installation of 250 feet of surface casing to keep the unconsolidated material from collapsing back into the hole. In order to make sure that water samples and pump tests will represent the produced water of the completed well, it is necessary to install casing to the required depth to mimic the construction of the completed well. Therefore, my office is providing an initial casing depth amount prior to the issuance of the actual public well construction permit.

Based on the review of the cuttings submitted and the information provided by the well driller, it is believed that a satisfactory casing depth has been reached at 400 feet. It should also be noted that the driller reported that the Davis Shale formation is sloughing off into the hole. The top of the Davis is at 780 feet below ground surface and continues to the current bottom of the hole at 1,000 feet. If sufficient water is produced at the well's current depth, it may be advantageous to plug the bottom of the hole back to 780 feet eliminate the amount of shale in the water.

Recycled Paper

AUG 29 2016

If the pump test reveals that the well's current depth of 1,000 feet is not deep enough to provide sufficient quantities of water, the well may need to be deepened and a liner might be considered to keep the shale from falling into the water. If deepened, the cuttings must be collected and submitted to this office for review. Once the total depth of the well has been established and all cuttings submitted and reviewed, the final approval of the casing depth will be given.

If the water sampling and pump testing reveal that this well will not be able to provide suitable quantity and quality water needed for the city, this pilot hole will be plugged and abandoned. However, if the testing shows that the well will be capable of producing the desired water, engineering plans detailing the construction of the well along with an application for a construction permit must be submitted to the Public Drinking Water Branch. This permit application must be approved before the well can be completed as a public water supply well.

As is the case with all public water supply wells, all cuttings, pump test information, well grouting details and well certification form must be submitted to the department after the well is completed and before a permit to dispense water from the well may be issued.

If you have further questions, feel free to contact me by mail at P.O. Box 250, Rolla, MO 65402, phone at 573-368-2194, fax at 573-368-2193, or email at scott.kaden@dnr.mo.gov.

Sincerely,

MISSOURI GEOLOGICAL SURVEY

Scott Kaden, RG
Groundwater Section Chief
Water Resources Center

STATE OF MISSOURI
SCOTT KADEN
G
2016 15715
REGISTERED GEOLOGIST

June 13, 2016

c: DNR, DEQ-Public Drinking Water Branch, Jefferson City (via email)
DNR-St. Louis Regional Office, St. Louis (via email)
DNR, MGS-Wellhead Protection Section, Rolla (via email)
Mr. Danny Flynn, Flynn Drilling Company, Troy (via email)
Mr. Chris Boone, Cochran Engineering, Union (via email)
Mr. Robert Schaffer, City of Sullivan Engineer, Sullivan (via email)

AUG 29 2016

STATE OF MISSOURI
Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov

June 10, 2016

Mr. Robert Schaffer, P.E.
City of Sullivan
210 W. Washington
Sullivan, MO 63080

RE: Sullivan, MO6010775, Franklin County, Review No. 6055297-16

Dear Mr. Schaffer:

Please consider this your preliminary approval to finish the test well under construction at Sullivan Industrial Park East. You may proceed with construction of the permanent well casing and grouting.

A 12-inch pilot hole has been drilled to a total depth of 1,000 feet and a surface casing of approximately 250 feet has been set and grouted in place. Due to geological conditions observed, there is a concern that the pilot hole could be caving in.

The well will be reamed to a 17-inch hole to approximately 420 feet for installation of the 12-inch steel casing. The annular space between the drill hole and the casing will be filled with neat cement grout under pressure, from the bottom upward in one continuous operation. The test well will be disinfected and samples collected for bacteriological and chemical analyses. After completion of the test well, a well pump test will be performed to determine the capacity of the well.

This preliminary approval is valid as long as the following conditions are met:

1. Pressure grouting of the casing is to be witnessed by Department personnel in the St. Louis Regional Office.
2. Once the test well is completed, As-Built plans must be submitted to the Department.
3. This preliminary approval is valid only for the test well. Detailed plans and specifications sealed by a professional engineer must be submitted for the permanent well pump, well house, and discharge piping to connect the well to the existing distribution system prior to construction.

Recycled Paper

AUG 29 2018

Should you have any questions, please feel free to contact Megan Torrence at (573) 522-1801 or myself at (573) 751-1127.

Sincerely,

WATER PROTECTION PROGRAM

Maher Jaafari

Maher Jaafari, P. E.
Drinking Water Permits and Engineering Section

MJ:mtd

c: St. Louis Regional Office

File: PCI

Missouri Department Of Natural Resources
Division Of Environmental Quality
Public Drinking Water Program

SURVEY OF PRESSURE GROUT SEALING OF WELL CASING

AUG 29 2016

Name (owner) City of Sullivan PWS ID#:
nty: Crawford CP# Well #
cation:
al Description: in in 1/4 ,SEC , T N; Range
al Depth of Well 1000' ft. Type of well: ☒ Community ☐ Non-community
th of Casing; 418' ft. Caning Joints: ☐ Collar ☒ Weld
ing Diameter: inside 8" (inches) Outside: 8 5/8 (inches)
ing Weight: 32#/- lbs/ft. Surface Casing: length 250' Dia. 18" O.D
meter of drill hole: To casing point: 17" Below casing 12"
tic Water Level: before sealing: 205' ft. after sealing: ft.
water circulated before cement grout was introduced? No
e crevices encountered which prevented or interfered with grouting? Yes
so, at what Depth(s)?: Bottom of Surface to 379'
any prepared compound used to obtain (or maintain) circulation? YES
erial used: Bentonite Gel Amount- 2800#
cement grout forced upward from bottom of casing to ground surface? No
not, to what elevation? 160' Who determined elevation- Driller
imum Pressure exerted on cement grout: 250 psi.
unt of grout forced upward from bottom of casing: 450 Amount introduced
m top of ground: 125 Total amount of cement used: 575 Sacks
many hours was cement grout permitted to set before plug was drilled out? 72+
e of drilling contractor: Flynn Drilling
e of cement contractor: " "
e of cementing of casing: JUNE 24, 2016
of narrative of cementing operation, including difficulties encountered;
Topped off Casing with 125 sacks Cement
thru 1" pipe

Reported by: Dwan Shockley

FLYNN DRILLING CO., INC.

COMPLETE WATER SERVICES

AUG 29 2016

PUMPING TEST DATA SHEET

Project City of Sullivan

Date Tested 7-11-2016

Location Menards Facility

Well No. Menards

Depth of Well 1,000 Dia. of Well 8" Well Type Consolidated

Pump Make & Model Grundfos Motor Size 60 Column and Shaft N/A

Airline Length 504' Non-Pumping Water Level 207' Tested By Steven Fuller

Time	Orifice Reading	GPM	Airline Reading	Pumping Level	Drawdown	Discharge Pressure psi	Total Dynamic Head	Specific Capacity	Remarks
0 min		220	297	207	0				
1		220			27				
2		220			67				
3		220			77				
4		220			89				
5		220			97				Turbid
10		220			105				
15		220			117				
20		220			127				
30		220			132				Turbid
1hr		220			187				Valved Back
2		210			180				
3		180			178				Valved back
4		150			177				Turbid
5		150			177				
6		150			177				
7		150			177				
8		150			177				Still A Little Turbid
9		150			177				
10		150			177				
11		150			177				
12		150			177				Clear
24hr		150	120	384	177				

NOTE:

Full Recovery In 1 Hour

TROY 1340 Boone Street Troy, MO 63379 636-528-6137 Fax 636-528-6156

FLYNN DRILLING CO., INC.

COMPLETE WATER SERVICES

AUG 29 2016

PUMPING TEST DATA SHEET

Project City of Sullivan

Date Tested 7-11-2016

Location Menards Facility

Well No. Menards

Depth of Well 1,000 Dia. of Well 8" Well Type Consolidated

Pump Make & Model Grundfos Motor Size 60 Column and Shaft N/A

Airline Length 399' Non-Pumping Water Level 207' Tested By Steven Fuller

Time	Orifice Reading	GPM	Airline Reading	Pumping Level	Drawdown	Discharge Pressure psi	Total Dynamic Head	Specific Capacity	Remarks
0 min		220	192	207	0				
1		220			27				
2		220			67				
3		220			77				
4		220			89				
5		220			97				
10		220			105				
15		220			117				
20		220			127				
30		220			132				
1hr		220			142				
2		145			147				valved back
3		145			142				
4		145			137				
5		135			137				valved back
6		135			137				
7		135			137				
8		135			137				
9		135			137				
10		135			137				
11		135			137				
12		135			137				
24hr		135	55	344	137				

NOTE:

Full Recovery In 1 Hour

TROY 1340 Boone Street Troy, MO 63379 636-528-6137 Fax 636-528-6156

Table 6 : Oak Grove Village Area Private Well Information
Oak Grove Village, Missouri

MDNR Well No.	Jacobs Well No. [1]	Ground Elevation (ft) [2]	Well Depth (ft)	Elevation at Bottom of Well (ft) [2]	Casing Depth (ft)	Elevation at Bottom of Casing (ft) [2]	Formation Penetrated [3]
PW000	—	NA	NA	NA	NA	NA	NA
PW001	PW001	882	206	676	147	735	Gf
PW002	PW002	923	300	623	NA	NA	Ep, Gf, Rf
PW003	PW003	911	390	521	300	611	Ep, Gf, Rf
PW004	PW004	935	265	670	100	835	Gp, Rf
PW005	PW005	938	441	497	168	770	Ef, Gf, Rf
PW006	PW006	948	285	663	185	760	Gp, Rf
PW007	PW007	923	295	628	250	675	Ep, Gf, Rf
PW008	PW008	901	286	615	158	742	Ep, Gf, Rf
PW009	PW009	918	NA	NA	NA	NA	NA
PW010	PW010	898	330	568	120	780	Ep, Gf
PW011	PW011	906	330	576	NA	NA	Ep, Gf, Rf
PW012	PW012*	941	NA	NA	NA	NA	NA
PW013	PW013*	931	260	671	NA	NA	*Gp, Rf
PW014	PW014*	926	320	606	232	694	*Gf, Rf
PW015	PW015*	894	274	620	NA	NA	*Gf, Rf
PW016	PW016*	894	385	509	208	687	*Ep, Gf, Rf
PW017	PW017*	856	280	576	NA	NA	*Ep, Gf
PW018	PW018	940	360	580	NA	NA	Ep, Gf, Rf
PW019	PW019	945	390	555	NA	NA	Ep, Gf, Rf
PW020	PW020	876	NA	NA	NA	NA	NA
PW021	PW021	887	325	562	NA	NA	Ep, Gf, Rf
PW022	PW022	886	NA	NA	NA	NA	NA
PW023	PW023	913	NA	NA	NA	NA	NA
PW024	PW024*	884	280	604	NA	NA	*Gf, Rf
PW025	PW025	912	360	552	NA	NA	Ep, Gf, Rf
PW026	PW026	882	460	422	NA	NA	NA
PW027	PW027	936	350	586	NA	NA	Ep, Gf, Rf
PW028	PW028	937	NA	NA	NA	NA	NA
PW029	PW029	903	NA	NA	NA	NA	NA
PW030	PW030	884	550	334	NA	NA	Pp, Ef, Gf, Rf
PW031	PW031	889	350	539	273	616	Ep, Gf, Rf
PW032	PW032	854	NA	NA	NA	NA	NA
PW033	PW033	911	300	611	NA	NA	Ep, Gf, Rf
PW034	PW034*	899	300	599	NA	NA	*Ep, Gf, Rf
PW034	PW034*	899	300	599	NA	NA	*Ep, Gf, Rf
PW034	PW034*	899	300	599	NA	NA	*Ep, Gf, Rf
PW035	PW035	905	NA	NA	NA	NA	NA
PW036	PW036	921	450	471	200	721	Pp, Ef, Gf
PW037	PW037	927	NA	NA	NA	NA	NA
PW038	PW038	924	NA	NA	NA	NA	NA
PW039	PW039	920	500	420	NA	NA	Pp, Ef, Gf
PW040	PW040	944	NA	NA	360	584	NA
PW041	PW041	913	NA	NA	NA	NA	NA
PW042	PW042	904	320	584	NA	NA	Gp, Rf
PW043	PW043	868	285	583	NA	NA	Ep, Gf, Rf
PW044	PW044	857	NA	NA	NA	NA	NA
PW045	PW045	858	230	628	NA	NA	Gp, Rf
PW046	PW046	894	NA	NA	NA	NA	NA
PW047	PW047	886	420	466	300	586	Ep, Gf, Rf
PW048	PW048	903	NA	NA	NA	NA	NA
PW049	PW049	909	150	759	NA	NA	NA
PW050	PW050	921	NA	NA	NA	NA	NA
PW051	PW051	885	400	485	315	570	NA
PW052	PW052	884	NA	NA	NA	NA	NA
PW053	PW053	927	445	482	80	847	Ep, Gf, Rf
PW054	PW054	909	391	518	360	549	NA
PW055	PW055	864	252	612	NA	NA	NA
PW056	PW056	909	238	671	75	834	Gp, Rf

30191329
Superfund

Table 6 : Oak Grove Village Area Private Well Information
Oak Grove Village, Missouri

MDNR Well No.	Jacobs Well No. [1]	Ground Elevation (ft) [2]	Well Depth (ft)	Elevation at Bottom of Well (ft) [2]	Casing Depth (ft)	Elevation at Bottom of Casing (ft) [2]	Formation Penetrated [3]
PW057	PW057	983	NA	NA	NA	NA	NA
PW058	PW058	904	420	484	191	713	NA
PW059	PW059	914	300	614	NA	NA	Ep, Gf
PW060	PW060	919	260	659	NA	NA	Ep, Gf
PW061	PW061	950	385	565	NA	NA	NA
PW062	PW062	790	NA	NA	NA	NA	NA
PW063	PW063	888	NA	NA	NA	NA	NA
PW064	PW064	907	NA	NA	NA	NA	NA
PW065	PW065	894	350	544	NA	NA	NA
PW066	PW066	865	NA	NA	NA	NA	NA
PW067	PW067	929	412	517	300	629	Ep, Gf, Rf
PW068	PW068	941	NA	NA	NA	NA	NA
PW069	PW069	928	264	664	147	781	Ep, Gf
PW070	PW070	1006	NA	NA	NA	NA	NA
PW071	PW071	900	310	590	NA	NA	Ep, Gf
PW072	PW072	894	NA	NA	NA	NA	NA
PW073	PW073	911	380	531	NA	NA	Ep, Gf, Rf
PW074	PW074	823	160	663	NA	NA	NA
PW075	PW075	844	326	518	140	704	NA
PW076	PW076	888	410	478	NA	NA	NA
PW077	PW077	892	400	492	NA	NA	NA
PW078	PW078	881	185	696	NA	NA	NA
PW079	PW079	903	485	418	410	717	NA
PW080	PW080	929	NA	NA	NA	NA	NA
PW081	PW081	895	NA	NA	NA	NA	NA
PW082	PW082	837	471	366	NA	NA	NA
PW083	PW083	821	300	521	NA	NA	NA
PW084	PW084	833	320	513	280	553	NA
PW085	PW085	829	330	499	190	639	NA
PW086	PW086	850	NA	NA	NA	NA	NA
PW087	PW087	885	247	638	160	632	Gp, Rf
PW088	PW088	936	NA	NA	NA	NA	R
PW089	PW089	910	260	650	NA	NA	Ep, Gf, Rf
PW090	PW090	892	NA	NA	NA	NA	NA
PW091	PW091	880	NA	NA	NA	NA	NA
PW092	PW092	992	150	842	NA	NA	Gp, Rf
PW093	PW093	873	300	573	NA	NA	NA
PW094	PW094*	947	460	487	NA	NA	*Ep, Gf, Rf
PW095	PW095*	910	346	564	160	750	*Ep, Gf, Rf
PW096	PW096	764	83	681	NA	NA	Ep, Gf
PW097	PW097	868	275	593	NA	NA	NA
PW098	PW098	904	NA	NA	NA	NA	NA
PH001	PH001*	NA	NA	NA	NA	NA	R
PH002	---	NA	NA	NA	NA	NA	NA
PH003	PH003*	NA	NA	NA	NA	NA	NA
PH004	---	NA	NA	NA	NA	NA	NA
PH005	---	NA	NA	NA	NA	NA	NA
PH006	PH006*	910	380	530	NA	NA	*Ep, Gf, Rf
PH007	---	NA	NA	NA	NA	NA	R
PH008	---	NA	NA	NA	NA	NA	R
PH009	---	NA	NA	NA	NA	NA	R
PH010	---	NA	NA	NA	NA	NA	R
PH011	---	NA	NA	NA	NA	NA	NA
PH012	---	NA	NA	NA	NA	NA	NA
PH013	---	NA	NA	NA	NA	NA	NA
PH014	---	NA	NA	NA	NA	NA	NA
PH015	---	NA	NA	NA	NA	NA	NA
PH016	---	NA	NA	NA	NA	NA	NA
PH017	---	NA	NA	NA	NA	NA	NA

Table 6 : Oak Grove Village Area Private Well Information
Oak Grove Village, Missouri

MDNR Well No.	Jacobs Well No. [1]	Ground Elevation (ft) [2]	Well Depth (ft)	Elevation at Bottom of Well (ft) [2]	Casing Depth (ft)	Elevation at Bottom of Casing (ft) [2]	Formation Penetrated [3]
PH018	—	NA	NA	NA	NA	NA	NA
PH019A	OGVW	NA	NA	NA	NA	NA	NA
PH019B	OGVW	NA	NA	NA	NA	NA	NA
PH020	—	NA	NA	NA	NA	NA	NA
PH021	—	NA	NA	NA	NA	NA	NA
PH022	—	NA	NA	NA	NA	NA	NA
PH023	—	NA	NA	NA	NA	NA	NA
PH024	—	NA	NA	NA	NA	NA	NA
PH025	—	NA	NA	NA	NA	NA	NA
PH026	—	NA	NA	NA	NA	NA	NA
PH027	—	NA	NA	NA	NA	NA	NA
PH028	—	NA	NA	NA	NA	NA	NA
PH029	—	NA	NA	NA	NA	NA	NA
PH030	—	NA	NA	NA	NA	NA	NA
PH031	—	NA	NA	NA	NA	NA	NA
PH032	—	NA	NA	NA	NA	NA	NA
PH033	—	NA	NA	NA	NA	NA	NA
PH034	—	NA	NA	NA	NA	NA	R
PH035	—	NA	NA	NA	NA	NA	R
PH036	—	NA	NA	NA	NA	NA	NA
PH037	—	NA	NA	NA	NA	NA	NA
PH038	—	NA	NA	NA	NA	NA	R
PH039	—	NA	NA	NA	NA	NA	R
PH040	—	NA	NA	NA	NA	NA	R
PH041	—	NA	NA	NA	NA	NA	NA
PH042	—	NA	NA	NA	NA	NA	NA

Notes:

NA - Not available

[1] - Well numbers beginning with "PW" were sampled during the phase I RI.
Well numbers beginning with "PH" were samples by MDNR.

[2] - Elevations are based on the North American Vertical Datum of 1988.

[3] - Inferred by comparing screened interval with MDNR structural base contour maps.

Pp - Potosi Formation: partially penetrated.

Ef - Eminence Dolomite: fully penetrated.

Ep - Eminence Dolomite: partially penetrated.

Gf - Gasconade Dolomite: fully penetrated.

Gp - Gasconade Dolomite: partially penetrated.

Rf - Roubidoux Formation: fully penetrated.

R - Roubidoux Formation: surface outcrop.

* - Unknown due to Jacobs data points being inconsistent with MDNR GPS measurements.

APPENDIX C

HISTORICAL POTENTIOMETRIC MAPS

Potentiometric Map of the Shallow Aquifer, Meramec River Basin
Potentiometric Map of the Deep Aquifer, Meramec River Basin
Shallow Aquifer Potentiometric Surface Elevations
Potentiometric Surface, November 2010 (Former TRW/Ramsey Facility)
Shallow Depth Groundwater Elevation Map 12/7/95 (Former TRW/Ramsey Facility)
Shallow Groundwater Potentiometric Map 8/25/93 (Former TRW/Ramsey Facility)
Groundwater Flow Map, Deep Monitoring Wells 5/26/05
Groundwater Flow Map, Deep Monitoring Wells 6/13-14/05
Deep Aquifer Potentiometric Surface Elevations
Intermediate Depth Groundwater Elevation Map 12/7/95 (Former TRW/Ramsey Facility)
Intermediate Depth Groundwater Elevation Map 8/25/93 (Former TRW/Ramsey Facility)
Deep Depth Groundwater Elevation Map 12/7/95 (Former TRW/Ramsey Facility)
Winsel Creek Map and Station Analysis
Pumping Record for COS Municipal Wells (compiled by USGS)
Pumping Record for OGV02 (compiled by HGL)
Summary of Hydraulic Conductivity Estimates

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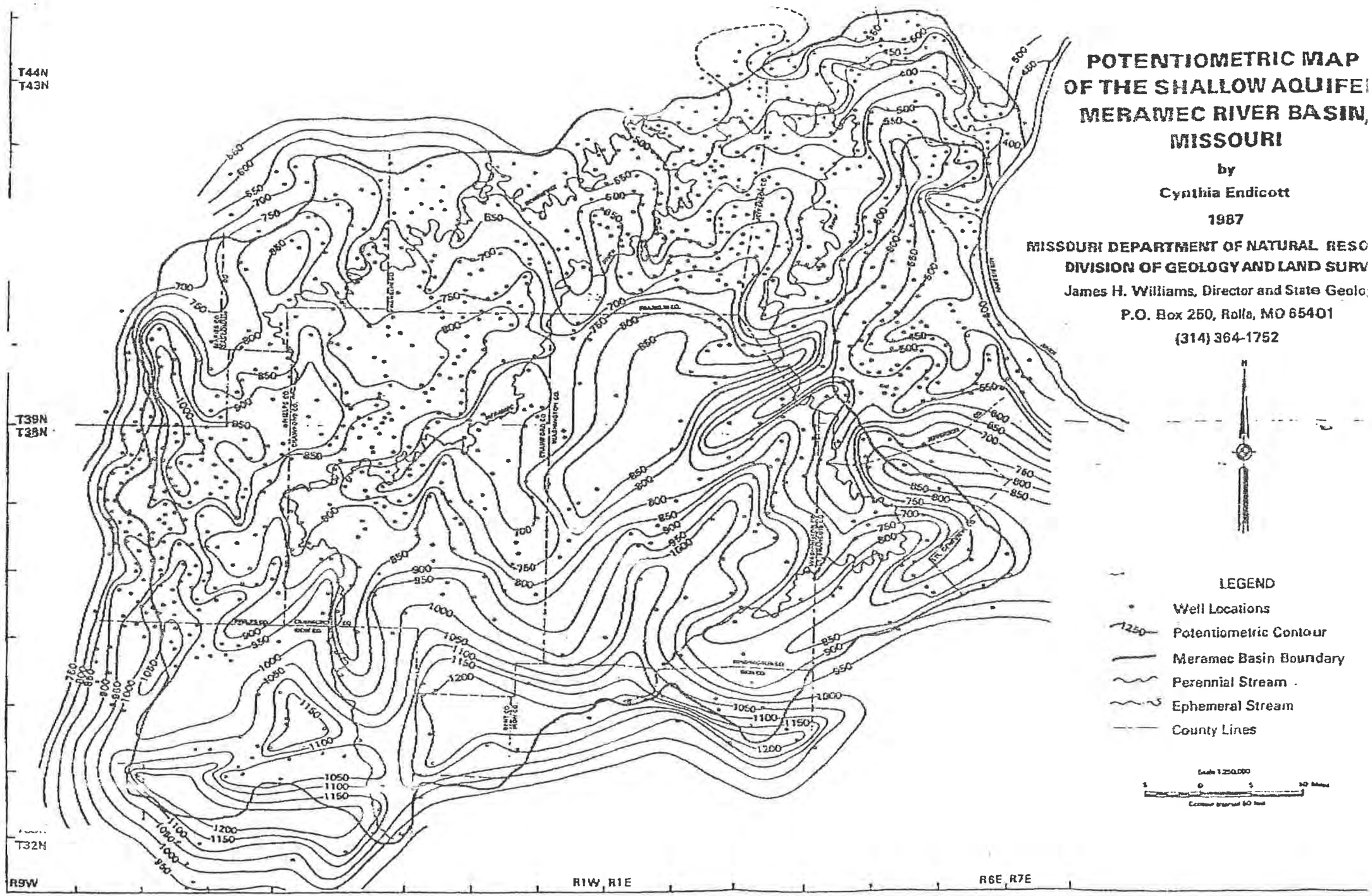
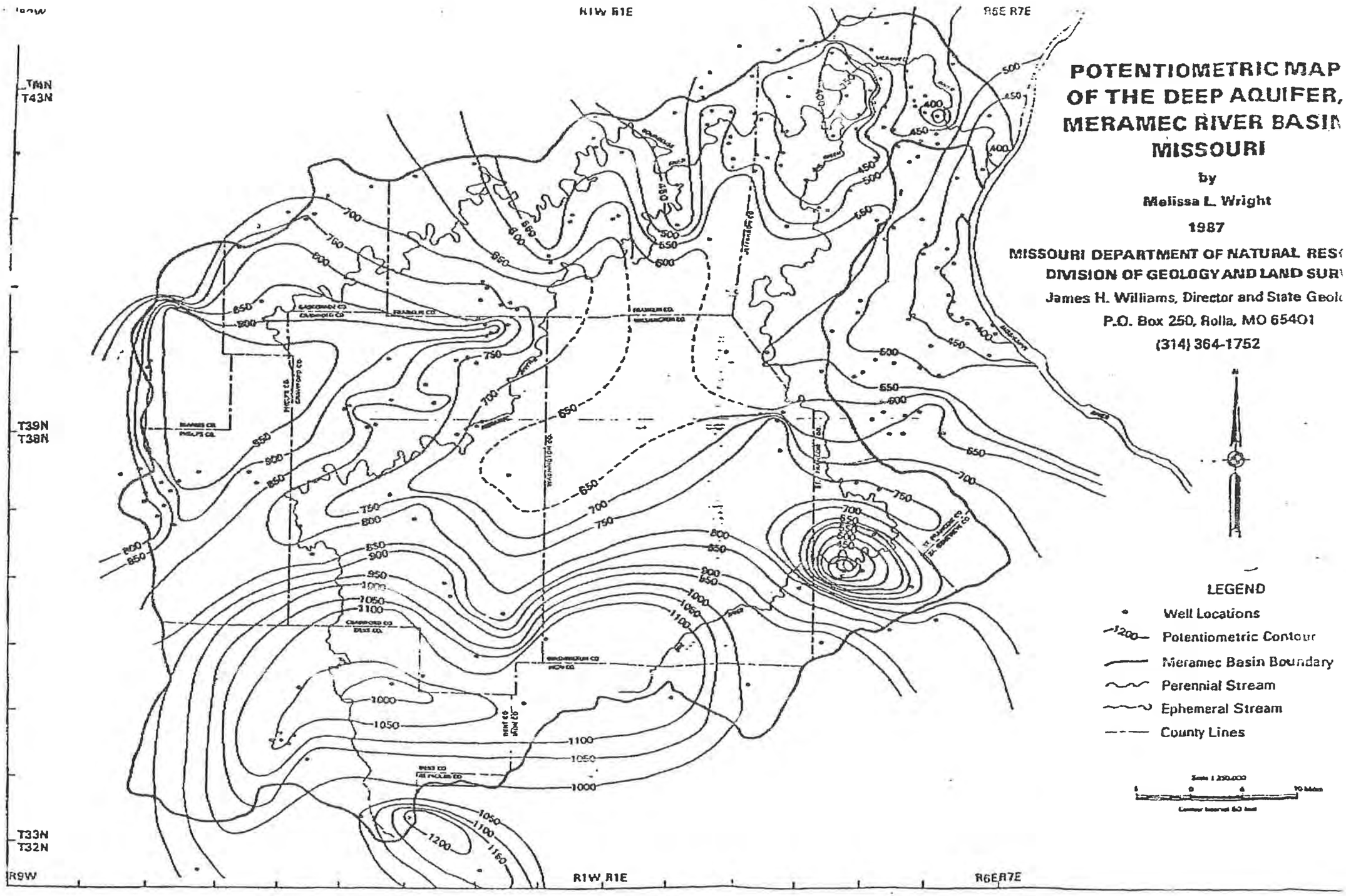
P.09
NOV-30-89 THU 1 4

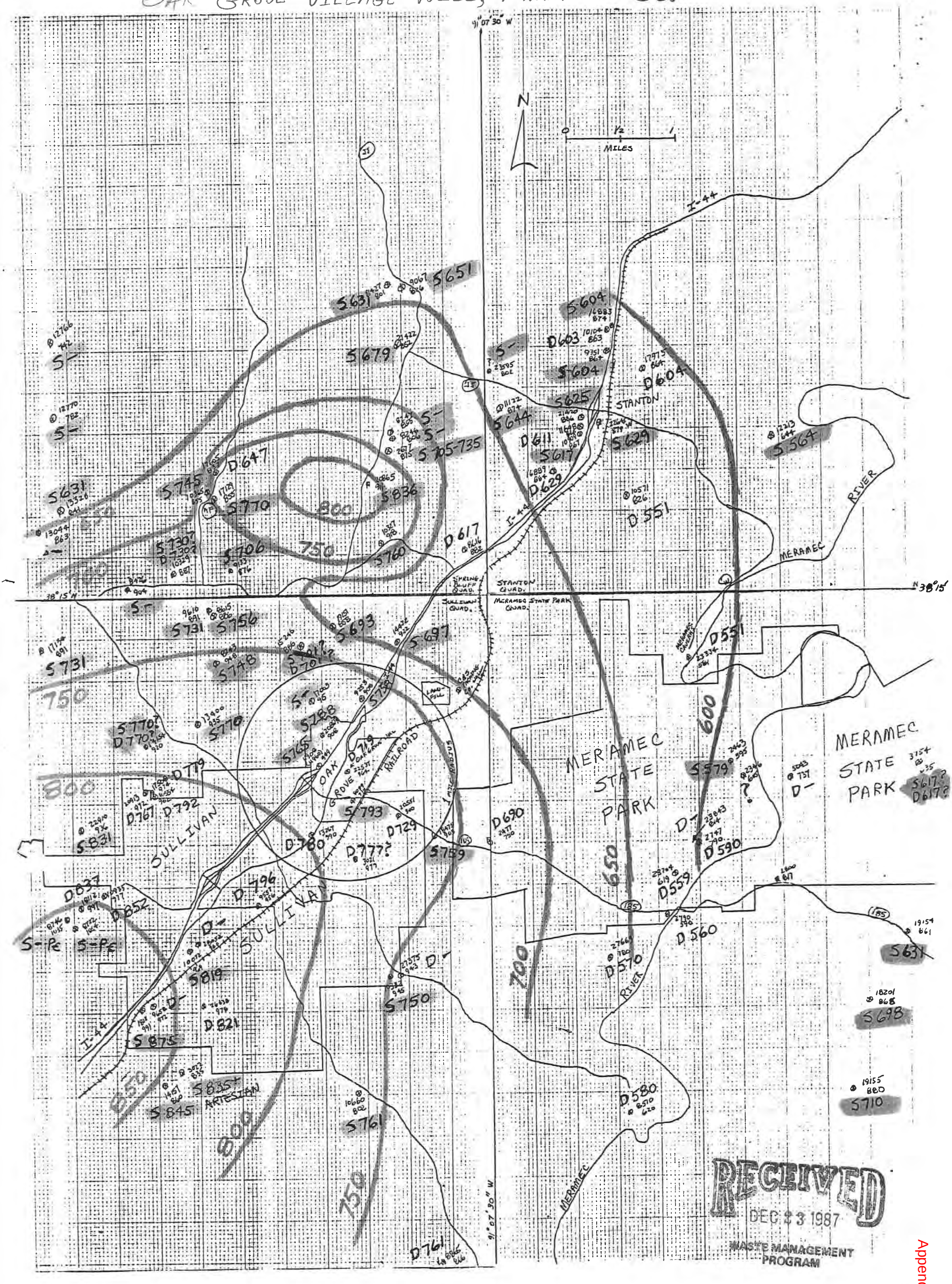


Appendix C, Figure 2



P.10
NOV-30-89 THU 16:

OAK GROVE VILLAGE WELL, FRANKLIN CO.



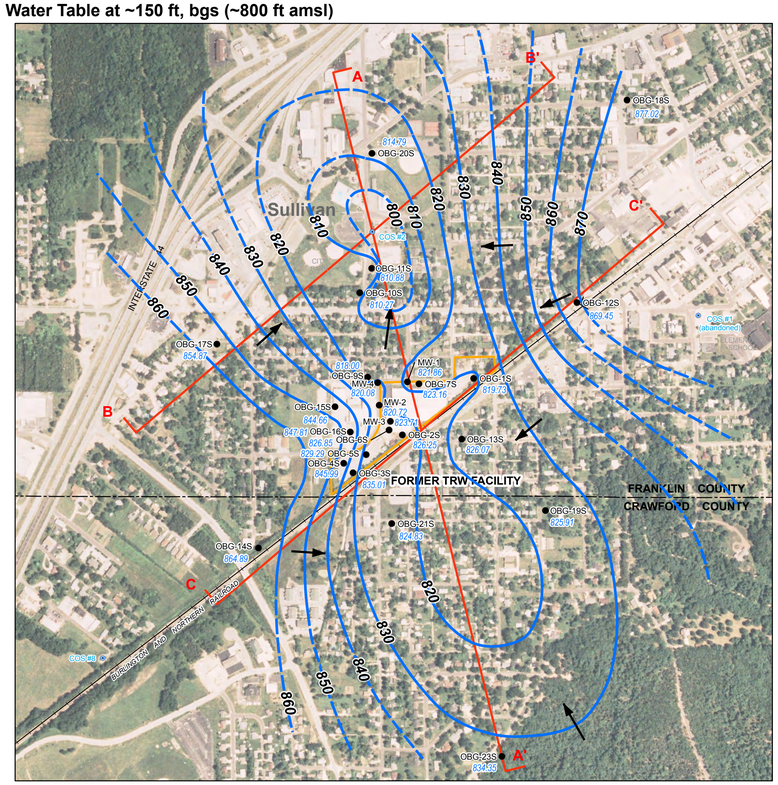
716 - SHALLOW AQUIFER WELL STATIC WATER LEVEL (GASCONADE/GUNTER & ABOVE) ELEVATION

D 631 - DEEP AQUIFER WELL STATIC WATER LEVEL (EMINENCE & BELOW) ELEVATION

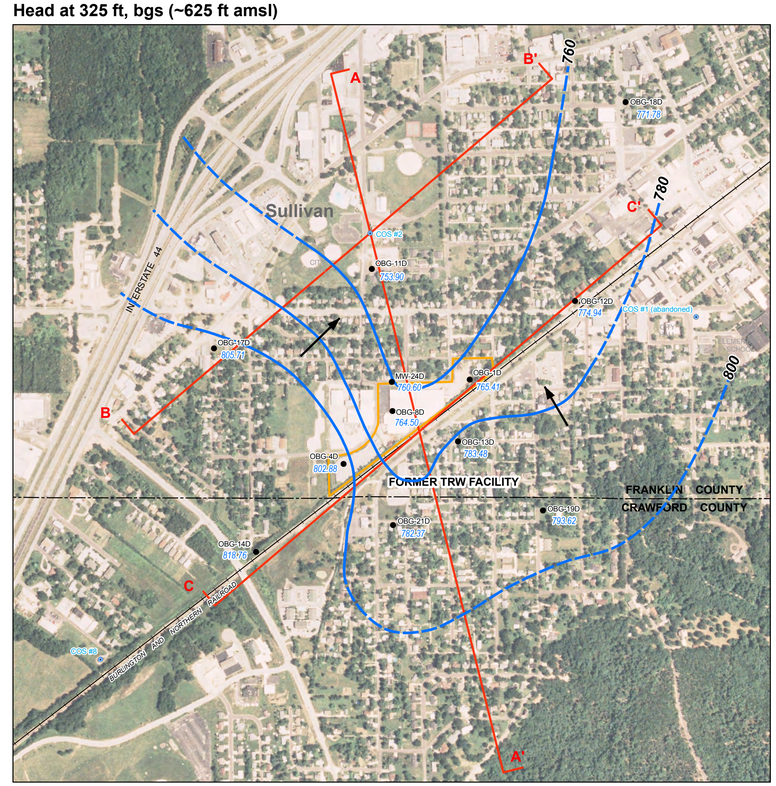
650 SHALLOW AQUIFER POTENTIOMETRIC SURFACE ELEVATION

Appendix C, Figure 3

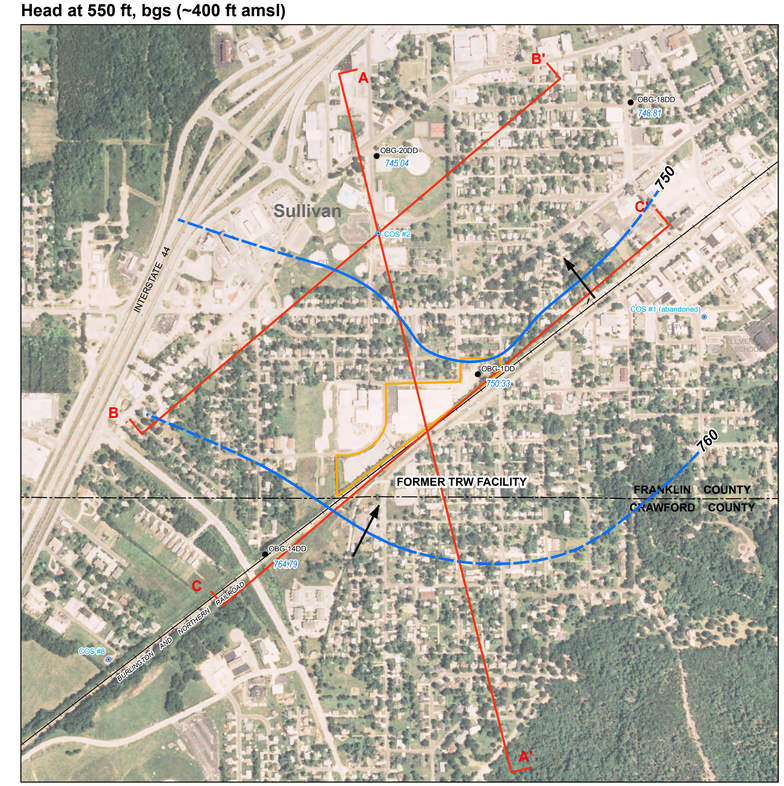
Water Table at ~150 ft, bgs (~800 ft amsl)

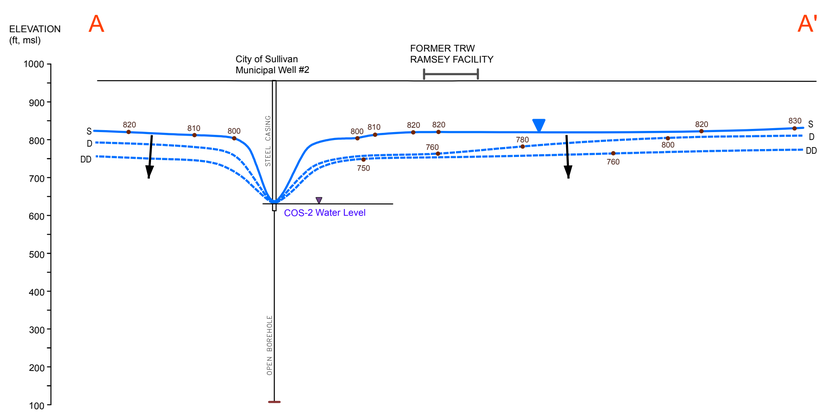


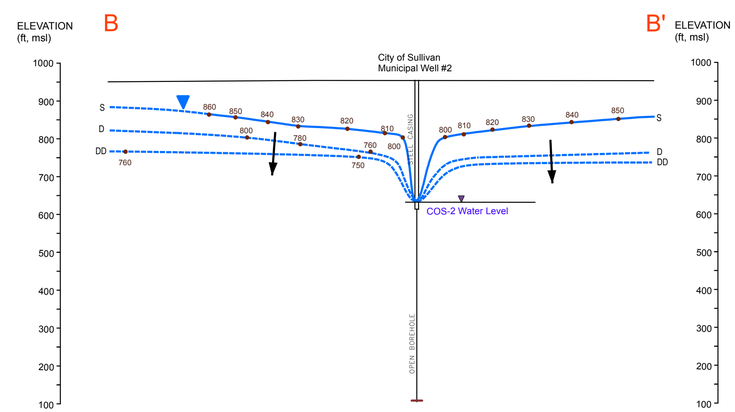
Head at 325 ft, bgs (~625 ft amsl)

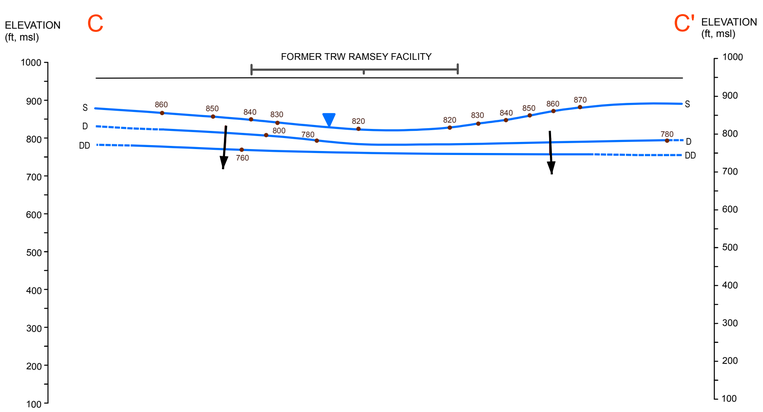


Head at 550 ft, bgs (~400 ft amsl)









NOTE: COS-2 is steel cased from the surface to 345 ft below ground surface (elevation of 611 ft), with open borehole construction to 850 ft below ground surface (elevation of 106 ft).

LEGEND:

- County Line
- Former TRW Ramsey Facility (approximate location)
- COS #2 City of Sullivan Municipal Well
- OBG-1S Monitoring Well (approximately 150' below grade)
- OBG-1D Monitoring Well (approximately 325' below grade)
- OBG-1DD Monitoring Well (approximately 550' below grade)
- 835.53 Groundwater Elevation (ft, msl) Measured November 15, 2010
- Groundwater Contour Line (ft, msl) (Inferred where dashed)
- General Direction of Groundwater Flow
- Cross-Section Location
- Water Table
- 800 Elevation of Water Table

0 1,200 2,400
SCALE IN FEET

FORMER TRW RAMSEY FACILITY
SULLIVAN, MISSOURI
2010 ANNUAL GROUNDWATER MONITORING

Potentiometric Surface November 2010

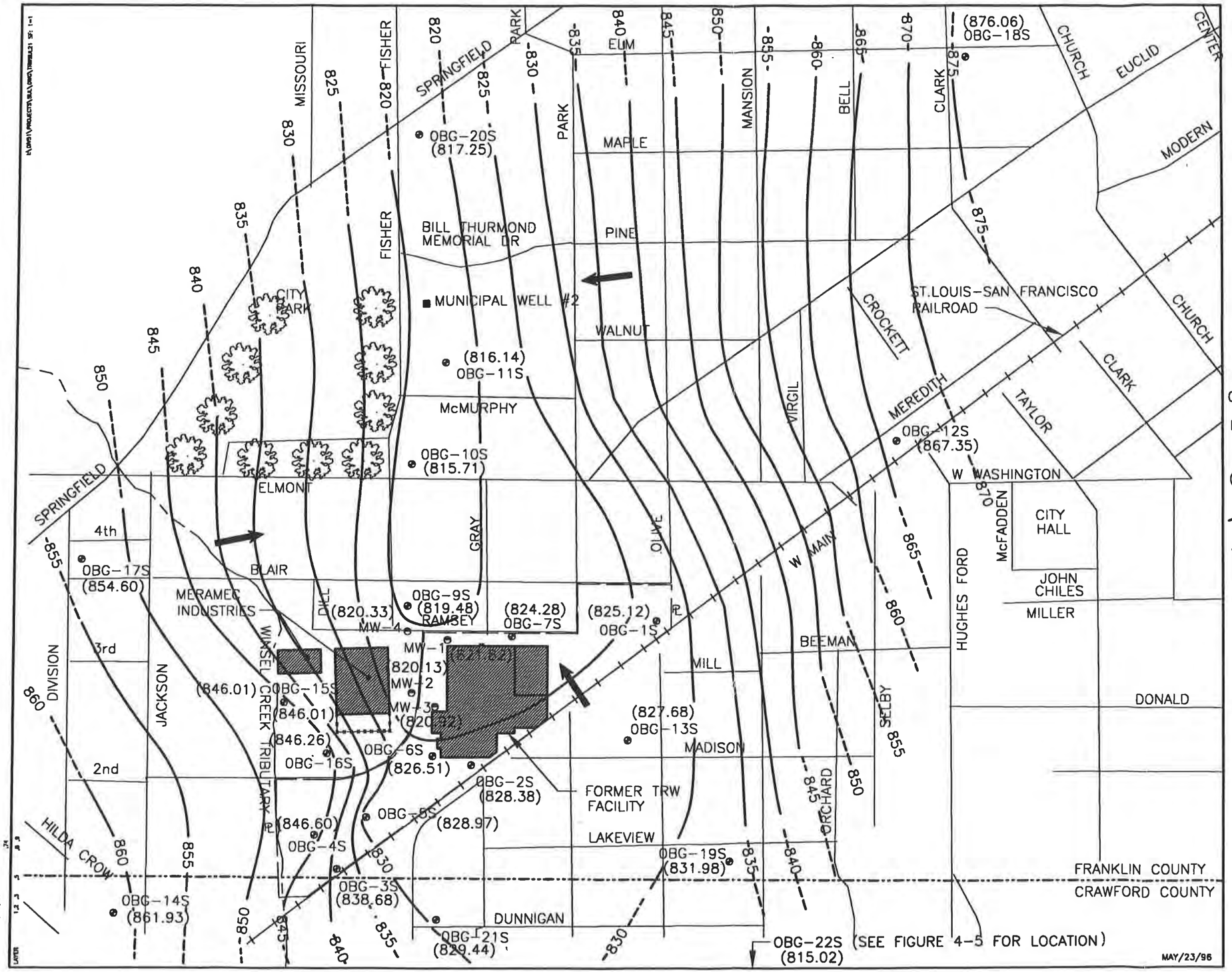
ARCADIS

FIGURE
1

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PM:(E.COPELAND) TM:(M.JOHNSTON)
PROJECT: IN000791.0001.TN001 PATH: G:\GIS\TRWMO_Sullivan\MapDocs79112010 Annual\F1 IN791_1011_POT D-size.mxd SAVED: 19JAN2011

Appendix C, Figure 5

FIGURE 4-6



LEGEND

- RAILROAD
- FENCE
- PROPERTY LINE
- OBG-11S SHALLOW MONITORING WEL (APPROX. 150' BELOW GR
- MW-3 SHALLOW MONITORING WEL (APPROX. 150' BELOW GR (INSTALLED BY MOORE & ASSOCIATES)
- (867.35) GROUND WATER ELEVATION
- 845 GROUND WATER ELEV. CON (DASHED WHERE INFERRED
- GROUND WATER FLOW DIRE

FORMER TRW FACILIT
SULLIVAN, MISSOURI

SHALLOW DEPTH
GROUND WATER
ELEVATION MAP
12/7/95

300 0 30

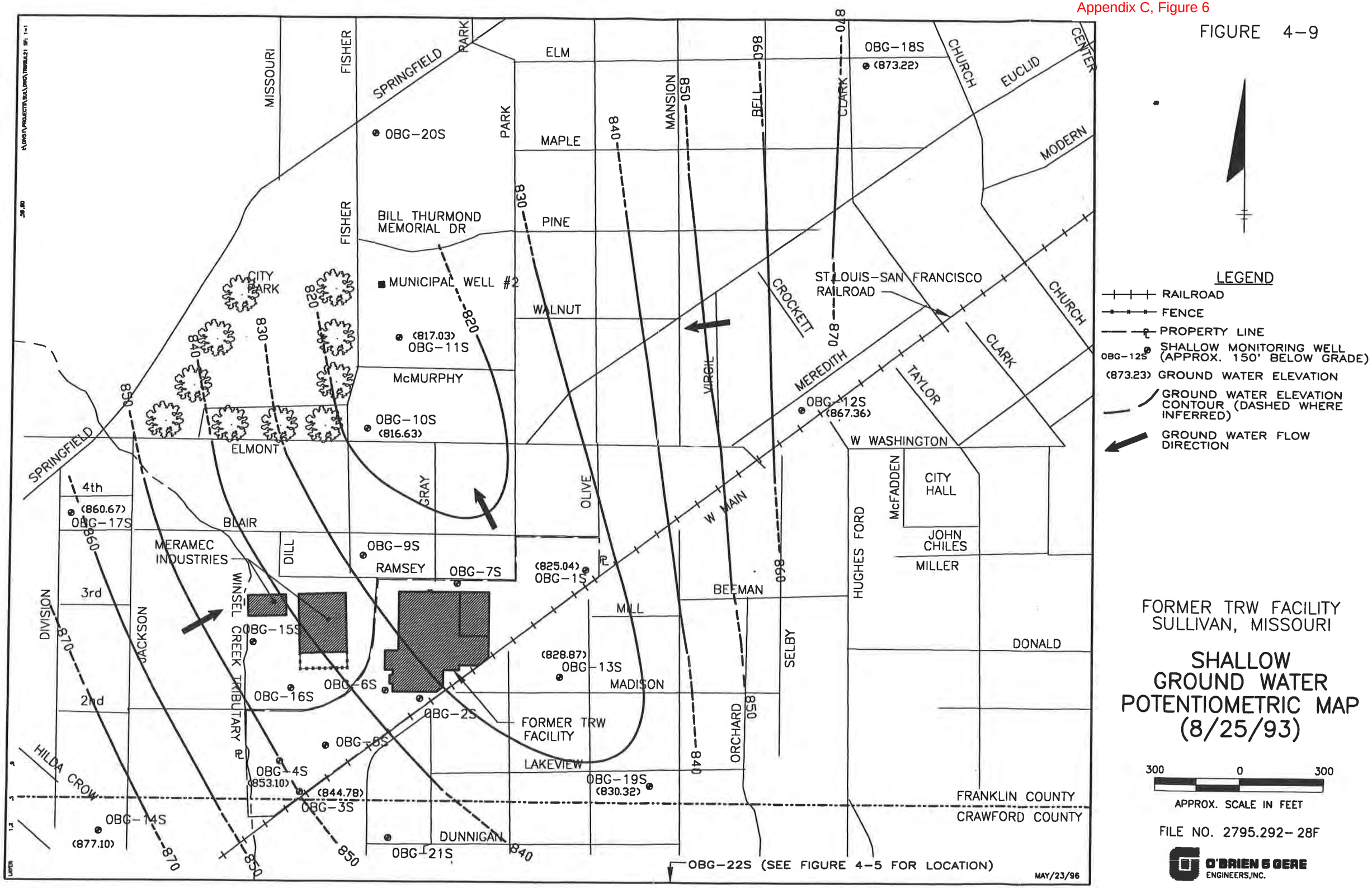
APPROX. SCALE IN FEET

FILE NO. 2795.292-10F

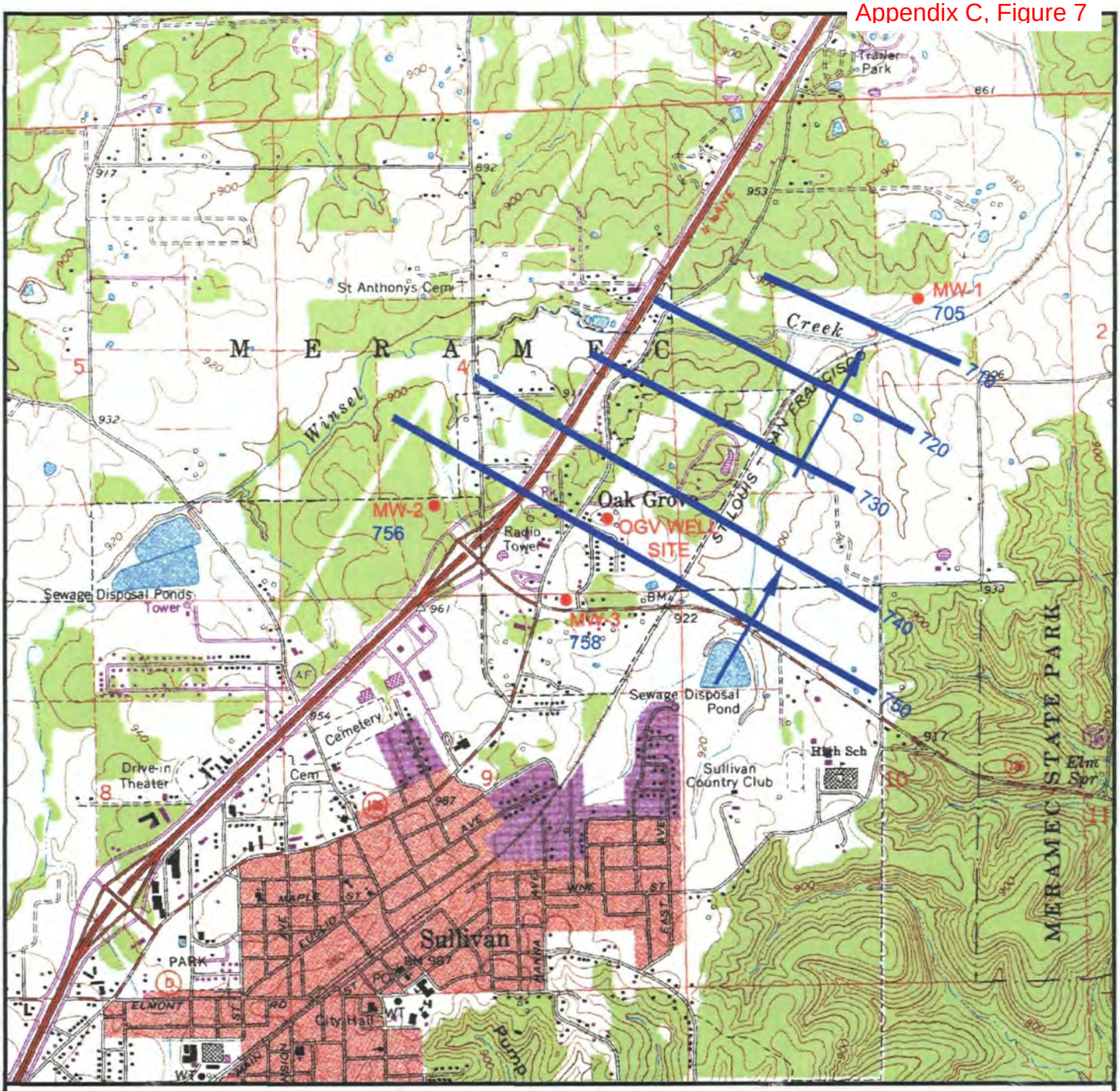
O'BRIEN & GERE ENGINEERS, INC.

Appendix C, Figure 6

FIGURE 4-9



Appendix C, Figure 7



AFTER U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SULLIVAN, MISSOURI 1969 (PHOTOREVISED 1980)

N

MW-2 ● 756 DEEP MONITOR WELL AND GROUNDWATER ELEVATION, FEET AMSL, 5/26/05

GROUNDWATER FLOW DIRECTION

2000' 0 2000' 4000'

SCALE 1" = 2000' FEET

MISSOURI

BENHAM infrastructure & environment

The Benham Companies, LLC
infrastructure & environment
3700 W. Robinson, Suite 200
Norman, Oklahoma 73072
(405) 321-3895
www.benham.com

FIGURE TITLE	*GROUNDWATER FLOW MAP, DEEP MONITOR WELL - 5/26/05*
DOCUMENT TITLE	
CLIENT	MISSOURI DEPARTMENT OF NATURAL RESOURCES
LOCATION	OAK GROVE VILLAGE, MISSOURI

DATE	08/11/05
SCALE	AS SHOWN
DESIGNED BY	BS
APPROVED BY	BS
DRAWN BY	LJ/SKG
PROJECT NUMBER	4100404401 F47
FIGURE NUMBER	11

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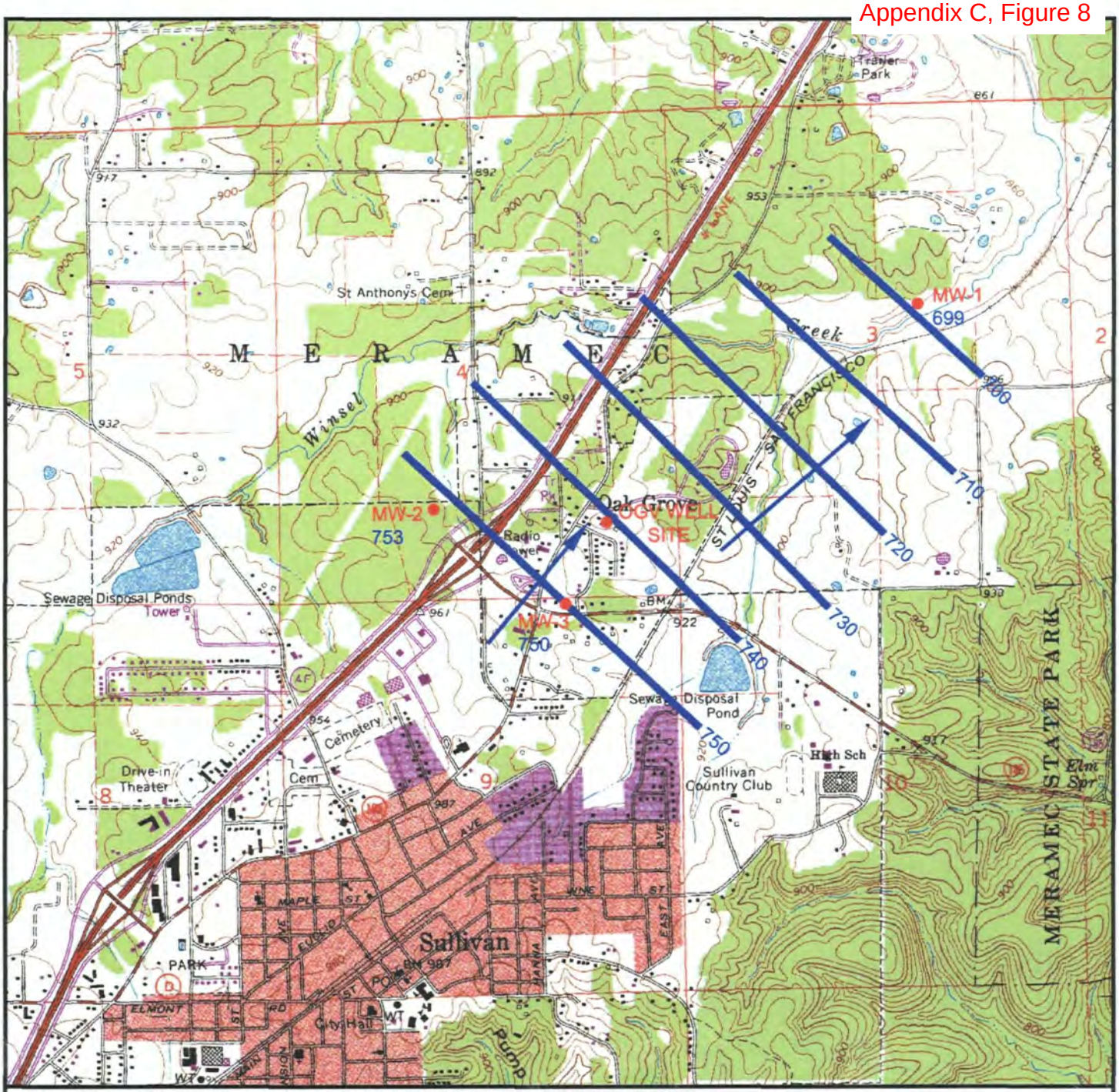
Appendix C, Figure 8



AFTER U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SULLIVAN, MISSOURI 1969 (PHOTOREVISED 1980)

N

MW-2 753 — DEEP MONITOR WELL AND GROUNDWATER ELEVATION, FEET AMSL, 6/13-14/05

GROUNDWATER FLOW DIRECTION

2000' 0 2000' 4000'

SCALE 1" = 2000' FEET

MISSOURI

BENHAM
Infrastructure & environment

The Benham Companies, LLC
infrastructure & environment
3700 W. Robinson, Suite 200
Norman, Oklahoma 73072
(405) 321-3895
www.benham.com

FIGURE TITLE	*GROUNDWATER FLOW MAP, DEEP MONITOR WELL 6/13-14/05*
DOCUMENT TITLE	
CLIENT	MISSOURI DEPARTMENT OF NATURAL RESOURCES
LOCATION	OAK GROVE VILLAGE, MISSOURI

DATE	08/11/05
SCALE	AS SHOWN
DESIGNED BY	BS
APPROVED BY	BS
DRAWN BY	LJ
PROJECT NUMBER	4100404401 F48
FIGURE NUMBER	12

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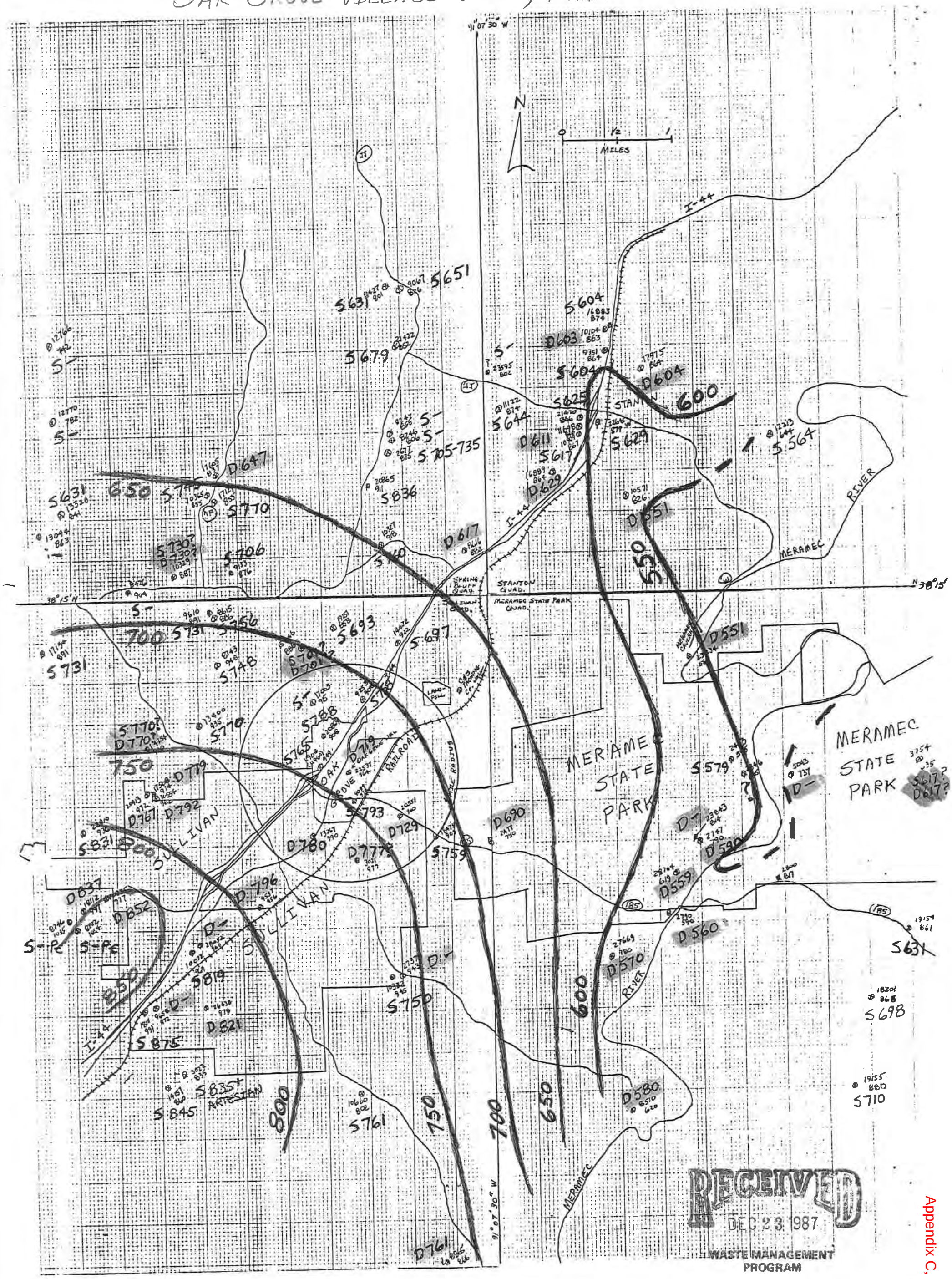
OAK GROVE VILLAGE WELL, FRANKLIN CO.



716 - SHALLOW AQUIFER WELL STATIC WATER LEVEL (GASCONADE/GUNTER & ABOVE) ELEVATION

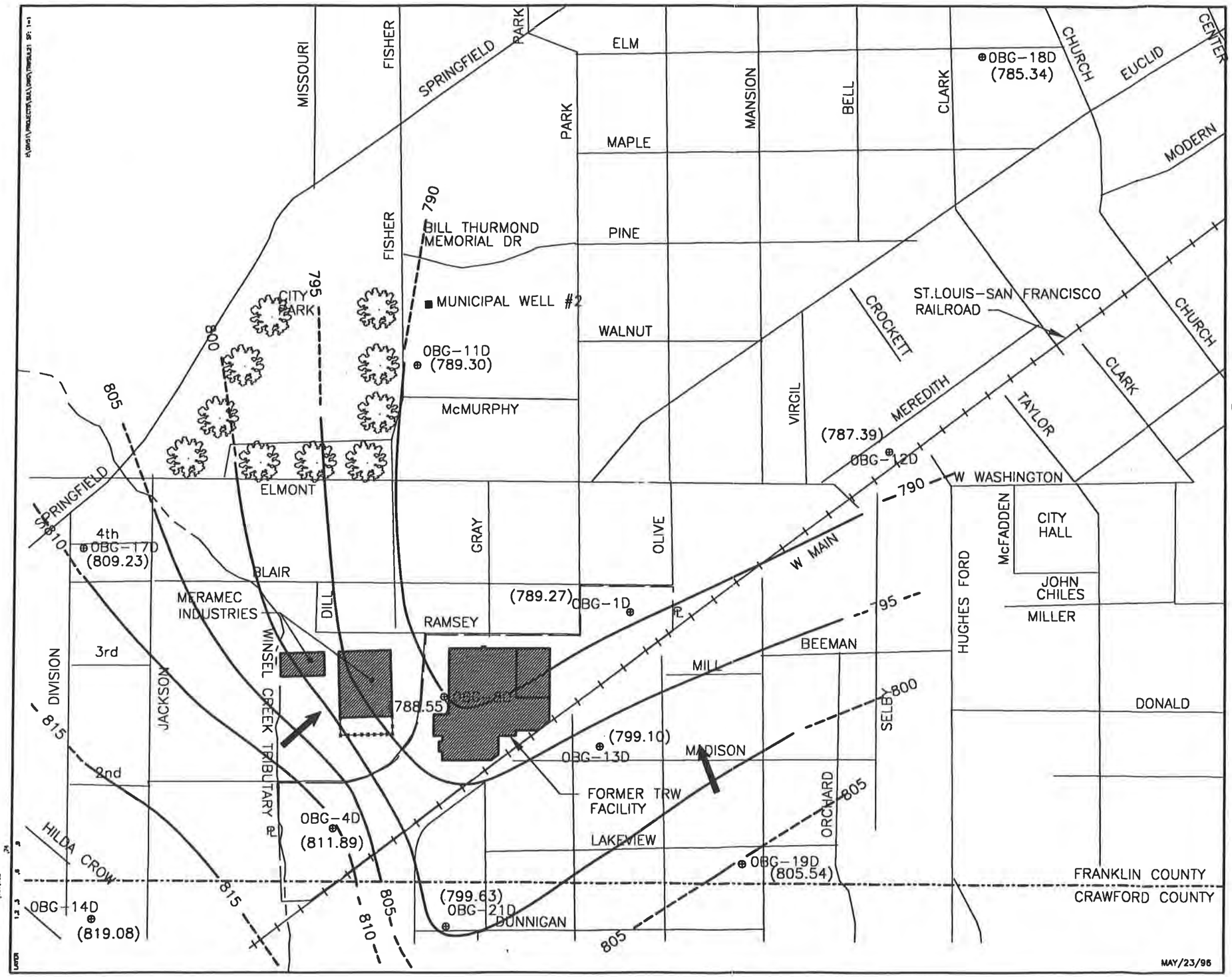
D 631 - DEEP AQUIFER WELL STATIC WATER LEVEL (EMINENCE & BELOW) ELEVATION

750 DEEP AQUIFER POTENTIOMETRIC SURFACE ELEVATION

Appendix C, Figure 9

Appendix C, Figure 10

FIGURE 4-7



LEGEND

- RAILROAD
- FENCE
- PROPERTY LINE
- OBG-12D ⊕ INTERMEDIATE DEPTH MONITORING WELL (APPROX. 350' BELOW GRA
- (787.39) GROUND WATER ELEVATION
- 815 GROUND WATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUND WATER FLOW DIRECTION

FORMER TRW FACILITY
SULLIVAN, MISSOURI

INTERMEDIATE DEPT GROUND WATER ELEVATION MAP
12/7/95

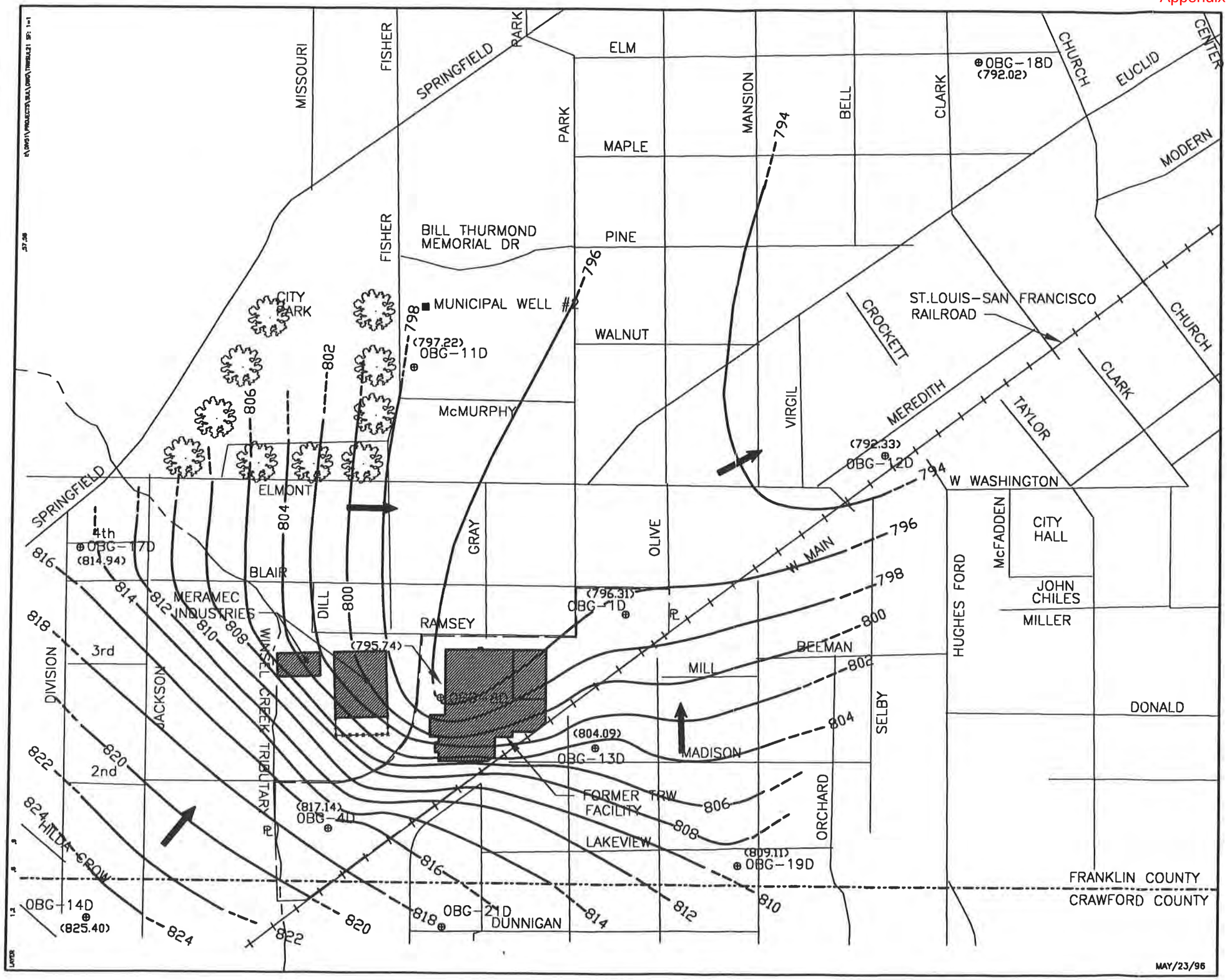
300 0 300
APPROX. SCALE IN FEET

FILE NO. 2795.292-11F

O'BRIEN & GERE ENGINEERS, INC.

Appendix C, Figure 11

FIGURE 4-10



LEGEND

- RAILROAD
- FENCE
- PROPERTY LINE
- OBG-12D ⊕ INTERMEDIATE DEPTH MONITORING WELL (APPROX. 350' BELOW GRADE)
- (792.33) GROUND WATER ELEVATION
- GROUND WATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUND WATER FLOW DIRECTION

FORMER TRW FACILITY
SULLIVAN, MISSOURI

INTERMEDIATE DEPTH GROUND WATER POTENTIOMETRIC MAP (8/25/93)

300 0 300

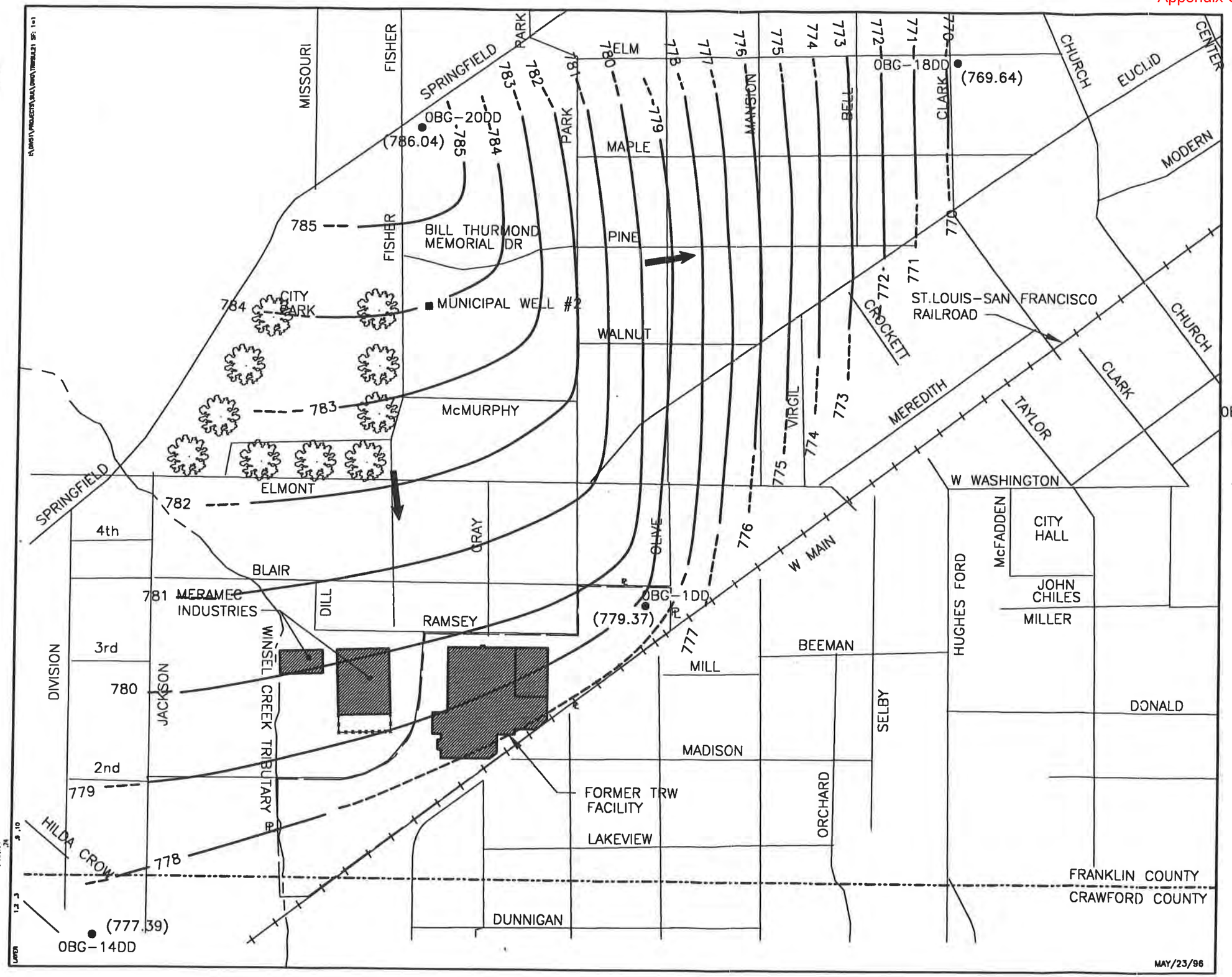
APPROX. SCALE IN FEET

FILE NO. 2795.292-26F

O'BRIEN & GERE ENGINEERS, INC.

Appendix C, Figure 12

FIGURE 4-8



LEGEND

- RAILROAD
- FENCE
- PROPERTY LINE
- DEEP MONITORING WELL (APPROX. 550' BELOW GRADE) — OBG-14DD
- (779.37) GROUND WATER ELEVATION
- 785 GROUND WATER ELEV. CONTOUR (DASHED WHERE INFERRED)
- GROUND WATER FLOW DIRECTION

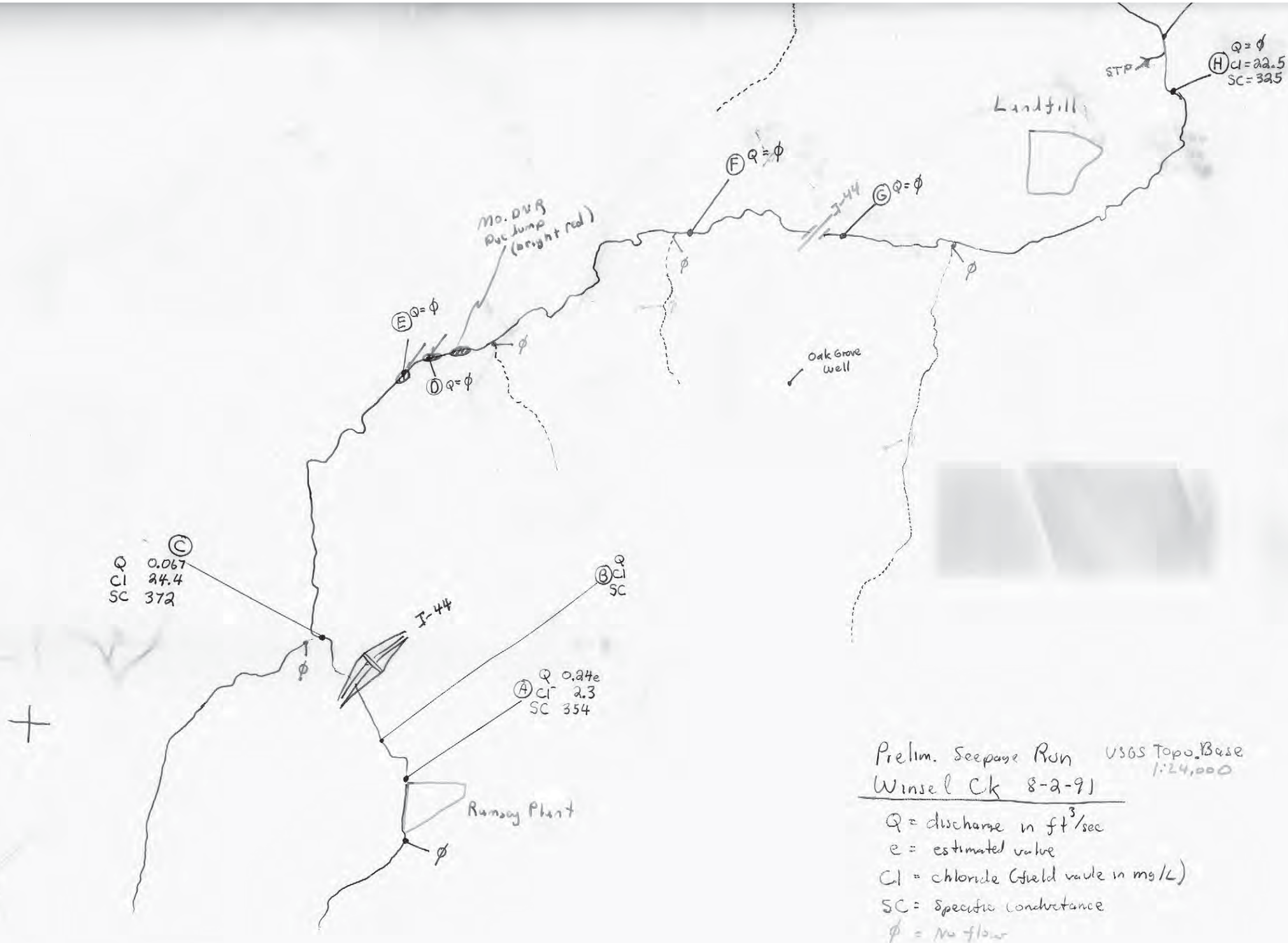
FORMER TRW FACILITY
SULLIVAN, MISSOURI

DEEP DEPTH GROUND WATER ELEVATION MAP
12/7/95

300 0 300
APPROX. SCALE IN FEET

FILE NO. 2795.292-12F

O'BRIEN & GERE ENGINEERS, INC.



Prelim. Seepage Run USGS Topo Base 1:24,000
Winsel Ck 8-2-91

Q = discharge in ft^3/sec
e = estimated value
Cl = chloride (field value in mg/L)
SC = Specific conductance
ϕ = No flow

M Q=ϕ
ϕ
L Q=ϕ
ϕ
ϕ
ϕ
ϕ
ϕ
ϕ
Sec 27
Sec 33
K Q = 0.52
CI = 53.5
SC = 622
ϕ
I-44
J Q=0.84
CI NA
SC = NA
I Q = 0.74
CI = 69
SC = 624

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 12-09-91
MULTIPLE STATION ANALYSES

LOCAL IDENT-I-FIER	DATE	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	PH (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
Meramec Caverns Above Auto Sampler	10-09-91	3.9	13.5	7.6	373	178	0.820	13
	10-15-91	4.0	13.5	7.7	371	--	0.910	16
	10-21-91	4.1	--	--	--	--	--	--
	10-29-91	4.2	--	--	375	--	0.820	11
	11-05-91	4.2	--	--	--	--	--	--
Winsel Cr Below STP Outfall	10-08-91	0.81	--	--	--	--	--	--
Winsel Cr Below STP at I-44	10-07-91	0.85	--	--	--	--	--	--
	10-08-91	0.82	--	--	--	--	--	--
	10-09-91	0.62	19.5	8.2	632	208	2.40	61
	10-15-91	0.69	13.0	8.3	641	--	2.50	60
	10-21-91	0.66	--	--	--	--	--	--
	10-29-91	60	18.5	7.8	145	--	0.440	8.7
	11-05-91	0.78	--	--	--	--	--	--
Winsel Cr Below STP at Acid Mine Rd	10-08-91	0.59	--	--	--	--	--	--
Winsel Cr Below STP at Hwy AF	10-08-91	0.38	--	--	--	--	--	--
	10-09-91	0.30	19.5	8.4	466	165	0.930	45
	10-15-91	0.23	--	8.0	632	--	0.440	66
	10-21-91	0.19	--	--	--	--	--	--
	10-29-91	35	19.5	7.6	144	--	0.400	8.3
	11-05-91	0.59	--	--	--	--	--	--

Table 1 Pumping Records for COS Municpal Wells
(compiled by USGS and HGL)

Month-Year	Monthly Total	Yearly Total	COS02	COS03	COS04	COS05	COS06	COS07	COS08	COS09	COS10	COS11	COS12
Jan-61	0		0	0	0	0	0	0	0	0	0	0	0
Feb-61	11,779,000		9,984,000	1,795,000	0	0	0	0	0	0	0	0	0
Mar-61	10,616,000		6,532,000	4,084,000	0	0	0	0	0	0	0	0	0
Apr-61	10,518,000		5,672,000	4,846,000	0	0	0	0	0	0	0	0	0
May-61	9,918,000		4,872,000	5,046,000	0	0	0	0	0	0	0	0	0
Jun-61	10,755,000		5,163,000	5,592,000	0	0	0	0	0	0	0	0	0
Jul-61	12,419,000		5,843,000	6,576,000	0	0	0	0	0	0	0	0	0
Aug-61	12,342,000		6,040,000	6,302,000	0	0	0	0	0	0	0	0	0
Sep-61	12,759,000		8,709,000	4,050,000	0	0	0	0	0	0	0	0	0
Oct-61	11,538,000		9,704,000	1,834,000	0	0	0	0	0	0	0	0	0
Nov-61	11,217,000		9,350,000	1,867,000	0	0	0	0	0	0	0	0	0
Dec-61	10,681,000	124,542,000	8,865,000	1,816,000	0	0	0	0	0	0	0	0	0
Jan-62	11,529,000		10,866,000	663,000	0	0	0	0	0	0	0	0	0
Feb-62	12,836,000		10,338,000	2,498,000	0	0	0	0	0	0	0	0	0
Mar-62	11,081,000		5,574,000	5,507,000	0	0	0	0	0	0	0	0	0
Apr-62	11,896,000		5,023,000	6,873,000	0	0	0	0	0	0	0	0	0
May-62	11,301,000		5,741,000	5,560,000	0	0	0	0	0	0	0	0	0
Jun-62	13,948,000		7,425,000	6,523,000	0	0	0	0	0	0	0	0	0
Jul-62	14,565,000		7,990,000	6,575,000	0	0	0	0	0	0	0	0	0
Aug-62	17,524,000		10,312,000	7,212,000	0	0	0	0	0	0	0	0	0
Sep-62	18,248,000		11,099,000	7,149,000	0	0	0	0	0	0	0	0	0
Oct-62	13,003,000		12,123,000	880,000	0	0	0	0	0	0	0	0	0
Nov-62	12,879,000		12,014,000	865,000	0	0	0	0	0	0	0	0	0
Dec-62	12,332,000	161,142,000	11,615,000	717,000	0	0	0	0	0	0	0	0	0
Jan-63	13,072,000		9,328,000	3,744,000	0	0	0	0	0	0	0	0	0
Feb-63	14,432,000		6,155,000	8,277,000	0	0	0	0	0	0	0	0	0
Mar-63	13,146,000		7,375,000	5,771,000	0	0	0	0	0	0	0	0	0
Apr-63	13,189,000		7,029,000	6,160,000	0	0	0	0	0	0	0	0	0
May-63	13,494,000		7,906,000	5,588,000	0	0	0	0	0	0	0	0	0
Jun-63	14,353,000		7,338,000	7,015,000	0	0	0	0	0	0	0	0	0
Jul-63	15,855,000		9,631,000	6,224,000	0	0	0	0	0	0	0	0	0
Aug-63	16,411,000		10,180,000	6,231,000	0	0	0	0	0	0	0	0	0
Sep-63	16,857,000		10,442,000	6,415,000	0	0	0	0	0	0	0	0	0
Oct-63	14,689,000		10,232,000	4,457,000	0	0	0	0	0	0	0	0	0
Nov-63	14,607,000		8,637,000	5,970,000	0	0	0	0	0	0	0	0	0
Dec-63	12,139,000	172,244,000	6,309,000	5,830,000	0	0	0	0	0	0	0	0	0
Jan-64	13,855,000		6,304,000	7,551,000	0	0	0	0	0	0	0	0	0
Feb-64	13,609,000		7,444,000	6,165,000	0	0	0	0	0	0	0	0	0
Mar-64	11,764,000		6,840,000	4,924,000	0	0	0	0	0	0	0	0	0
Apr-64	12,573,000		7,748,000	4,825,000	0	0	0	0	0	0	0	0	0
May-64	12,361,000		9,002,000	3,359,000	0	0	0	0	0	0	0	0	0
Jun-64	14,814,000		10,330,000	4,484,000	0	0	0	0	0	0	0	0	0
Jul-64	15,621,000		9,217,000	6,121,000	283,000	0	0	0	0	0	0	0	0
Aug-64	19,035,600		10,720,000	5,290,000	0	3,025,600	0	0	0	0	0	0	0
Sep-64	23,058,600		11,126,000	4,544,000	0	7,388,600	0	0	0	0	0	0	0
Oct-64	15,325,400		10,004,000	1,506,000	0	3,815,400	0	0	0	0	0	0	0
Nov-64	14,557,000		11,533,000	1,661,000	0	1,363,000	0	0	0	0	0	0	0
Dec-64	13,627,000	180,200,600	10,341,000	1,072,000	0	2,214,000	0	0	0	0	0	0	0
Jan-65	12,975,000		9,536,000	3,439,000	0	0	0	0	0	0	0	0	0
Feb-65	12,646,000		4,981,000	5,492,000	0	2,173,000	0	0	0	0	0	0	0
Mar-65	11,762,000		5,032,000	4,928,000	0	1,802,000	0	0	0	0	0	0	0
Apr-65	13,073,000		7,084,000	4,954,000	0	1,035,000	0	0	0	0	0	0	0
May-65	14,059,000		6,368,000	4,551,000	1,528,000	1,612,000	0	0	0	0	0	0	0
Jun-65	16,950,000		6,778,000	5,573,000	3,636,000	963,000	0	0	0	0	0	0	0
Jul-65	19,777,000		6,054,000	7,984,000	1,689,000	4,050,000	0	0	0	0	0	0	0
Aug-65	21,072,000		5,817,000	7,403,000	3,683,000	4,169,000	0	0	0	0	0	0	0
Sep-65	23,064,000		7,382,000	7,161,000	3,477,000	5,044,000	0	0	0	0	0	0	0
Oct-65	15,508,000		5,194,000	5,096,000	3,595,000	1,623,000	0	0	0	0	0	0	0
Nov-65	14,818,000		5,322,000	4,534,000	3,425,000	1,537,000	0	0	0	0	0	0	0
Dec-65	14,096,000	189,800,000	2,715,000	6,669,000	1,685,000	3,027,000	0	0	0	0	0	0	0
Jan-66	14,327,000		2,121,000	8,352,000	0	3,854,000	0	0	0	0	0	0	0
Feb-66	14,724,000		2,728,000	8,630,000	320,000	3,046,000	0	0	0	0	0	0	0
Mar-66	14,352,000		2,115,000	7,203,000	2,700,000	2,334,000	0	0	0	0	0	0	0
Apr-66	14,963,000		1,074,000	7,024,000	2,846,000	4,019,000	0	0	0	0	0	0	0
May-66	14,294,000		1,352,000	6,442,000	2,580,000	3,920,000	0	0	0	0	0	0	0
Jun-66	16,284,000		2,221,000	8,331,000	2,649,000	3,083,000	0	0	0	0	0	0	0
Jul-66	20,117,000		5,478,000	7,338,000	2,421,000	4,880,000	0	0	0	0	0	0	0
Aug-66	22,197,000		6,734,000	6,327,000	801,000	8,335,000	0	0	0	0	0	0	0
Sep-66	19,014,000		3,256,000	5,130,000	1,843,000	8,785,000	0	0	0	0	0	0	0
Oct-66	17,402,000		1,737,000	6,228,000	1,794,000	7,643,000	0	0	0	0	0	0	0
Nov-66	16,127,000		3,156,000	5,962,000	2,251,000	4,758,000	0	0	0	0	0	0	0
Dec-66	15,605,000	199,406,000	2,482,000	6,879,000	40,000	6,204,000	0	0	0	0	0	0	0
Jan-67	15,381,000		1,596,000	6,345,000	0	7,440,000	0	0	0	0	0	0	0
Feb-67	15,172,000		2,008,000	3,190,000	2,259,000	7,715,000	0	0	0	0	0	0	0
Mar-67	13,827,000		3,907,000	0	3,049,000	6,871,000	0	0	0	0	0	0	0
Apr-67	16,013,000		4,832,000	286,000	3,258,000	7,637,000	0	0	0	0	0	0	0
May-67	15,825,000		2,610,000	4,304,000	3,121,000	5,790,000	0	0	0	0	0	0	0
Jun-67	17,865,000		3,144,000	5,421,000	3,838,000	5,462,000	0	0	0	0	0	0	0
Jul-67	20,006,000		3,843,000	5,158,000	3,474,000	7,531,000	0	0	0	0	0	0	0
Aug-67	19,480,000		3,448,000	5,481,000	3,429,000	7,122,000	0	0	0	0	0	0	0
Sep-67	21,484,000		3,935,000	5,546,000	3,669,000	8,334,000	0	0	0	0	0	0	0
Oct-67	18,209,000		2,197,000	4,601,000	3,308,000	8,103,000	0	0	0	0	0	0	0
Nov-67	16,842,000		2,429,000	4,614,000	3,238,000	6,561,000	0	0	0	0	0	0	0
Dec-67	16,767,000	206,871,000	3,448,000	4,625,000	3,035,000	5,659,000	0	0	0	0	0	0	0
Jan-68	16,467,000		4,191,000	5,102,000	2,472,000	4,702,000	0	0	0	0	0	0	0
Feb-68	17,479,000		5,599,000	4,707,000	3,912,000	3,261,000	0	0	0	0	0	0	0
Mar-68	16,471,000		4,503,000	3,694,000	3,951,000	4,323,000	0	0	0	0	0	0	0
Apr-68	17,693,000		3,397,000	4,382,000	4,025,000	5,889,000	0	0	0	0	0	0	0
May-68	16,846,000		3,190,000	4,431,000	3,970,000	5,255,000	0	0	0	0	0	0	0
Jun-68	18,808,000		5,085,000	5,277,000	4,193,000	4,253,000	0	0	0	0	0	0	0
Jul-68	20,670,000		6,760,000	3,155,000	3,750,000	7,005,000	0	0	0	0	0	0	0
Aug-68	23,449,000		6,515,000	5,367,000	3,639,000	7,928,000	0	0	0	0	0	0	0
Sep-68	21,698,000		9,517,000	3,862,000	3,896,000	4,423,000	0	0	0	0	0	0	0
Oct-68	18,739,000		2,926,000	4,268,000	3,121,000	8,424,000	0	0	0	0	0	0	0
Nov-68	19,320,000		2,367,000	6,287,000	3,254,000	7,412,000	0	0	0	0	0	0	0
Dec-68	16,527,000	224,167,000	5,257,000	4,494,000	4,105,000	2,671,000	0	0	0	0	0	0	0
Jan-69	18,444,000		9,180,000	4,999,000	4,265,000	0	0	0	0	0	0	0	0
Feb-69	19,101,000		5,017,000	5,949,000	3,968,000	4,167,000	0	0	0	0	0	0	0
Mar-69	16,430,000		1,435,000	4,712,000	3,208,000	7,075,000	0	0	0	0	0	0	0
Apr-69	18,223,000		4,661,000	4,776,000	3,855,000	4,931,000	0	0	0	0	0	0	0
May-69	18,062,000		4,564,000	5,009,000	3,700,000	4,789,000	0	0	0	0	0	0	0
Jun-69	20,723,000		5,492,000	5,973,000	3,837,000	5,421,000	0	0	0	0	0	0	0
Jul-69	22,034,000		6,514,000	5,213,000	3,569,000	6,738,000	0	0	0	0	0	0	0
Aug-69	23,990,000		9,449,000	3,199,000	3,527,000	7,815,000	0	0	0	0	0	0	0
Sep-69	24,008,000		8,867,000	4,276,000	3,727,000	7,138,000	0	0	0	0	0	0	0
Oct-69	19,705,000		7,703,000	1,309,000	3,536,000	7,157,000	0	0	0	0	0	0	0
Nov-69	19,861,000		8,506,000	3,932,000	4,043,000	3,380,000	0	0	0	0	0	0	0
Dec-69	17,564,000	238,145,000	8,794,000	4,518,000	4,252,000	0	0	0	0	0	0	0	0
Jan-70	18,194,000		9,727,000	4,141,000	4,326,000	0	0	0	0	0	0	0	0
Feb-70	20,002,000		9,725,000	3,119,000	1,649,000	5,509,000	0	0	0	0	0	0	0
Mar-70	17,897,000		8,911,000	345,000	0	8,641,000	0	0	0	0	0	0	0
Apr-70	18,811,000		7,053,000	2,827,000	0	8,931,000	0	0	0	0	0	0	0
May-70	19,642,000		8,121,000	3,245,000	0	8,276,000	0	0	0	0	0	0	0
Jun-70	19,580,000		8,041,000	3,576,000	0	7,963,000	0	0	0	0	0	0	0
Jul-70	23,000,000		11,666,000	6,719,000	0	4,615,000	0	0	0	0	0	0	0
Aug-70	28,149,000		13,804,000	6,994,000	0	7,351,000	0	0	0	0	0	0	0

Table 1 Pumping Records for COS Municpal Wells
(compiled by USGS and HGL)

Month-Year	Monthly Total	Yearly Total	COS02	COS03	COS04	COS05	COS06	COS07	COS08	COS09	COS10	COS11	COS12
Sep-70	27,543,000		14,584,000	6,109,000	0	6,850,000	0	0	0	0	0	0	0
Oct-70	24,470,000		13,942,000	4,859,000	0	5,669,000	0	0	0	0	0	0	0
Nov-70	23,434,000		13,901,000	4,040,000	0	5,493,000	0	0	0	0	0	0	0
Dec-70	19,887,000	260,609,000	11,830,000	3,943,000	0	4,114,000	0	0	0	0	0	0	0
Jan-71	20,614,000		13,821,000	4,073,000	0	2,720,000	0	0	0	0	0	0	0
Feb-71	21,428,000		13,925,000	4,810,000	0	2,693,000	0	0	0	0	0	0	0
Mar-71	19,774,000		12,473,000	3,377,000	0	3,924,000	0	0	0	0	0	0	0
Apr-71	20,787,000		13,813,000	1,689,000	0	5,285,000	0	0	0	0	0	0	0
May-71	20,024,000		13,143,000	2,427,000	0	4,454,000	0	0	0	0	0	0	0
Jun-71	21,041,000		13,199,000	2,531,000	0	4,930,000	381,000	0	0	0	0	0	0
Jul-71	24,220,000		12,827,000	2,402,000	0	8,527,000	464,000	0	0	0	0	0	0
Aug-71	22,537,000		13,017,000	1,926,000	0	7,594,000	0	0	0	0	0	0	0
Sep-71	27,429,000		13,142,000	4,425,000	0	9,862,000	0	0	0	0	0	0	0
Oct-71	21,802,000		12,299,000	1,133,000	0	8,370,000	0	0	0	0	0	0	0
Nov-71	20,874,000		12,538,000	894,000	0	7,442,000	0	0	0	0	0	0	0
Dec-71	19,561,000	260,091,000	11,891,000	2,218,000	0	5,452,000	0	0	0	0	0	0	0
Jan-72	18,782,000		12,847,000	5,935,000	0	0	0	0	0	0	0	0	0
Feb-72	24,874,000		16,071,000	6,418,000	0	0	2,385,000	0	0	0	0	0	0
Mar-72	20,483,000		15,367,000	3,521,000	0	0	1,595,000	0	0	0	0	0	0
Apr-72	22,065,000		16,691,000	5,374,000	0	0	0	0	0	0	0	0	0
May-72	20,619,000		15,492,000	5,127,000	0	0	0	0	0	0	0	0	0
Jun-72	24,632,000		15,289,000	5,706,000	0	3,436,000	201,000	0	0	0	0	0	0
Jul-72	29,257,000		12,761,000	5,394,000	0	10,331,000	771,000	0	0	0	0	0	0
Aug-72	29,525,000		13,083,000	4,763,000	0	10,903,000	776,000	0	0	0	0	0	0
Sep-72	27,188,000		13,103,000	3,194,000	0	10,891,000	0	0	0	0	0	0	0
Oct-72	22,093,000		8,676,000	3,094,000	0	10,323,000	0	0	0	0	0	0	0
Nov-72	21,777,000		9,072,000	2,215,000	0	10,490,000	0	0	0	0	0	0	0
Dec-72	19,995,000	281,290,000	8,499,000	1,483,000	0	10,013,000	0	0	0	0	0	0	0
Jan-73	20,352,000		7,542,000	2,900,000	0	9,910,000	0	0	0	0	0	0	0
Feb-73	22,555,000		8,976,000	3,094,000	0	10,485,000	0	0	0	0	0	0	0
Mar-73	19,761,000		9,339,000	1,123,000	0	9,299,000	0	0	0	0	0	0	0
Apr-73	21,152,000		9,660,000	1,245,000	0	10,247,000	0	0	0	0	0	0	0
May-73	20,893,000		8,981,000	1,946,000	0	9,966,000	0	0	0	0	0	0	0
Jun-73	23,384,000		10,701,000	2,378,000	0	10,305,000	0	0	0	0	0	0	0
Jul-73	24,609,000		9,613,000	5,198,000	0	9,798,000	0	0	0	0	0	0	0
Aug-73	25,841,000		9,239,000	6,232,000	0	10,370,000	0	0	0	0	0	0	0
Sep-73	28,299,000		12,761,000	5,393,000	0	10,145,000	0	0	0	0	0	0	0
Oct-73	21,863,000		10,208,000	1,963,000	0	9,692,000	0	0	0	0	0	0	0
Nov-73	22,139,000		10,954,000	1,280,000	0	9,905,000	0	0	0	0	0	0	0
Dec-73	19,732,000	270,580,000	9,226,000	1,044,000	0	9,462,000	0	0	0	0	0	0	0
Jan-74	18,162,000		6,499,000	1,892,000	0	9,771,000	0	0	0	0	0	0	0
Feb-74	20,657,000		9,917,000	986,000	0	9,754,000	0	0	0	0	0	0	0
Mar-74	17,156,000		7,653,000	670,000	0	8,833,000	0	0	0	0	0	0	0
Apr-74	18,220,000		7,224,000	1,210,000	0	9,786,000	0	0	0	0	0	0	0
May-74	18,766,000		7,918,000	1,380,000	0	9,468,000	0	0	0	0	0	0	0
Jun-74	20,464,000		8,128,000	2,611,000	0	9,725,000	0	0	0	0	0	0	0
Jul-74	21,694,000		10,089,000	2,240,000	0	9,365,000	0	0	0	0	0	0	0
Aug-74	28,924,000		13,629,000	5,602,000	0	9,693,000	0	0	0	0	0	0	0
Sep-74	24,614,000		11,080,000	4,038,000	0	9,496,000	0	0	0	0	0	0	0
Oct-74	21,405,000		10,798,000	1,430,000	0	9,177,000	0	0	0	0	0	0	0
Nov-74	21,645,000		10,755,000	1,429,000	0	9,461,000	0	0	0	0	0	0	0
Dec-74	18,667,000	250,374,000	9,232,000	466,000	0	8,969,000	0	0	0	0	0	0	0
Jan-75	18,179,000		7,269,000	1,553,000	0	9,357,000	0	0	0	0	0	0	0
Feb-75	19,215,000		8,851,000	1,116,000	0	9,248,000	0	0	0	0	0	0	0
Mar-75	17,045,000		7,705,000	998,000	0	8,342,000	0	0	0	0	0	0	0
Apr-75	18,984,000		8,419,000	1,267,000	0	9,298,000	0	0	0	0	0	0	0
May-75	19,653,000		8,750,000	2,042,000	0	8,861,000	0	0	0	0	0	0	0
Jun-75	20,677,000		11,186,000	3,776,000	0	0	0	5,715,000	0	0	0	0	0
Jul-75	25,228,000		11,532,000	5,661,000	0	0	0	8,035,000	0	0	0	0	0
Aug-75	25,228,000		12,458,000	3,969,000	0	0	0	8,801,000	0	0	0	0	0
Sep-75	25,358,000		12,327,000	4,691,000	0	0	0	8,340,000	0	0	0	0	0
Oct-75	22,614,000		7,951,000	4,452,000	0	620,000	0	9,591,000	0	0	0	0	0
Nov-75	22,340,000		689,000	2,612,000	0	11,096,000	0	7,943,000	0	0	0	0	0
Dec-75	23,295,000	257,816,000	3,637,000	1,146,000	0	10,967,000	0	7,545,000	0	0	0	0	0
Jan-76	21,172,000		2,000,000	1,519,000	0	10,695,000	0	6,958,000	0	0	0	0	0
Feb-76	15,354,000		7,496,000	3,553,000	0	2,504,000	0	1,801,000	0	0	0	0	0
Mar-76	19,409,000		14,570,000	2,944,000	0	0	0	1,895,000	0	0	0	0	0
Apr-76	21,892,000		17,005,000	2,633,000	0	0	0	2,254,000	0	0	0	0	0
May-76	21,812,000		18,461,000	3,018,000	0	0	0	333,000	0	0	0	0	0
Jun-76	22,587,000		19,987,000	2,600,000	0	0	0	0	0	0	0	0	0
Jul-76	26,873,000		19,124,000	4,434,000	0	194,000	0	3,121,000	0	0	0	0	0
Aug-76	28,510,000		20,189,000	4,057,000	0	1,395,000	0	2,869,000	0	0	0	0	0
Sep-76	28,175,000		20,415,000	2,034,000	0	0	0	5,726,000	0	0	0	0	0
Oct-76	25,582,000		19,715,000	3,245,000	0	0	0	2,622,000	0	0	0	0	0
Nov-76	22,307,000		20,316,000	1,991,000	0	0	0	0	0	0	0	0	0
Dec-76	20,309,000	273,982,000	18,995,000	1,314,000	0	0	0	0	0	0	0	0	0
Jan-77	19,247,000		12,677,000	3,300,000	0	0	0	3,270,000	0	0	0	0	0
Feb-77	23,514,000		17,158,000	5,665,000	0	0	0	691,000	0	0	0	0	0
Mar-77	20,547,000		16,226,000	4,321,000	0	0	0	0	0	0	0	0	0
Apr-77	23,222,000		13,303,000	3,559,000	0	3,522,000	0	2,838,000	0	0	0	0	0
May-77	22,623,000		0	3,439,000	0	11,458,000	0	7,726,000	0	0	0	0	0
Jun-77	24,795,000		4,780,000	4,875,000	0	7,379,000	0	7,761,000	0	0	0	0	0
Jul-77	26,285,000		13,195,000	3,685,000	0	918,000	0	8,487,000	0	0	0	0	0
Aug-77	24,458,000		14,042,000	1,253,000	0	759,000	0	8,404,000	0	0	0	0	0
Sep-77	26,229,000		14,556,000	2,881,000	0	0	0	8,792,000	0	0	0	0	0
Oct-77	22,681,000		13,795,000	317,000	0	0	0	8,569,000	0	0	0	0	0
Nov-77	22,241,000		13,591,000	1,566,000	0	0	0	7,084,000	0	0	0	0	0
Dec-77	20,010,000	275,852,000	12,263,000	1,047,000	0	0	0	6,700,000	0	0	0	0	0
Jan-78	23,008,000		15,023,000	1,577,000	0	1,583,000	0	4,825,000	0	0	0	0	0
Feb-78	21,058,000		14,531,000	1,641,000	0	0	0	4,886,000	0	0	0	0	0
Mar-78	18,411,000		12,231,000	1,019,000	0	0	0	5,161,000	0	0	0	0	0
Apr-78	19,893,000		13,513,000	1,429,000	0	0	0	4,951,000	0	0	0	0	0
May-78	19,413,000		13,039,000	1,654,000	0	0	0	4,720,000	0	0	0	0	0
Jun-78	20,841,000		13,360,000	1,698,000	0	0	0	5,783,000	0	0	0	0	0
Jul-78	22,406,000		3,393,000	2,457,000	0	9,593,000	0	6,268,000	695,000	0	0	0	0
Aug-78	20,843,000		8,509,000	4,289,000	0	3,485,000	0	0	4,560,000	0	0	0	0
Sep-78	23,547,000		4,822,000	2,740,000	0	4,748,000	0	5,835,000	5,402,000	0	0	0	0
Oct-78	21,360,000		196,000	2,541,000	0	1,835,000	0	6,851,000	9,937,000	0	0	0	0
Nov-78	20,024,000		0	3,542,000	0	447,000	0	8,442,000	7,593,000	0	0	0	0
Dec-78	17,022,000	247,826,000	0	1,030,000	0	0	0	4,610,000	11,382,000	0	0	0	0
Jan-79	16,378,000		0	5,158,000	0	433,000	0	1,430,000	9,357,000	0	0	0	0
Feb-79	22,203,000		0	4,851,000	0	7,217,000	0	10,135,000	0	0	0	0	0
Mar-79	20,705,000		0	3,674,000	0	7,898,000	0	8,773,000	360,000	0	0	0	0
Apr-79	22,894,000		0	2,321,000	0	11,468,000	0	9,105,000	0	0	0	0	0
May-79	19,511,000		304,000	1,102,000	0	10,009,000	0	8,096,000	0	0	0	0	0
Jun-79	22,434,000		12,688,000	2,085,000	0	3,393,000	0	4,268,000	0	0	0	0	0
Jul-79	24,817,000		12,443,000	3,195,000	0	825,000	0	8,354,000	0	0	0	0	0
Aug-79	24,506,000		13,062,000	3,338,000	0	0	0	8,106,000	0	0	0	0	0
Sep-79	23,591,000		14,115,000	1,767,000	0	0	0	7,709,000	0	0	0	0	0
Oct-79	24,219,000		11,989,000	4,179,000	1,285,000	0	0	6,766,000	0	0	0	0	0
Nov-79	21,683,000	259,963,000	2,354,000	1,607,000	0	9,409,000	0	8,313,000	0	0	0	0	0
Dec-79	18,543,000		0	95,000	0	10,833,000	0	7,615,000	0	0	0	0	0
Jan-80	17,874,000		9,550,000	1,765,000	1,321,000	4,232,000	0	1,006,000	0	0	0	0	0
Feb-80	17,252,000		10,868,000	2,308,000	3,881,000	195,000	0	0	0	0	0	0	0
Mar-80	17,041,000		9,666,000	3,657,000	3,718,000	0	0	0	0	0	0	0	0
Apr-80	22,241,000		9,348,000	6,505,000	3,959,000	2,429,000	0	0	0	0	0	0	0

Table 1 Pumping Records for COS Municpal Wells
(compiled by USGS and HGL)

Month-Year	Monthly Total	Yearly Total	COS02	COS03	COS04	COS05	COS06	COS07	COS08	COS09	COS10	COS11	COS12
May-80	18,610,000		404,000	5,810,000	3,921,000	0	0	8,475,000	0	0	0	0	0
Jun-80	23,853,000		10,337,000	3,801,000	0	0	0	9,715,000	0	0	0	0	0
Jul-80	30,499,000		9,491,000	4,497,000	0	7,862,000	0	8,649,000	0	0	0	0	0
Aug-80	31,698,000		10,156,000	2,624,000	813,000	10,685,000	0	7,420,000	0	0	0	0	0
Sep-80	28,677,000		10,667,000	1,573,000	1,003,000	9,291,000	0	6,143,000	0	0	0	0	0
Oct-80	23,571,000		10,315,000	3,750,000	360,000	1,479,000	0	7,667,000	0	0	0	0	0
Nov-80	23,537,000		10,511,000	4,931,000	0	978,000	0	7,117,000	0	0	0	0	0
Dec-80	22,194,000	277,047,000	10,328,000	1,486,000	0	7,946,000	0	2,434,000	0	0	0	0	0
Jan-81	21,537,000		10,582,000	4,471,000	0	0	0	6,484,000	0	0	0	0	0
Feb-81	22,689,000		10,465,000	5,930,000	0	425,000	0	5,869,000	0	0	0	0	0
Mar-81	19,212,000		9,504,000	3,403,000	1,411,000	0	0	4,894,000	0	0	0	0	0
Apr-81	19,396,000		10,324,000	212,000	3,245,000	442,000	0	5,173,000	0	0	0	0	0
May-81	25,182,000		10,524,000	317,000	888,000	12,604,000	0	849,000	0	0	0	0	0
Jun-81	19,280,000		11,051,000	454,000	0	7,775,000	0	0	0	0	0	0	0
Jul-81	25,638,000		10,820,000	4,228,000	0	10,590,000	0	0	0	0	0	0	0
Aug-81	25,956,000		11,161,000	3,193,000	1,343,000	10,138,000	0	121,000	0	0	0	0	0
Sep-81	24,969,000		11,077,000	611,000	3,603,000	9,678,000	0	0	0	0	0	0	0
Oct-81	22,342,000		10,688,000	1,107,000	2,978,000	7,569,000	0	0	0	0	0	0	0
Nov-81	22,160,000		11,070,000	1,729,000	467,000	8,894,000	0	0	0	0	0	0	0
Dec-81	21,934,000	270,295,000	10,818,000	1,620,000	0	9,496,000	0	0	0	0	0	0	0
Jan-82	19,206,000		11,127,000	2,120,000	228,000	912,000	0	4,819,000	0	0	0	0	0
Feb-82	19,913,000		11,012,000	2,189,000	3,811,000	0	0	2,901,000	0	0	0	0	0
Mar-82	18,471,000		10,009,000	5,022,000	3,199,000	0	0	241,000	0	0	0	0	0
Apr-82	21,300,000		11,061,000	641,000	3,291,000	4,000	0	6,303,000	0	0	0	0	0
May-82	18,951,000		6,635,000	393,000	3,038,000	1,931,000	497,000	6,457,000	0	0	0	0	0
Jun-82	25,294,000		10,453,000	1,541,000	3,133,000	373,000	4,983,000	4,811,000	0	0	0	0	0
Jul-82	25,443,000		10,343,000	1,862,000	2,035,000	2,315,000	3,032,000	5,856,000	0	0	0	0	0
Aug-82	20,875,000		1,155,000	2,753,000	2,953,000	371,000	6,568,000	7,075,000	0	0	0	0	0
Sep-82	26,294,000		3,207,000	2,641,000	4,208,000	4,312,000	5,705,000	6,221,000	0	0	0	0	0
Oct-82	22,182,000		2,661,000	345,000	3,064,000	4,220,000	5,485,000	6,407,000	0	0	0	0	0
Nov-82	22,391,000		2,770,000	943,000	4,089,000	812,000	6,448,000	5,868,000	1,461,000	0	0	0	0
Dec-82	20,298,000	260,618,000	1,000,000	1,742,000	3,610,000	1,966,000	5,811,000	6,169,000	0	0	0	0	0
Jan-83	21,340,000		430,000	1,091,000	2,580,000	518,000	6,231,000	6,123,000	4,367,000	0	0	0	0
Feb-83	21,159,000		484,000	1,614,000	2,819,000	147,000	5,282,000	3,759,000	7,054,000	0	0	0	0
Mar-83	20,296,000		237,000	1,079,000	1,699,000	80,000	5,545,000	3,698,000	7,958,000	0	0	0	0
Apr-83	22,603,000		370,000	1,322,000	3,072,000	244,000	6,060,000	4,298,000	7,237,000	0	0	0	0
May-83	20,970,000		226,000	1,265,000	3,066,000	99,000	2,459,000	5,973,000	7,882,000	0	0	0	0
Jun-83	23,403,000		3,442,000	2,398,000	3,050,000	3,847,000	3,286,000	4,464,000	2,916,000	0	0	0	0
Jul-83	26,583,000		2,318,000	3,564,000	3,601,000	668,000	5,919,000	5,459,000	5,054,000	0	0	0	0
Aug-83	32,478,000		5,021,000	4,649,000	2,265,000	2,186,000	5,968,000	4,939,000	7,450,000	0	0	0	0
Sep-83	33,335,000		7,185,000	1,964,000	3,194,000	1,894,000	5,660,000	5,789,000	7,649,000	0	0	0	0
Oct-83	26,243,000		3,295,000	1,625,000	2,258,000	1,871,000	5,358,000	4,633,000	7,203,000	0	0	0	0
Nov-83	24,169,000		2,013,000	1,259,000	2,484,000	799,000	5,173,000	4,698,000	7,743,000	0	0	0	0
Dec-83	23,319,000	295,898,000	3,130,000	1,797,000	2,041,000	1,433,000	5,130,000	3,576,000	6,212,000	0	0	0	0
Jan-84	22,555,265		1,428,000	1,665,000	1,290,000	0	5,247,000	3,704,000	9,215,000	6,265	0	0	0
Feb-84	31,718,000		82,000	1,333,000	2,250,000	1,679,000	5,351,000	5,880,000	8,725,000	6,418,000	0	0	0
Mar-84	20,754,000		477,000	569,000	2,654,000	445,000	2,000,000	4,374,000	8,487,000	1,748,000	0	0	0
Apr-84	21,395,000		166,000	1,412,000	3,065,000	1,755,000	2,168,000	400,000	4,080,000	8,349,000	0	0	0
May-84	27,380,000		681,000	1,297,000	7,812,000	984,000	5,240,000	3,388,000	5,442,000	2,536,000	0	0	0
Jun-84	21,139,000		0	717,000	2,142,000	0	4,857,000	4,345,000	9,078,000	0	0	0	0
Jul-84	21,709,000		211,000	1,533,000	3,798,000	1,846,000	4,086,000	1,892,000	353,000	7,990,000	0	0	0
Aug-84	24,151,000		46,000	2,055,000	4,622,000	0	2,230,000	4,024,000	81,000	11,093,000	0	0	0
Sep-84	28,486,000		873,000	3,003,000	3,031,000	199,000	5,367,000	3,446,000	8,994,000	3,573,000	0	0	0
Oct-84	20,089,000		921,000	924,000	2,523,000	0	3,156,000	2,754,000	8,583,000	1,228,000	0	0	0
Nov-84	20,044,000		1,119,000	3,630,000	1,047,000	0	0	2,745,000	1,993,000	9,510,000	0	0	0
Dec-84	19,097,000	278,517,265	513,000	3,972,000	0	3,026,000	0	1,784,000	0	9,802,000	0	0	0
Jan-85	19,096,000		4,644,000	2,712,000	0	2,534,000	0	3,477,000	0	5,729,000	0	0	0
Feb-85	21,239,000		0	2,479,000	0	1,626,000	0	4,244,000	840,000	12,050,000	0	0	0
Mar-85	18,606,000		2,650,000	2,888,000	0	2,942,000	0	2,868,000	7,258,000	0	0	0	0
Apr-85	19,670,000		372,000	1,489,000	3,238,000	0	0	2,678,000	3,927,000	7,966,000	0	0	0
May-85	20,624,000		2,197,000	2,130,000	2,725,000	1,996,000	0	5,031,000	6,432,000	113,000	0	0	0
Jun-85	20,349,000		119,000	2,551,000	3,769,000	0	0	5,181,000	6,909,000	1,820,000	0	0	0
Jul-85	20,480,000		1,305,000	1,226,000	3,624,000	1,313,000	0	949,000	0	12,063,000	0	0	0
Aug-85	27,185,000		2,954,000	2,900,000	3,023,000	1,743,000	0	2,253,000	5,455,000	8,857,000	0	0	0
Sep-85	23,035,000		1,880,000	2,165,000	563,000	7,999,000	0	1,793,000	3,298,000	5,337,000	0	0	0
Oct-85	20,759,000		4,235,000	2,014,000	4,002,000	528,000	0	4,417,000	4,516,000	1,047,000	0	0	0
Nov-85	20,539,000		3,140,000	1,110,000	2,056,000	4,235,000	0	2,688,000	4,125,000	3,185,000	0	0	0
Dec-85	17,234,000	248,816,000	3,062,000	2,129,000	3,326,000	0	0	2,219,000	3,680,000	2,818,000	0	0	0
Jan-86	19,682,000		3,870,000	1,511,000	2,560,000	3,094,000	0	3,201,000	2,394,000	3,052,000	0	0	0
Feb-86	20,279,000		624,000	1,557,000	2,699,000	3,841,000	0	2,347,000	1,602,000	7,609,000	0	0	0
Mar-86	16,824,000		764,000	1,478,000	2,121,000	4,333,000	0	601,000	1,604,000	5,923,000	0	0	0
Apr-86	20,259,000		573,000	2,233,000	3,141,000	3,530,000	0	2,117,000	5,366,000	3,299,000	0	0	0
May-86	21,607,000		746,000	1,713,000	3,737,000	3,468,000	0	4,290,000	6,273,000	1,380,000	0	0	0
Jun-86	22,253,000		4,457,000	1,453,000	3,027,000	968,000	0	447,000	3,944,000	7,957,000	0	0	0
Jul-86	24,777,000		1,812,000	1,113,000	2,507,000	1,714,000	0	5,755,000	4,980,000	6,896,000	0	0	0
Aug-86	34,057,000		3,530,000	1,680,000	2,620,000	0	0	6,095,000	7,916,000	12,216,000	0	0	0
Sep-86	23,461,000		6,535,000	2,108,000	3,445,000	1,972,000	0	2,711,000	903,000	5,787,000	0	0	0
Oct-86	17,502,000		3,000,000	1,544,000	3,308,000	1,416,000	0	3,768,000	0	4,466,000	0	0	0
Nov-86	20,838,000		4,838,000	1,484,000	3,716,000	0	0	2,790,000	0	8,010,000	0	0	0
Dec-86	18,725,000	260,264,000	5,346,000	471,000	3,027,000	6,033,000	0	2,844,000	0	1,004,000	0	0	0
Jan-87	19,007,000		0	1,318,000	3,635,000	6,205,000	0	165,000	0	7,684,000	0	0	0
Feb-87	19,184,000		5,377,000	485,000	2,797,000	0	0	2,941,000	0	7,584,000	0	0	0
Mar-87	17,437,000		2,278,000	778,000	2,614,000	6,090,000	0	2,075,000	0	3,602,000	0	0	0
Apr-87	19,920,000		3,138,000	1,279,000	3,784,000	3,852,000	0	1,523,000	50,000	6,294,000	0	0	0
May-87	20,699,000		5,384,000	689,000	3,016,000	3,822,000	0	4,689,000	0	3,099,000	0	0	0
Jun-87	25,869,000		3,279,000	1,701,000	3,241,000	4,053,000	0	6,121,000	0	7,474,000	0	0	0
Jul-87	27,175,000		8,003,000	1,905,000	2,660,000	9,556,000	0	1,369,000	0	3,682,000	0	0	0
Aug-87	27,847,000		5,826,000	2,888,000	3,384,000	2,586,000	0	4,885,000	0	8,278,000	0	0	0
Sep-87	32,628,000		5,280,000	3,325,000	3,598,000	6,144,000	0	1,983,000	0	12,298,000	0	0	0
Oct-87	24,285,000		4,517,000	2,349,000	2,745,000	120,000	0	5,810,000	0	8,744,000	0	0	0
Nov-87	21,913,000		5,453,000	903,000	3,039,000	0	0	5,114,000	0	7,404,000	0	0	0
Dec-87	23,210,000	279,174,000	5,543,000	1,305,000	2,386,000	2,915,000	0	4,831,000	0	6,230,000	0	0	0
Jan-88	19,278,000		352,000	457,000	2,485,000	6,779,000	0	3,431,000	0	5,774,000	0	0	0
Feb-88	18,957,000		5,321,000	298,000	1,256,000	4,206,000	0	4,807,000	0	3,069,000	0	0	0
Mar-88	17,675,000		2,970,000	472,000	1,532,000	5,938,000	0	3,559,000	0	3,204,000	0	0	0
Apr-88	19,216,000		2,317,000	101,000	1,198,000	4,576,000	0	4,758,000	0	6,266,000	0	0	0
May-88	21,103,000		6,413,000	0	2,556,000	1,324,000	0	5,072,000	0	5,738,000	0	0	0
Jun-88	25,626,000		5,545,000	0	1,689,000	9,079,000	0	5,259,000	0	4,054,000	0	0	0
Jul-88	30,448,000		4,090,000	1,953,000	1,835,000	4,355,000	0	3,707,000	2,706,000	11,802,000	0	0	0
Aug-88	26,542,000		3,742,000	5,525,000	1,573,000	2,436,000	0	4,505,000	8,176,000	585,000	0	0	0
Sep-88	29,123,000		1,858,000	321,000	2,309,000	4,551,000	0	4,807,000	6,193,000	9,084,000	0	0	0
Oct-88	21,554,000		346,000	3,306,000	2,116,000	7,096,000	0	4,435,000	3,427,000	828,000	0	0	0
Nov-88	19,613,000		4,382,000	547,000	1,413,000	0	0	2,422,000	5,106,000	5,743,000	0	0	0
Dec-88	18,014,000	267,149,000	131,000	227,000	891,000	5,251,000	0	4,297,000	334,000	6,883,000	0	0	0
Jan-89	19,068,000		1,406,000	2,801,000	149,000	5,958,000	0	2,925,000	3,616,000	2,213,000	0	0	0
Feb-89	18,729,000		691,000	3,142,000	829,000	5,511,000	0	2,707,000	4,121,000	1,728,000	0	0	0
Mar-89	17,949,000		330,000	2,539,000	1,205,000	812,000	0	2,586,000	2,215,000	8,262,000	0	0	0
Apr-89	19,166,000		7,051,000	2,334,000	688,000	4,700,000	0	4,393,000	0	0	0	0	0
May-89	21,321,000		909,000	2,327,000	1,992,000	0	0	1,616,000	2,219,000	12,258,000	0	0	0
Jun-89	23,817,000		3,797,000	3,032,000	1,141,000	5,651,000	0	2,946,000	4,515,000	2,735,000	0	0	0
Jul-89	24,891,000		9,398,000	4,574,000	305,000	1,162,000	0	2,992,000	1,569,000	4,891,000	0	0	0
Aug-89	27,704,000		2,484,000	4,467,000	2,590,000	3,957,000	0	4,076,000	3,659,000	6,471,000	0	0	0
Sep-89	26,128,000		6,380,000	4,461,000	1,786,000	1,471,000	0	2,752,000	6,574,000	2,704,000	0	0	0
Oct-89	23,285,000		918,000	4,806,000	1,957,000	140,000	0	2,704,000	1,563,000	11,197,000	0	0	0
Nov-89	22,881,000		2,688,000	1,440,000	978,000	8,628,000	0	567,000	7,694,000	886,000	0	0	0
Dec-89	20,063,000	265,002,000	2,800,000	2,676,000	192,000	4,079,000	0	4,381,000	661,000	5,274,000	0	0	0

Table 1 Pumping Records for COS Municpal Wells
(compiled by USGS and HGL)

Month-Year	Monthly Total	Yearly Total	COS02	COS03	COS04	COS05	COS06	COS07	COS08	COS09	COS10	COS11	COS12
Jan-90	21,933,000		0	2,458,000	1,305,000	3,911,000	0	1,780,000	3,464,000	9,015,000	0	0	0
Feb-90	19,567,000		0	1,448,000	2,238,000	3,871,000	0	2,957,000	0	9,053,000	0	0	0
Mar-90	16,881,000		0	1,684,000	1,576,000	1,612,000	0	3,380,000	4,766,000	3,863,000	0	0	0
Apr-90	19,338,000		0	1,826,000	2,217,000	5,419,000	0	2,519,000	0	7,357,000	0	0	0
May-90	19,407,000		0	2,568,000	2,187,000	2,665,000	0	2,552,000	2,812,000	6,623,000	0	0	0
Jun-90	20,925,000		0	2,925,000	2,510,000	3,663,000	0	3,556,000	3,490,000	4,781,000	0	0	0
Jul-90	22,216,000		0	3,347,000	3,347,000	2,324,000	0	2,529,000	6,233,000	4,436,000	0	0	0
Aug-90	26,286,000		0	3,493,000	648,000	11,492,000	0	776,000	6,787,000	3,090,000	0	0	0
Sep-90	25,036,000		0	3,693,000	700,000	4,859,000	0	3,078,000	5,262,000	7,444,000	0	0	0
Oct-90	24,197,000		0	2,761,000	1,053,000	9,885,000	0	2,571,000	6,604,000	1,323,000	0	0	0
Nov-90	21,669,000		0	2,846,000	3,136,000	931,000	0	877,000	1,358,000	12,521,000	0	0	0
Dec-90	19,539,000	256,994,000	0	2,877,000	898,000	4,579,000	0	224,000	3,710,000	7,251,000	0	0	0
Jan-91	19,225,000		0	1,827,000	2,168,000	3,131,000	0	2,311,000	0	9,788,000	0	0	0
Feb-91	20,404,000		0	2,882,000	2,195,000	5,319,000	0	2,638,000	0	7,370,000	0	0	0
Mar-91	18,303,000		0	972,000	1,655,000	2,024,000	0	4,430,000	3,534,000	5,688,000	0	0	0
Apr-91	19,799,000		0	0	580,000	8,040,000	0	5,595,000	1,324,000	4,260,000	0	0	0
May-91	19,786,000		0	350,000	1,917,000	3,478,000	0	4,689,000	411,000	8,941,000	0	0	0
Jun-91	22,316,000		0	2,456,000	1,903,000	6,057,000	0	1,957,000	3,536,000	6,407,000	0	0	0
Jul-91	27,932,000		0	2,280,000	1,984,000	5,994,000	0	2,241,000	6,719,000	8,714,000	0	0	0
Aug-91	31,866,000		0	4,839,000	2,230,000	7,622,000	0	3,949,000	9,112,000	4,114,000	0	0	0
Sep-91	29,636,000		0	5,307,000	1,818,000	5,034,000	0	3,067,000	7,276,000	7,134,000	0	0	0
Oct-91	25,049,000		0	4,025,000	2,268,000	6,910,000	0	5,172,000	2,564,000	4,110,000	0	0	0
Nov-91	24,642,000		0	2,208,000	2,741,000	4,589,000	0	2,042,000	5,506,000	7,556,000	0	0	0
Dec-91	24,169,000	283,127,000	0	3,898,000	1,006,000	4,607,000	0	2,028,000	5,476,000	7,154,000	0	0	0
Jan-92	24,122,000		0	2,354,000	720,000	6,081,000	0	1,281,000	7,733,000	5,953,000	0	0	0
Feb-92	22,255,000		0	4,632,000	211,000	4,666,000	0	5,201,000	21,000	7,524,000	0	0	0
Mar-92	20,583,000		0	3,544,000	0	3,684,000	0	4,442,000	1,051,000	7,862,000	0	0	0
Apr-92	21,947,000		0	1,857,000	1,316,000	8,772,000	0	3,193,000	3,931,000	2,878,000	0	0	0
May-92	22,719,000		0	3,180,000	413,000	6,128,000	0	2,122,000	5,411,000	5,465,000	0	0	0
Jun-92	24,935,000		0	3,449,000	2,589,000	3,282,000	0	3,590,000	2,874,000	9,151,000	0	0	0
Jul-92	27,976,000		0	2,538,000	3,088,000	6,550,000	0	2,754,000	6,324,000	6,722,000	0	0	0
Aug-92	29,108,000		0	2,350,000	2,827,000	83,000	0	2,694,000	8,315,000	12,839,000	0	0	0
Sep-92	29,003,000		0	3,828,000	3,321,000	0	0	4,255,000	6,627,000	10,972,000	0	0	0
Oct-92	24,113,000		0	2,441,000	4,071,000	324,000	0	4,800,000	394,000	12,083,000	0	0	0
Nov-92	23,699,000		0	2,025,000	3,282,000	7,237,000	0	3,666,000	4,343,000	3,146,000	0	0	0
Dec-92	21,155,000	291,615,000	0	367,000	3,394,000	0	0	3,977,000	1,308,000	12,109,000	0	0	0
Jan-93	20,951,000		0	1,040,000	3,109,000	1,083,000	0	4,629,000	1,953,000	9,137,000	0	0	0
Feb-93	21,990,000		0	1,641,000	2,108,000	6,469,000	0	4,318,000	3,387,000	4,067,000	0	0	0
Mar-93	20,679,000		0	1,762,000	1,897,000	6,755,000	0	2,984,000	2,307,000	4,974,000	0	0	0
Apr-93	21,933,000		0	1,782,000	2,089,000	7,801,000	0	4,447,000	0	5,814,000	0	0	0
May-93	21,246,000		0	1,565,000	2,702,000	3,615,000	0	3,499,000	0	9,865,000	0	0	0
Jun-93	25,532,000		0	1,635,000	2,413,000	4,541,000	0	4,125,000	0	12,818,000	0	0	0
Jul-93	24,812,000		0	224,000	2,874,000	8,320,000	0	3,707,000	0	9,687,000	0	0	0
Aug-93	26,854,000		0	4,607,000	3,934,000	8,104,000	0	3,422,000	0	6,787,000	0	0	0
Sep-93	28,082,000		0	3,575,000	2,158,000	8,467,000	0	813,000	7,543,000	5,526,000	0	0	0
Oct-93	24,287,000		0	4,509,000	3,316,000	82,000	0	3,049,000	5,042,000	8,289,000	0	0	0
Nov-93	24,007,000		0	3,927,000	4,060,000	0	0	3,849,000	5,029,000	7,142,000	0	0	0
Dec-93	22,308,000	282,681,000	0	2,616,000	4,031,000	0	0	3,491,000	0	12,170,000	0	0	0
Jan-94	22,616,000		0	3,150,000	3,047,000	0	0	2,496,000	8,123,000	5,800,000	0	0	0
Feb-94	23,795,000		0	3,470,000	2,079,000	5,080,000	0	0	7,655,000	5,511,000	0	0	0
Mar-94	19,236,000		0	2,954,000	1,175,000	0	0	1,345,000	6,888,000	6,874,000	0	0	0
Apr-94	24,451,000		0	8,184,000	0	0	0	8,209,000	8,058,000	0	0	0	0
May-94	22,333,000		0	5,881,000	0	0	0	4,067,000	6,747,000	5,638,000	0	0	0
Jun-94	27,293,000		0	3,331,000	0	5,916,000	0	2,909,000	7,484,000	7,653,000	0	0	0
Jul-94	28,220,000		0	4,348,000	0	13,321,000	0	1,579,000	3,114,000	5,858,000	0	0	0
Aug-94	29,380,000		0	5,730,000	0	13,358,000	0	6,901,000	9,000	3,382,000	0	0	0
Sep-94	31,135,000		0	3,906,000	0	6,143,000	0	5,691,000	7,785,000	7,610,000	0	0	0
Oct-94	26,641,000		0	3,679,000	0	5,555,000	0	2,517,000	7,793,000	7,097,000	0	0	0
Nov-94	25,060,000		0	3,770,000	0	9,691,000	0	26,000	8,123,000	3,450,000	0	0	0
Dec-94	22,733,000	302,893,000	0	2,574,000	0	0	0	683,000	7,805,000	11,671,000	0	0	0
Jan-95	22,819,000		0	2,132,000	0	11,562,000	0	268,000	7,210,000	1,647,000	0	0	0
Feb-95	22,463,000		0	2,146,000	0	8,793,000	0	483,000	7,471,000	3,570,000	0	0	0
Mar-95	20,751,000		0	4,132,000	0	1,015,000	0	3,593,000	7,008,000	5,003,000	0	0	0
Apr-95	23,329,000		0	2,707,000	340,000	4,655,000	0	0	7,688,000	7,939,000	0	0	0
May-95	24,457,000		6,790,000	1,408,000	4,688,000	3,999,000	0	0	7,161,000	411,000	0	0	0
Jun-95	25,297,000		3,161,000	555,000	4,042,000	5,659,000	0	463,000	7,462,000	3,955,000	0	0	0
Jul-95	28,468,000		0	3,945,000	4,885,000	6,529,000	0	3,431,000	7,262,000	2,416,000	0	0	0
Aug-95	31,977,000		0	5,489,000	5,015,000	4,580,000	0	4,438,000	7,426,000	5,029,000	0	0	0
Sep-95	33,900,000		245,000	4,377,000	3,568,000	333,000	0	7,648,000	7,377,000	10,352,000	0	0	0
Oct-95	30,921,000		48,000	4,535,000	4,529,000	123,000	0	7,266,000	7,066,000	7,354,000	0	0	0
Nov-95	30,294,000		0	3,602,000	4,658,000	2,507,000	0	7,243,000	5,896,000	6,388,000	0	0	0
Dec-95	24,707,000	319,383,000	0	3,750,000	4,448,000	1,097,000	0	6,100,000	4,185,000	5,127,000	0	0	0
Jan-96	25,423,000		0	4,709,000	4,519,000	2,084,000	0	5,130,000	4,831,000	4,150,000	0	0	0
Feb-96	25,476,000		183,000	2,247,000	4,970,000	240,000	0	5,353,000	0	12,483,000	0	0	0
Mar-96	24,842,000		0	2,541,000	3,191,000	0	0	1,377,000	6,402,000	11,331,000	0	0	0
Apr-96	24,906,000		0	4,695,000	4,326,000	0	0	7,099,000	8,385,000	401,000	0	0	0
May-96	25,950,000		376,000	3,750,000	3,955,000	0	0	4,325,000	7,990,000	5,554,000	0	0	0
Jun-96	30,257,000		4,121,000	0	4,146,000	0	0	6,887,000	8,149,000	6,954,000	0	0	0
Jul-96	36,490,000		3,645,000	2,995,000	3,935,000	2,824,000	0	6,064,000	7,824,000	9,203,000	0	0	0
Aug-96	39,381,000		70,000	4,885,000	4,027,000	13,617,000	0	2,945,000	8,011,000	5,826,000	0	0	0
Sep-96	37,102,000		2,994,000	0	3,936,000	13,222,000	0	2,007,000	6,954,000	7,989,000	0	0	0
Oct-96	29,944,000		21,000	0	3,817,000	12,207,000	0	745,000	7,710,000	5,444,000	0	0	0
Nov-96	27,174,000		0	0	3,927,000	12,077,000	0	0	7,933,000	3,237,000	0	0	0
Dec-96	23,943,000	350,888,000	482,000	0	3,805,000	1,281,000	0	6,222,000	7,649,000	4,504,000	0	0	0
Jan-97	24,403,000		0	0	3,961,000	0	0	7,120,000	7,890,000	5,432,000	0	0	0
Feb-97	26,400,994		1,074,000	0	3,951,000	0	0	6,304,000	7,810,000	7,255,000	6,994	0	0
Mar-97	22,714,000		4,102,000	215,000	3,518,000	58,000	0	788,000	6,489,000	0	7,544,000	0	0
Apr-97	25,352,000		3,289,000	16,000	3,821,000	0	0	2,439,000	7,150,000	0	8,637,000	0	0
May-97	46,383,000		2,477,000	0	3,788,000	0	0	74,000	6,555,000	21,623,000	11,866,000	0	0
Jun-97	53,089,000		6,493,000	0	3,506,000	0	0	1,926,000	6,394,000	22,098,000	12,672,000	0	0
Jul-97	37,518,000		3,520,000	83,000	3,713,000	0	0	678,000	6,153,000	11,560,000	11,811,000	0	0
Aug-97	37,737,000		5,071,000	144,000	3,930,000	316,000	0	2,570,000	6,789,000	6,746,000	12,171,000	0	0
Sep-97	31,802,000		3,175,000	0	3,215,000	430,000	0	4,279,000	6,305,000	3,926,000	10,472,000	0	0
Oct-97	34,136,000		4,407,000	0	3,909,000	2,380,000	0	1,527,000	6,102,000	5,827,000	9,984,000	0	0
Nov-97	31,197,000		1,787,000	0	4,042,000	1,175,000	0	318,000	6,789,000	4,814,000	12,272,000	0	0
Dec-97	25,382,000	396,113,994	2,577,000	0	3,884,000	2,715,000	0	0	6,494,000	46,000	9,666,000	0	0
Jan-98	25,146,000		819,000	0	4,140,000	13,315,000	0	2,445,000	4,427,000	0	0	0	0
Feb-98	24,773,000		2,965,000	0	4,169,000	4,742,000	0	5,198,000	0	7,699,000	0	0	0
Mar-98	22,550,000		2,789,000	0	3,545,000	124,000	0	6,693,000	0	9,399,000	0	0	0
Apr-98	26,409,000		2,318,000	0	3,987,000	3,832,000	0	2,116,000	0	6,054,000	8,102,000	0	0
May-98	25,728,000		740,000	0	3,450,000	0	0	0	0	9,130,000	12,408,000	0	0
Jun-98	31,999,000		1,320,000	0	2,173,000	5,967,000	0	2,620,000	0	9,995,000	9,924,000	0	0
Jul-98	33,377,000		2,388,000	0	4,562,000	7,871,000	0	5,558,000	0	9,586,000	3,412,000	0	0
Aug-98	34,641,195		3,462,000	0	5,727,000	7,076,000	0	4,271,000	0	9,864,000	4,241,000	195	0
Sep-98	37,226,000		5,427,000	0	5,740,000	2,765,000	0	4,015,000	0	9,042,000	9,746,000	491,000	0
Oct-98	37,657,000		1,164,000	0	5,661,000	4,815,000	0	5,832,000	0	9,281,000	9,137,000	1,767,000	0
Nov-98	30,403,000		4,093,000	0	5,788,000	5,512,000	0	4,555,000	0	1,586,000	4,881,000	3,988,000	0
Dec-98	22,548,000	352,457,195	1,260,000	0	160,000	86,000	0	0	0	0	9,740,000	11,302,000	0
Jan-99	29,253,000		6,452,000	274,000	5,559,000	223,000	0	612,000	0	2,348,000	7,273,000	6,512,000	0
Feb-99	24,492,000		6,755,000	0	4,950,000	309,000	0	3,661,000	0	0	3,793,000	5,024,000	0
Mar-99	28,936,000		4,664,000	231,000	5,403,000	4,635,000	0	2,636,000	0	9,601,000	0	1,766,000	0
Apr-99	28,805,000		6,518,000	45,000	5,165,000	2,758,000	0	185,000	0	2,038,000	7,971,000	4,125,000	0
May-99	32,392,000		7,847,000	0	3,204,000	807,000	0	3,708,000	0	3,640,000	6,046,000	5,818,000	0
Jun-99	41,022,000		8,844,000	114,000	5,491,000	423,000	0	7,323,000	0	5,607,000	3,738,000	9,482,000	0
Jul-99	41,392,000		3,401,000	3,560,000	5,651,000	5,847,000	0	7,150,000	0	789,000	9,121,000	5,873,000	0
Aug-99	41,018,000		0	6,393,000	5,513,000	9,832,000	0	4,279,000	0	4,610,000	4,917,000	5,352,000	0

Table 1 Pumping Records for COS Municpal Wells
(compiled by USGS and HGL)

Month-Year	Monthly Total	Yearly Total	COS02	COS03	COS04	COS05	COS06	COS07	COS08	COS09	COS10	COS11	COS12
Sep-99	38,035,000		0	4,433,000	4,625,000	9,609,000	0	3,529,000	0	4,194,000	5,480,000	6,165,000	0
Oct-99	31,363,000		0	480,000	5,220,000	8,679,000	0	0	0	8,320,000	1,430,000	7,234,000	0
Nov-99	29,192,000		0	814,000	4,993,000	8,172,000	0	0	0	2,978,000	6,454,000	5,781,000	0
Dec-99	29,028,000	394,928,000	0	1,059,000	5,112,000	7,518,000	0	3,773,000	0	114,000	9,824,000	1,628,000	0
Jan-00	28,223,000		0	535,000	5,020,000	9,478,000	0	495,000	0	10,734,000	0	1,961,000	0
Feb-00	29,857,000		0	2,688,000	1,895,000	6,233,000	0	2,449,000	0	1,509,000	4,295,000	10,788,000	0
Mar-00	30,319,000		0	507,000	4,528,000	9,409,000	0	3,717,000	0	1,978,000	10,180,000	0	0
Apr-00	31,705,000		0	792,000	4,834,000	5,937,000	0	7,222,000	0	9,721,000	962,000	2,237,000	0
May-00	36,750,000		0	364,000	5,850,000	8,663,000	0	6,858,000	0	10,875,000	0	4,140,000	0
Jun-00	35,351,000		0	2,760,000	5,314,000	8,247,000	0	6,056,000	0	2,075,000	8,091,000	2,808,000	0
Jul-00	37,154,000		0	5,179,000	5,231,000	8,889,000	0	6,021,000	0	4,249,000	6,744,000	841,000	0
Aug-00	37,621,000		0	4,525,000	5,337,000	8,340,000	0	5,698,000	0	3,637,000	7,454,000	2,630,000	0
Sep-00	35,637,000		0	4,148,000	5,015,000	7,716,000	1,864,000	5,296,000	0	3,198,000	7,060,000	1,340,000	0
Oct-00	31,557,000		0	517,000	5,099,000	5,529,000	8,843,000	1,622,000	0	57,000	9,837,000	53,000	0
Nov-00	28,148,000		0	166,000	3,833,000	6,753,000	4,316,000	3,451,000	0	32,000	9,311,000	286,000	0
Dec-00	29,176,000	391,498,000	0	79,000	5,068,000	7,824,000	0	6,436,000	0	0	9,411,000	358,000	0
Jan-01	32,456,000		0	350,000	5,050,000	7,697,000	0	5,906,000	0	10,384,000	2,943,000	126,000	0
Feb-01	28,282,000		0	444,000	4,656,000	5,426,000	0	4,823,000	0	12,218,000	3,000	715,000	0
Mar-01	30,298,000		0	1,958,000	5,127,000	8,312,000	0	3,822,000	0	2,382,000	2,729,000	968,000	0
Apr-01	30,101,000		0	3,582,000	4,940,000	6,966,000	0	5,210,000	0	1,090,000	8,034,000	279,000	0
May-01	36,509,000		0	6,006,000	5,015,000	6,507,000	0	4,879,000	0	416,000	9,224,000	4,462,000	0
Jun-01	33,887,000		0	878,000	4,781,000	246,000	8,079,000	957,000	0	0	9,194,000	9,752,000	0
Jul-01	40,302,000		0	580,000	4,802,000	2,984,000	10,150,000	1,206,000	0	322,000	7,373,000	12,885,000	0
Aug-01	42,775,000		5,863,000	147,000	4,302,000	2,168,000	10,331,000	0	0	5,225,000	4,548,000	10,191,000	0
Sep-01	35,120,000		10,318,000	2,000	0	124,000	9,817,000	0	0	9,775,000	0	5,084,000	0
Oct-01	33,730,000		11,980,000	249,000	1,493,000	454,000	10,190,000	1,664,000	0	4,833,000	0	2,867,000	0
Nov-01	28,972,000		11,588,000	382,000	630,000	1,695,000	1,485,000	0	0	341,000	7,690,000	5,161,000	0
Dec-01	31,942,000	404,374,000	11,856,000	196,000	0	587,000	5,765,000	5,940,000	0	369,000	1,066,000	6,163,000	0
Jan-02	32,475,000		11,790,000	129,000	3,428,000	39,000	10,021,000	2,901,000	0	2,000	4,000	4,161,000	0
Feb-02	29,145,000		10,247,000	45,000	5,199,000	129,000	3,608,000	0	0	7,000	5,622,000	4,288,000	0
Mar-02	32,801,000		6,205,000	71,000	3,977,000	110,000	6,262,000	989,000	0	5,000	8,182,000	7,000,000	0
Apr-02	30,222,000		11,477,000	548,000	0	4,103,000	9,705,000	0	0	0	0	4,389,000	0
May-02	33,699,000		9,387,000	83,000	1,902,000	865,000	2,270,000	671,000	0	8,053,000	0	10,468,000	0
Jun-02	38,166,000		9,103,000	308,000	5,601,000	1,814,000	0	1,651,000	0	3,341,000	6,594,000	9,754,000	0
Jul-02	44,144,000		11,281,000	598,000	5,464,000	2,329,000	0	974,000	0	0	9,848,000	13,650,000	0
Aug-02	41,667,000		10,726,000	1,152,000	4,657,000	4,539,000	0	1,551,000	0	3,000	6,576,000	12,463,000	0
Sep-02	38,207,000		11,182,000	788,000	3,858,000	4,582,000	0	2,000	0	12,000	15,000	17,768,000	0
Oct-02	36,475,000		9,381,000	1,984,000	0	6,458,000	0	2,323,000	0	270,000	0	16,059,000	0
Nov-02	31,628,000		10,346,000	910,000	0	2,965,000	0	13,000	0	49,000	3,000	17,342,000	0
Dec-02	34,866,000	423,495,000	11,429,000	1,511,000	0	5,233,000	0	5,226,000	0	8,547,000	0	2,920,000	0
Jan-03	34,816,000		11,375,000	2,328,000	3,344,000	5,262,000	0	2,420,000	0	2,625,000	7,462,000	0	0
Feb-03	30,017,000		10,222,000	2,399,000	0	7,342,000	0	1,079,000	0	0	8,975,000	0	0
Mar-03	33,406,000		11,152,000	1,377,000	4,890,000	7,472,000	0	7,260,000	0	7,000	1,248,000	0	0
Apr-03	33,267,000		10,885,000	806,000	5,181,000	6,193,000	0	2,173,000	0	600,000	7,429,000	0	0
May-03	33,901,000		9,983,000	1,085,000	5,274,000	6,074,000	0	1,214,000	0	10,271,000	0	0	0
Jun-03	36,118,000		11,198,000	1,933,000	4,906,000	6,187,000	0	1,903,000	0	7,706,000	2,285,000	0	0
Jul-03	43,071,000		11,449,000	3,139,000	4,135,000	6,350,000	0	4,289,000	3,661,000	0	10,048,000	0	0
Aug-03	44,720,000		11,328,000	2,649,000	3,836,000	6,913,000	0	2,758,000	7,526,000	8,366,000	1,344,000	0	0
Sep-03	34,070,000		10,045,000	1,943,000	4,071,000	5,517,000	9,000	1,532,000	7,056,000	3,892,000	5,000	0	0
Oct-03	32,439,000		11,428,000	2,342,000	4,087,000	6,890,000	0	0	7,342,000	350,000	0	0	0
Nov-03	30,828,000		10,980,000	2,058,000	1,561,000	2,392,000	6,000	6,577,000	7,244,000	6,000	4,000	0	0
Dec-03	30,400,000	417,053,000	11,304,000	131,000	0	2,758,000	0	7,604,000	8,240,000	244,000	119,000	0	0
Jan-04	28,868,000		10,000,000	3,386,000	0	6,686,000	7,000	1,713,000	7,071,000	2,000	3,000	0	0
Feb-04	29,439,000		8,448,000	2,947,000	1,663,000	7,134,000	0	0	6,998,000	2,249,000	0	0	0
Mar-04	29,789,000		10,436,000	328,000	4,803,000	6,010,000	17,000	1,427,000	5,971,000	787,000	10,000	0	0
Apr-04	30,412,000		3,916,000	2,279,000	3,853,000	6,177,000	0	5,009,000	7,457,000	1,721,000	0	0	0
May-04	31,853,000		12,532,000	1,518,000	4,296,000	6,136,000	0	0	7,371,000	0	0	0	0
Jun-04	34,239,000		11,860,000	3,018,000	4,242,000	6,796,000	7,000	1,057,000	6,967,000	6,000	286,000	0	0
Jul-04	40,572,000		12,324,000	1,619,000	3,824,000	5,671,000	119,000	4,426,000	3,330,000	155,000	9,088,000	16,000	0
Aug-04	36,143,000		12,449,000	2,069,000	4,912,000	6,469,000	3,000	8,000	0	3,000	10,230,000	0	0
Sep-04	36,801,000		12,127,000	2,297,000	4,601,000	6,169,000	5,000	8,198,000	0	3,399,000	5,000	0	0
Oct-04	31,729,000		12,478,000	1,297,000	4,146,000	4,918,000	0	7,830,000	0	1,060,000	0	0	0
Nov-04	27,185,000		12,109,000	734,000	4,595,000	5,575,000	11,000	4,132,000	0	11,000	18,000	0	0
Dec-04	29,671,000	386,701,000	12,532,000	3,111,000	4,495,000	6,714,000	0	2,819,000	0	0	0	0	0
Jan-05	32,156,000		12,437,000	2,152,000	4,722,000	7,136,000	0	4,780,000	0	925,000	4,000	0	0
Feb-05	27,801,000		11,350,000	1,653,000	4,081,000	5,491,000	0	1,337,000	0	418,000	3,471,000	0	0
Mar-05	30,360,000		12,565,000	1,663,000	4,822,000	6,707,000	0	4,100,000	0	494,000	9,000	0	0
Apr-05	29,813,000		8,887,000	2,334,000	4,189,000	6,694,000	0	4,554,000	0	3,155,000	0	0	0
May-05	31,846,000		12,463,000	2,398,000	4,633,000	6,983,000	0	5,337,000	0	21,000	11,000	0	0
Jun-05	40,294,000		12,170,000	3,151,000	1,125,000	6,423,000	0	5,870,000	0	1,907,000	9,648,000	0	0
Jul-05	39,793,000		12,535,000	2,401,000	4,187,000	7,297,000	0	2,605,000	0	1,642,000	9,126,000	0	0
Aug-05	33,320,000		12,229,000	2,056,000	162,000	6,219,000	0	2,106,000	0	7,000	10,541,000	0	0
Sep-05	30,207,000		11,939,000	1,515,000	0	5,840,000	0	2,452,000	0	17,000	8,444,000	0	0
Oct-05	28,335,000		9,768,000	2,115,000	0	6,209,000	0	6,615,000	0	2,328,000	1,300,000	0	0
Nov-05	25,570,000		11,377,000	1,181,000	0	5,951,000	0	6,571,000	0	455,000	35,000	0	0
Dec-05	27,921,000	377,416,000	12,561,000	2,908,000	0	5,937,000	0	6,515,000	0	0	0	0	0
Jan-06	27,957,000		12,249,000	1,310,000	0	6,794,000	0	3,298,000	0	107,000	4,199,000	0	0
Feb-06	25,991,000		5,658,000	1,922,000	0	6,153,000	0	3,195,000	0	103,000	8,960,000	0	0
Mar-06	28,925,000		8,590,000	2,097,000	0	7,104,000	0	4,627,000	0	11,000	6,496,000	0	0
Apr-06	28,622,000		11,911,000	2,938,000	0	6,985,000	0	5,372,000	0	0	1,416,000	0	0
May-06	29,508,000		12,503,000	1,795,000	0	6,675,000	0	5,513,000	0	108,000	2,914,000	0	0
Jun-06	34,697,000		12,046,000	3,723,000	0	7,084,000	0	1,802,000	0	584,000	9,458,000	0	0
Jul-06	37,871,000		12,360,000	3,739,000	0	7,199,000	0	5,101,000	0	1,109,000	8,363,000	0	0
Aug-06	38,506,000		12,363,000	3,094,000	0	7,171,000	0	5,719,000	0	1,102,000	9,057,000	0	0
Sep-06	28,659,000		11,811,000	4,609,000	0	6,686,000	0	24,000	0	44,000	5,485,000	0	0
Oct-06	27,414,000		10,127,000	8,776,000	0	7,037,000	0	208,000	0	0	1,266,000	0	0
Nov-06	26,288,000		0	8,442,000	0	7,044,000	0	1,746,000	0	1,320,000	1,136,000	0	0
Dec-06	31,096,000	365,534,000	7,267,000	4,694,000	0	7,791,000	0	4,342,000	0	2,306,000	4,696,000	0	0
Jan-07	30,095,000		12,289,000	3,053,000	0	7,155,000	0	3,980,000	0	5,000	3,613,000	0	0
Feb-07	28,551,000		10,970,000	3,601,000	0	6,435,000	0	4,559,000	0	2,986,000	0	0	0
Mar-07	30,167,000		12,569,000	1,921,000	0	6,624,000	0	2,910,000	0	6,112,000	24,000	0	0
Apr-07	25,811,000		12,088,000	1,321,000	0	5,689,000	0	6,271,000	0	442,000	0	0	0
May-07	33,498,000		12,064,000	5,496,000	0	7,280,000	0	256,000	0	798,000	7,403,000	0	0
Jun-07	31,730,000		11,742,000	3,479,000	0	6,891,000	0	9,000	0	9,600,000	9,000	0	0
Jul-07	34,520,000		12,023,000	4,143,000	0	7,497,000	0	1,010,000	0	9,600,000	247,000	0	0
Aug-07	40,309,000		11,487,000	7,021,000	0	6,192,000	0	6,245,000	0	5,817,000	3,647,000	0	0
Sep-07	32,758,000		11,424,000	4,226,000	0	6,379,000	0	2,713,000	0	5,760,000	2,256,000	0	0
Oct-07	29,645,000		12,021,000	4,124,000	0	6,882,000	0	218,000	0	2,183,000	4,217,000	0	0
Nov-07	26,231,000		11,524,000	376,000	0	4,623,000	0	10,000	0	9,694,000	6,000	0	0
Dec-07	27,936,000	371,251,000	11,983,000	1,166,000	0	4,978,000	0	19,000	0	9,920,000	15,000	0	0
Jan-08	28,405,000		12,088,000	772,000	0	5,768,000	0	0	0	9,777,000	0	0	0
Feb-08	25,951,000		10,680,000	1,099,000	0	4,940,000	0	1,373,000	0	6,060,000	1,799,000	0	0
Mar-08	25,353,000		4,818,000	6,538,000	0	3,841,000	0	6,977,000	0	63,000	3,116,000	0	0
Apr-08	26,183,000		11,214,000	4,920,000	0	3,328,000	0	6,616,000	0	59,000	18,000	0	0
May-08	30,064,000		11,560,000	5,648,000	0	3,479,000	0	3,623,000	0	37,000	5,717,000	0	0
Jun-08	31,934,000		11,268,000	5,632,000	0	3,302,000	0	3,709,000	0	49,000	7,974,000	0	0
Jul-08	32,528,000		12,383,000	2,709,000	0	2,990,000	5,286,000	3,971,000	0	0	5,189,000	0	0
Aug-08	31,148,000		12,192,000	1,195,000	0	1,209,000	10,163,000	6,356,000	0	33,000	0	0	0
Sep-08	28,662,000		11,921,000	762,000	0	1,883,000	9,537,000	4,529,000	0	30,000	0	0	0
Oct-08	28,173,000		12,257,000	2,922,000	0	3,114,000	9,880,000	0	0	0	0	0	0
Nov-08	25,750,000		11,954,000	2,466,000	0	2,379,000	8,864,000	23,000	0	24,000	40,000	0	0
Dec-08	24,553,000	338,704,000	12,330,000	98,000	0	2,698,000	9,118,000	0	0	0	309,000	0	0
Jan-09	23,378,000		12,355,000	225,000	0	3,389,000	3,507,000	3,223,000	0	28,000	0	0	0
Feb-09	23,628,000		11,201,000	377,000	0	3,515,000	0	665,000	0	20,000	7,850,000	0	0
Mar-09	25,385,000		12,120,000	267,000	0	3,175,000	0	841,000	0	0	8,982,000	0	0
Apr-09	25,475,000		12,007,000	423,000	0	3,293,000	0	0	0	0	9,752,000	0	0

Table 1 Pumping Records for COS Municpal Wells
(compiled by USGS and HGL)

Month-Year	Monthly Total	Yearly Total	COS02	COS03	COS04	COS05	COS06	COS07	COS08	COS09	COS10	COS11	COS12
May-09	25,019,000		12,405,000	960,000	0	3,838,000	0	4,083,000	0	0	3,733,000	0	0
Jun-09	27,687,000		11,987,000	950,000	0	4,147,000	0	2,248,000	0	7,543,000	812,000	0	0
Jul-09	30,720,000		10,899,000	1,277,000	0	6,675,000	0	1,885,000	0	2,507,000	7,477,000	0	0
Aug-09	33,918,000		12,214,000	78,000	0	4,979,000	0	6,928,000	0	0	9,719,000	0	0
Sep-09	30,310,000		12,014,000	70,000	0	4,301,000	0	4,696,000	0	0	9,229,000	0	0
Oct-09	26,943,000		12,292,000	47,000	0	4,818,000	1,592,000	0	0	0	8,194,000	0	0
Nov-09	23,032,000		11,959,000	138,000	0	1,622,000	9,313,000	0	0	0	0	0	0
Dec-09	23,808,000	319,303,000	12,378,000	453,000	0	1,628,000	9,349,000	0	0	0	0	0	0
Jan-10	29,609,000		12,315,000	6,160,000	0	182,000	5,274,000	33,000	0	38,000	5,607,000	0	0
Feb-10	25,318,000		11,098,000	5,671,000	0	0	8,549,000	0	0	0	0	0	0
Mar-10	25,625,000		12,060,000	4,198,000	0	0	9,365,000	0	0	0	0	0	0
Apr-10	25,461,000		11,953,000	4,383,000	0	305,000	8,820,000	0	0	0	0	0	0
May-10	27,274,000		12,480,000	3,023,000	0	436,000	2,569,000	14,000	0	16,000	8,727,000	0	0
Jun-10	27,525,000		12,002,000	3,778,000	0	2,076,000	6,964,000	12,000	0	14,000	2,679,000	0	0
Jul-10	31,691,000		12,055,000	2,201,000	0	1,259,000	9,148,000	0	0	0	7,028,000	0	0
Aug-10	31,795,000		11,385,000	1,104,000	0	610,000	8,985,000	11,000	0	9,000	9,691,000	0	0
Sep-10	23,033,000		10,708,000	2,019,000	0	1,207,000	8,461,000	0	0	0	638,000	0	0
Oct-10	24,231,000		11,114,000	2,186,000	0	2,197,000	8,690,000	34,000	0	11,000	0	0	0
Nov-10	23,901,000		11,047,000	3,712,000	0	1,234,000	7,908,000	0	0	0	0	0	0
Dec-10	25,663,000	321,126,000	11,795,000	15,000	0	5,443,000	8,410,000	0	0	0	0	0	0
Jan-11	23,200,000		12,143,000	23,000	0	3,381,000	7,580,000	25,000	0	48,000	0	0	0
Feb-11	22,010,000		10,952,000	226,000	0	3,483,000	3,738,000	3,520,000	0	91,000	0	0	0
Mar-11	0		0	0	0	0	0	0	0	0	0	0	0
Apr-11	0		0	0	0	0	0	0	0	0	0	0	0
May-11	24,584,000		12,249,000	23,000	0	4,875,000	7,437,000	0	0	0	0	0	0
Jun-11	30,475,000		11,498,000	0	0	3,701,000	7,477,000	0	0	0	7,799,000	0	0
Jul-11	31,368,000		11,929,000	211,000	0	1,840,000	7,764,000	14,000	0	36,000	9,574,000	0	0
Aug-11	30,896,000		11,472,000	70,000	0	1,523,000	7,608,000	10,000	0	11,000	10,202,000	0	0
Sep-11	29,456,000		11,343,000	0	0	1,295,000	7,218,000	0	0	0	9,600,000	0	0
Oct-11	28,664,000		11,716,000	18,000	0	5,247,000	7,372,000	1,083,000	0	11,000	3,217,000	0	0
Nov-11	23,898,000		11,309,000	2,082,000	0	4,572,000	5,935,000	0	0	0	0	0	0
Dec-11	35,195,000	279,746,000	11,738,000	0	0	14,219,000	7,574,000	0	0	1,664,000	0	0	0
Jan-12	23,352,000		11,708,000	18,000	0	4,122,000	7,491,000	13,000	0	0	0	0	0
Feb-12	25,566,000		10,986,000	0	0	6,299,000	3,664,000	0	0	0	4,617,000	0	0
Mar-12	34,549,000		11,853,000	198,000	0	11,678,000	0	763,000	0	0	10,057,000	0	0
Apr-12	31,789,000		11,853,000	16,000	0	4,580,000	5,461,000	2,176,000	0	19,000	7,684,000	0	0
May-12	35,171,000		11,690,000	372,000	0	7,537,000	7,914,000	7,658,000	0	0	0	0	0
Jun-12	36,615,000		11,165,000	2,017,000	0	1,698,000	7,343,000	7,262,000	0	7,130,000	0	0	0
Jul-12	35,078,000		11,532,000	1,082,000	0	4,543,000	7,250,000	1,178,000	0	9,493,000	0	0	0
Aug-12	33,632,000		11,361,000	235,000	0	12,797,000	7,398,000	0	0	1,841,000	0	0	0
Sep-12	25,111,000		11,032,000	0	0	6,773,000	7,306,000	0	0	0	0	0	0
Oct-12	24,976,000		11,228,000	190,000	0	6,053,000	7,450,000	30,000	0	25,000	0	0	0
Nov-12	22,849,000		11,279,000	3,013,000	0	1,446,000	6,102,000	1,009,000	0	0	0	0	0
Dec-12	22,153,000	350,841,000	11,632,000	450,000	0	2,337,000	6,690,000	1,044,000	0	0	0	0	0
Jan-13	24,331,000		11,683,000	11,000	0	5,243,000	7,385,000	9,000	0	0	0	0	0
Feb-13	22,573,000		10,581,000	0	0	5,173,000	6,208,000	0	0	611,000	0	0	0
Mar-13	21,478,000		11,570,000	594,000	0	5,785,000	3,529,000	0	0	0	0	0	0
Apr-13	25,837,000		9,211,000	374,000	0	8,689,000	7,563,000	0	0	0	0	0	0
May-13	25,507,000		12,454,000	15,000	0	5,914,000	2,573,000	4,551,000	0	0	0	0	0
Jun-13	29,306,000		16,064,000	0	0	5,314,000	6,434,000	1,494,000	0	0	0	0	0
Jul-13	24,433,000		10,844,000	343,000	0	5,632,000	2,867,000	4,747,000	0	0	0	0	0
Aug-13	29,025,000		11,254,000	689,000	0	9,451,000	0	7,631,000	0	0	0	0	0
Sep-13	29,626,000		8,532,000	2,080,000	0	11,902,000	0	7,112,000	0	0	0	0	0
Oct-13	24,332,000		9,498,000	1,495,000	0	6,482,000	4,931,000	1,926,000	0	0	0	0	0
Nov-13	20,752,000		12,072,000	219,000	0	1,035,000	7,426,000	0	0	0	0	0	0
Dec-13	22,669,000	299,869,000	5,958,000	681,000	0	8,467,000	7,552,000	11,000	0	0	0	0	0
Jan-14	25,086,000		11,613,000	29,000	0	5,912,000	6,778,000	754,000	0	0	0	0	0
Feb-14	20,797,000		10,810,000	0	0	3,321,000	6,666,000	0	0	0	0	0	0
Mar-14	22,545,000		12,164,000	0	0	3,198,000	7,183,000	0	0	0	0	0	0
Apr-14	22,069,000		11,344,000	26,000	0	3,768,000	6,931,000	0	0	0	0	0	0
May-14	24,578,000		12,419,000	825,000	0	4,225,000	6,741,000	368,000	0	0	0	0	0
Jun-14	24,691,000		11,948,000	877,000	0	3,990,000	6,887,000	989,000	0	0	0	0	0
Jul-14	28,777,000		11,800,000	1,022,000	0	8,939,000	7,016,000	0	0	0	0	0	0
Aug-14	28,422,000		12,558,000	19,000	0	8,130,000	5,205,000	2,510,000	0	0	0	0	0
Sep-14	25,742,000		12,084,000	41,000	0	6,808,000	6,809,000	0	0	0	0	0	0
Oct-14	22,211,000		12,236,000	381,000	0	5,005,000	4,589,000	0	0	0	0	0	0
Nov-14	22,449,000		11,956,000	0	0	3,839,000	6,654,000	0	0	0	0	0	0
Dec-14	23,200,000	290,567,000	12,050,000	89,000	0	4,296,000	6,765,000	0	0	0	0	0	0
Jan-15	27,384,000		12,095,000	317000	0	8,240,000	6,732,000	0	0	0	0	0	0
Feb-15	25,740,000		10,966,000	51,000	0	8,701,000	6,022,000	0	0	0	0	0	0
Mar-15	30,513,000		12,072,000	139,000	0	8,078,000	6,506,000	3,718,000	0	0	0	0	0
Apr-15	27,414,000		11,661,000	334,000	0	7,084,000	6,332,000	2,003,000	0	0	0	0	0
May-15	24,908,000		12,086,000	335,000	0	5,945,000	6,542,000	0	0	0	0	0	0
Jun-15	24,629,000		10,999,000	2,000	0	7,334,000	6,287,000	7,000	0	0	0	0	0
Jul-15	27,020,000		12,412,000	100,000	0	8,080,000	6,428,000	0	0	0	0	0	0
Aug-15	27,118,000		11,961,000	609,000	0	6,094,000	6,405,000	2,049,000	0	0	0	0	0
Sep-15	27,010,000		11,711,000	54,000	0	7,802,000	4,460,000	2,983,000	0	0	0	0	0
Oct-15	26,352,000		11,984,000	317,000	0	7,607,000	6,444,000	0	0	0	0	0	0
Nov-15	22,370,000		11,353,000	0	0	5,556,000	3,876,000	1,585,000	0	0	0	0	0
Dec-15	22,236,000	312,694,000	11,542,000	133,000	0	2,810,000	0	7,743,000	0	8,000	0	0	0
Jan-16	24,417,000		11,597,000	48,000	0	5,294,000	0	7,478,000	0	0	0	0	0
Feb-16	22,687,000		10,632,000	41,000	0	5,456,000	5,847,000	702,000	0	9,000	0	0	0
Mar-16	26,803,000		11,754,000	14,000	0	8,310,000	6,725,000	0	0	0	0	0	0
Apr-16	24,302,000		8,922,000	16,000	0	7,084,000	6,417,000	1,826,000	0	37,000	0	0	0
May-16	26,851,000		12,329,000	181,000	0	7,743,000	6,592,000	6,000	0	0	0	0	0
Jun-16	27,478,000		11,841,000	480,000	0	8,780,000	2,316,000	4,002,000	0	59,000	0	0	0
Jul-16	28,331,000		11,871,000	269,000	0	8,956,000	6,799,000	436,000	0	0	0	0	0
Aug-16	29,086,000		12,340,000	228,000	0	9,867,000	6,623,000	28,000	0	0	0	0	0
Sep-16	26,697,000		10,065,000	428,000	0	7,863,000	6,358,000	1,983,000	0	0	0	0	0
Oct-16	25,314,000		12,199,000	160,000	0	6,414,000	6,541,000	0	0	0	0	0	0
Nov-16	23,676,000		11,842,000	5,000	0	5,484,000	5,892,000	453,000	0	0	0	0	0
Dec-16	26,001,000	311,643,000	11,994,000	96,000	0	6,750,000	3,810,000	3,351,000	0	0	0	0	0
Jan-17	25,173,000		12,304,000	64,000	0	6,515,000	6,290,000	0	0	0	0	0	0
Feb-17	23,807,000		11,266,000	0	0	6,770,000	5,771,000	0	0	0	0	0	0
Mar-17	25,231,000		9,966,000	21,000	0	6,811,000	4,672,000	3,730,000	0	31,000	0	0	0
Apr-17	24,131,000		10,058,000	21,000	0	6,344,000	6,163,000	1,525,000	0	20,000	0	0	0
May-17	26,357,000		12,241,000	21,000	0	6,789,000	4,158,000	3,132,000	0	16,000	0	0	0
Jun-17	28,012,000		11,430,000	328,000	0	9,254,000	4,114,000	2,886,000	0	0	0	0	0
Jul-17	29,361,000		2,995,000	1,339,000	0	11,763,000	6,599,000	5,108,000	0	1,557,000	0	0	0
Aug-17	30,207,000		12,761,000	2,242,000	0	8,880,000	6,312,000	12,000	0	0	0	0	0
Sep-17	27,920,000		12,275,000	1,388,000	0	7,167,000	1,924,000	5,166,000	0	0	0	0	0
Oct-17	26,329,000		12,234,000	577,000	0	7,672,000	4,846,000	1,000,000	0	0	0	0	0
Nov-17	24,885,000		4,675,000	1,774,000	0	5,217,000	5,392,000	5,260,000	0	2,567,000	0	0	0
Dec-17	25,398,000	316,811,000	12,827,000	517,000	0	6,006,000	5,582,000	466,000	0	0	0	0	0
Jan-18	27,389,000		12,144,000	1,268,000	0	8,639,000	5,264,000	74,000	0	0	0	0	0
Feb-18	24,002,000		10,583,000	123,000	0	8,036,000	4,923,000	337,000	0	0	0	0	0
Mar-18	26,584,000		12,235,000	129,000	0	8,767,000	5,345,000	108,000	0	0	0	0	0
Apr-18	24,642,000		11,809,000	125,000	0	7,405,000	5,245,000	58,000	0	0	0	0	0
May-18	26,756,000		12,285,000	507,000	0	7,837,000	4,837,000	1,290,000	0	0	0	0	0
Jun-18	30,570,000		11,930,000	680,000	0	9,510,000	5,255,000	3,195,000	0	0	0	0	0
Jul-18	28,837,000		12,265,000	1,470,000	0	9,572,000	5,375,000	155,000	0	0	0	0	0
Aug-18	27,428,000		10,010,000	901,000	0	9,425,000	5,000,000	2,092,000	0	0	0	0	0
Sep-18	25,521,000		12,010,000	723,000	0	7,275,000	4,075,000	1,438,000	0	0	0	0	0
Oct-18	23,175,000		12,249,000	4,000	0	5,465,000	5,077,000	380,000	0	0	0	0	0
Nov-18	22,003,000		11,913,000	352,000	0	4,740,000	4,318,000	680,000	0	0	0	0	0
Dec-18	22,583,000	309,490,000	12,317,000	344,000	0	4,351,000	5,356,000	215,000	0	0	0	0	0

Table 1 Pumping Records for COS Municpal Wells
(compiled by USGS and HGL)

Month-Year	Monthly Total	Yearly Total	COS02	COS03	COS04	COS05	COS06	COS07	COS08	COS09	COS10	COS11	COS12
Jan-19	22,510,000		12,391,000	3,000	0	3,962,000	4,098,000	2,056,000	0	0	0	0	0
Feb-19	20,346,000		10,862,000	1,467,000	0	4,057,000	3,351,000	9,000	0	63,000	0	0	537,000
Mar-19	23,292,000		12,384,000	600,000	0	5,529,000	5,000	435,000	0	0	0	0	4,339,000
Apr-19	23,649,000		12,199,000	4,036,000	0	729,000	1,289,000	1,612,000	0	595,000	0	0	3,189,000
May-19	25,083,000		11,916,000	3,813,000	0	538,000	3,283,000	74,000	0	4,399,000	0	0	1,060,000
Jun-19	24,244,000		11,679,000	4,789,000	0	187,000	5,335,000	994,000	0	21,000	0	0	1,239,000

Notes:
Records from 1961 through 2014 compiled by USGS.
Records from 2015 through 2019 compiled by USGS.

Pumping Records for OGV02 (compiled by HGL)

	Meter	Gals		Meter	Gals		Meter	Gals
Jan-05			**Jan-10**	93,497,000	1,673,400	**Jan-15**	79,090,700	1,278,300
Feb-05			**Feb-10**	94,873,100	1,376,100	**Feb-15**	80,392,500	1,301,800
Mar-05	725,000		**Mar-10**	96,210,600	1,337,500	**Mar-15**	81,723,600	1,331,100
Apr-05	1,176,000	451,000	**Apr-10**	97,495,900	1,285,300	**Apr-15**	82,865,300	1,141,700
May-05	3,052,000	1,876,000	**May-10**	98,942,100	1,446,200	**May-15**	84,205,200	1,339,900
Jun-05	5,066,000	2,014,000	**Jun-10**	100,410,300	1,468,200	**Jun-15**	85,622,700	1,417,500
Jul-05	7,021,000	1,955,000	**Jul-10**	102,046,700	1,636,400	**Jul-15**	87,076,100	1,453,400
Aug-05	9,067,000	2,046,000	**Aug-10**	103,575,200	1,528,500	**Aug-15**	88,416,500	1,340,400
Sep-05	10,368,000	1,301,000	**Sep-10**	104,943,100	1,367,900	**Sep-15**	89,722,300	1,305,800
Oct-05	12,294,000	1,926,000	**Oct-10**	106,296,200	1,353,100	**Oct-15**	91,016,700	1,294,400
Nov-05	13,968,000	1,674,000	**Nov-10**	107,625,400	1,329,200	**Nov-15**	92,225,100	1,208,400
Dec-05	15,632,800	1,664,800	**Dec-10**	109,368,100	1,742,700	**Dec-15**	93,514,200	1,289,100
Jan-06	17,413,900	1,781,100	**Jan-11**	10,978,700	1,610,600	**Jan-16**	95,115,500	1,601,300
Feb-06	19,234,800	1,820,900	**Feb-11**	12,479,100	1,500,400	**Feb-16**	96,528,100	1,412,600
Mar-06	20,751,400	1,516,600	**Mar-11**	13,820,600	1,341,500	**Mar-16**	97,980,300	1,452,200
Apr-06	22,128,900	1,377,500	**Apr-11**	15,155,200	1,334,600	**Apr-16**	99,433,100	1,452,800
May-06	23,570,200	1,441,300	**May-11**	16,615,100	1,459,900	**May-16**	100,789,400	1,356,300
Jun-06	25,177,200	1,607,000	**Jun-11**	18,210,600	1,595,500	**Jun-16**	102,123,600	1,334,200
Jul-06	27,011,500	1,834,300	**Jul-11**	19,946,400	1,735,800	**Jul-16**	103,510,300	1,386,700
Aug-06	28,807,900	1,796,400	**Aug-11**	21,564,200	1,617,800	**Aug-16**	105,034,000	1,523,700
Sep-06	30,266,400	1,458,500	**Sep-11**	22,925,600	1,361,400	**Sep-16**	106,366,800	1,332,800
Oct-06	31,730,400	1,464,000	**Oct-11**	24,264,500	1,338,900	**Oct-16**	107,743,600	1,376,800
Nov-06	33,109,100	1,378,700	**Nov-11**	25,532,000	1,267,500	**Nov-16**	108,932,600	1,189,000
Dec-06	34,931,000	1,821,900	**Dec-11**	26,837,000	1,305,000	**Dec-16**	110,302,800	1,370,200
Jan-07	36,688,800	1,757,800	**Jan-12**	28,223,400	1,386,400	**Jan-17**	11,576,300	1,273,500
Feb-07	38,468,800	1,780,000	**Feb-12**	29,436,200	1,212,800	**Feb-17**	12,682,900	1,106,600
Mar-07	40,292,900	1,824,100	**Mar-12**	30,734,200	1,298,000	**Mar-17**	13,973,900	1,291,000
Apr-07	41,786,500	1,493,600	**Apr-12**	32,088,000	1,353,800	**Apr-17**	15,567,000	1,593,100
May-07	43,394,900	1,608,400	**May-12**	33,695,000	1,607,000	**May-17**	16,934,100	1,367,100
Jun-07	45,051,700	1,656,800	**Jun-12**	35,495,000	1,800,000	**Jun-17**	18,594,300	1,660,200
Jul-07	46,756,800	1,705,100	**Jul-12**	37,510,100	2,015,100	**Jul-17**	19,966,700	1,372,400
Aug-07	48,386,600	1,629,800	**Aug-12**	39,203,800	1,693,700	**Aug-17**	21,319,000	1,352,300
Sep-07	50,019,500	1,632,900	**Sep-12**	40,389,800	1,186,000	**Sep-17**	22,670,300	1,351,300
Oct-07	51,610,800	1,591,300	**Oct-12**	41,666,500	1,276,700	**Oct-17**	24,132,400	1,462,100
Nov-07	53,058,000	1,447,200	**Nov-12**	42,945,500	1,279,000	**Nov-17**	25,471,300	1,338,900
Dec-07	54,612,600	1,554,600	**Dec-12**	44,201,900	1,256,400	**Dec-17**	27,042,400	1,571,100
Jan-08	56,288,800	1,676,200	**Jan-13**	45,562,700	1,360,800	**Jan-18**		2,151,000
Feb-08	57,925,900	1,637,100	**Feb-13**	46,798,000	1,235,300	**Feb-18**		566,000
Mar-08	59,316,800	1,390,900	**Mar-13**	48,143,200	1,345,200	**Mar-18**		0
Apr-08	60,743,100	1,426,300	**Apr-13**	49,478,200	1,335,000	**Apr-18**		1,112,000
May-08	62,342,000	1,598,900	**May-13**	50,905,200	1,427,000	**May-18**		1,052,000
Jun-08	63,867,000	1,525,000	**Jun-13**	52,289,900	1,384,700	**Jun-18**		1,459,200
Jul-08	65,331,700	1,464,700	**Jul-13**	54,026,200	1,736,300	**Jul-18**		1,538,100
Aug-08	66,888,700	1,557,000	**Aug-13**	55,503,800	1,477,600	**Aug-18**		1,425,400
Sep-08	68,374,400	1,485,700	**Sep-13**	57,060,300	1,556,500	**Sep-18**		1,445,600
Oct-08	69,855,300	1,480,900	**Oct-13**	58,846,200	1,785,900	**Oct-18**		1,286,000
Nov-08	71,498,900	1,643,600	**Nov-13**	60,292,900	1,446,700	**Nov-18**		1,258,700
Dec-08	73,228,700	1,729,800	**Dec-13**	61,621,000	1,328,100	**Dec-18**		1,463,600
Jan-09	74,916,100	1,687,400	**Jan-14**	63,415,600	1,794,600	**Jan-19**		1,237,200
Feb-09	76,169,500	1,253,400	**Feb-14**	64,868,900	1,453,300	**Feb-19**		1,230,600
Mar-09	77,538,400	1,368,900	**Mar-14**	66,148,000	1,279,100	**Mar-19**		1,381,900
Apr-09	78,948,000	1,409,600	**Apr-14**	67,378,200	1,230,200	**Apr-19**		1,495,700
May-09	80,390,000	1,442,000	**May-14**	68,692,800	1,314,600	**May-19**		1,870,400
Jun-09	82,148,700	1,758,700	**Jun-14**	70,069,500	1,376,700	**Jun-19**		1,629,100
Jul-09	83,793,000	1,644,300	**Jul-14**	71,384,500	1,315,000	**Jul-19**		1,932,300
Aug-09	85,690,900	1,897,900	**Aug-14**	72,710,600	1,326,100	**Aug-19**		921,500
Sep-09	87,301,000	1,610,100	**Sep-14**	73,925,600	1,215,000			
Oct-09	88,907,800	1,606,800	**Oct-14**	75,058,700	1,133,100			
Nov-09	90,283,100	1,375,300	**Nov-14**	76,667,400	1,608,700			
Dec-09	91,823,100	1,540,000	**Dec-14**	77,812,400	1,145,000			

Table 3

Summary of Hydraulic Conductivity Estimates

Well	SWL (ft MSL)	Pumping Level (ft MSL)	Drawdown (ft)	Pumping Rate (gpm)	Specific Capacity (gpm/ft)	Length of Open Hole (ft)	T (gpd/ft)	K m/day	Comments
COS#1			100	306	3.1	805	6120	0.31	length of open hole unknown
COS#2			100	420	4.2	420	8400	0.82	
'COS#3'			139	375	2.7	489	5396	0.45	drawdown unknown, assumed 20 ft above pump
'COS#4'	791	664	127	130	1.0	355	2047	0.24	
'COS#5'			83.16	255	3.1	333	6133	0.75	
COS#6			300	450	1.5	358	3000	0.34	
'COS#7'	755	503	252	170	0.7	408	1349	0.13	
'COS#8'	776	610	166	140	0.8	243	1687	0.28	
'COS#9'	732	558	174	280	1.6	461	3218	0.28	
'COS#10'	729	558	171	230	1.3	397	2690	0.28	
'COS#11'	774	727	47	430	9.1	487	18298	1.53	
Oak Grove			20	135	6.8	440	13500	1.25	Data from driller's log.

APPENDIX D

OU1 DATABASE

(Provided on CD)

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Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Airlock	7137-9		5/23/2016	**48.5**																			
Amphitheater	6922-7		9/18/2015	**168**	**1.83**	**2.77**	1.98U	8.7U	0.16U	**124**	**7.86**	**5.59**		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Amphitheater	6922-16		9/23/2015	**159**	**1.97**	**2.5**	1.98U	8.7U	0.16U	**103**	**6.48**	**4.67**		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Amphitheater	7054-11		2/17/2016	0.43 U	0.41 U	1.98 U	1.98 U	**23**	0.16 U	2.81 U	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	0.19 U
Amphitheater	7008-8		12/1/2015	**1.02**	0.41U	1.98U	1.98U	**17.6**	0.16U	2.81U	**3.21**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Atomic Shelter	7383-7		3/27/2017	**10.9**	0.41U	1.98U	1.98U	8.7U	0.16U	2.81U	2.47U	3.83U		2.73U	3.43U	0.0927U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.0486U
B11 - Fallout Shelter	6901-10		8/25/2015	**260**	**2.6**	**2.0**	0.83U	0.71U	0.55U	**130**	**3.5**	**5.6**	1.5U	1.1U	1.5U	1.2U	**1.4**	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
B11 - Fallout Shelter	6922-8		9/18/2015	**119**	**2.1**	1.98U	1.98U	**64.4**	0.16U	**53.8**	**5.59**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	**0.971**
B11 - Fallout Shelter	6922-12		9/23/2015	**129**	**1.22**	1.98U	1.98U	8.7U	0.16U	**42.7**	**4.8**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
B11 - Fallout Shelter	6923-10		10/22/2015	**170**	1.4U	**0.92**	0.83U	0.71U	0.55U	**36**	**2.9**	**1.6**	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
B11 - Fallout Shelter	7008-5		12/1/2015	**52.9**	**1.08**	1.98U	1.98U	8.7U	0.16U	**8.93**	**3.21**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
B11 - Fallout Shelter	6768-8		4/28/2015	**76.8**	**0.746**	1.98 U	1.98 U	**13.2**	0.16 U	**23.3**	**2.82**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Background	321223	030S140-01A	5/1/2003	4.9 U	6.2 U	3.6 U	14 U	3.2 U	2.3 U	5.1 U	4.5 U	7.0 U	6.4 U	5.0 U	6.2 U	5.0 U	3.7 U	3.6 U	27 U	4.5 U	7.0 U	5.5 U	3.7 U
Background	321236	0310326-01A	10/9/2003	4.6 U	5.8 U	3.4 U	14 U	3.0 U	2.2 U	4.8 U	4.2 U	6.5 U	6.0 U	4.6 U	5.9 U	4.6 U	3.4 U	3.4 U	25 U	4.2 U	6.6 U	5.1 U	3.4 U
Ballroom	6750-2		2/25/2015	**8**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**2.92**	3.83 U	NA	2.73 U	3.43 U	**0.327**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Ballroom	6750-11		2/25/2015	**7.68**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.26**	3.83 U	NA	2.73 U	3.43 U	**0.273**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Ballroom	6901-3		8/26/2015	**43**	1.4U	0.84U	0.83U	0.71U	0.55U	**20**	**2.9**	1.5U	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Ballroom	6922-3		9/18/2015	**56.2**	**0.678**	1.98U	1.98U	**18**	0.16U	**31.8**	**4.25**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Ballroom	6922-10		9/23/2015	**55**	**0.475**	1.98U	1.98U	8.7U	0.16U	**19.3**	**4.2**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Ballroom	6923-3		10/22/2015	**150**	**4.7**	**0.94**	0.83U	0.71U	0.55U	**41**	**2.8**	**2.0**	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Ballroom	#9571	0210470-2A	10/8/2002	**100**	5.6 U	3.2 U	13 U	**6.5 B**	2.1 U	**6**	**4.4**	6.3 U	5.7 U	4.5 U	5.6 U	4.5 U	3.3 U	3.2 U	24 U	4.0 U	6.3 U	4.9 U	3.3 U
Ballroom	321224	030S140-02A	5/1/2003	**1000**	5.8 U	**8.3**	14 U	3.0 U	2.2 U	**200**	**24**	**9**	6.0 U	4.6 U	5.9 U	4.6 U	3.4 U	3.4 U	25 U	4.2 U	6.6 U	5.1 U	3.4 U
Ballroom	410051	0402204-02A	2/4/2004	**4.9**	5.2 U	3.1 U	12 U	2.7 U	2.0 U	4.3 U	**7.2**	5.9 U	5.4 U	4.2 U	5.3 U	4.2 U	3.1 U	3.1 U	23 U	3.8 U	5.9 U	4.6 U	3.1 U
Ballroom	501729	0501424-02A	1/20/2005	**5.2**	5.8 U	3.4 U	3.4 U	3.0 U	2.2 U	**5.8**	**4.8**	6.6 U	6.0 U	4.7 U	5.9 U	4.7 U	3.5 U	3.4 U	25 U	4.2 U	6.6 U	5.1 U	3.5 U
Ballroom	6768-2		4/28/2015	**44.5**	**0.881**	1.98 U	1.98 U	8.7 U	0.16 U	**9.44**	**2.77**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Ballroom	6787-2		6/24/2015	**127**	**1.22**	1.98U	1.98U	8.7U	0.16U	**59.4**	**3.16**	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Ballroom	7008-3		12/1/2015	**43.3**	**1.97**	1.98U	1.98U	8.7U	0.16U	**11.6**	**3.21**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	**0.202**
Ballroom	7054-4		2/17/2016	**20**	1.64 U	7.92 U	7.92 U	34.8 U	0.64 U	11.2 U	9.88 U	15.3 U		10.9 U	13.7 U	0.92 U	8.08 U		14.8 U	9.84 U	15.4 U	12 U	0.76 U
Ballroom	7054-7		2/17/2016	**36.3**	**1.02**	1.98 U	1.98 U	8.7 U	0.16 U	**16.1**	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	0.19 U
Ballroom	7085-2		3/8/2016	**210**	**3.8**	**1.4**	0.80 U	0.70 U	0.52 U	**95**	**4.6**	**3.9**	1.4 U	1.1 U	1.4 U	1.1 U	**1.6**	0.80 U	6.0 U	0.99 U	1.6 U	1.2 U	0.82 U
Ballroom	7086-3		4/4/2016	**5.4**																			
Ballroom	7118-5		4/18/2016	**30.2**																			
Ballroom	7057-5		4/26/2016	1.1 U																			
Ballroom	7057-6		4/26/2016	**13**																			
Ballroom	7137-7		5/23/2016	**11.5**																			
Ballroom			6/28/2016	**3.1**																			
Ballroom			7/6/2016	**3.1**																			
Ballroom			7/12/2016	**3.1**																			
Ballroom			7/12/2016	**2.8**																			
Ballroom			7/19/2016	**2.7**																			
Ballroom			7/26/2016	**1.7**																			
Ballroom			8/3/2016	**3.7**																			
Ballroom			8/9/2016	**3**																			
Ballroom			8/16/2016	**4.5**																			
Ballroom			8/23/2016	**6.1**																			
Ballroom			8/29/2016	**2.1**																			
Ballroom			9/13/2016	**8.9**																			
Ballroom			9/27/2016	**6.1**																			
Ballroom			9/29/2016	**3**																			
Ballroom			10/4/2016	**7.1**																			
Ballroom			10/11/2016	**6.4**																			
Ballroom			10/12/2016	**4.4**																			
Ballroom			10/13/2016	**14**																			
Ballroom			10/19/2016	**5.6**																			
Ballroom			10/19/2016	**2.5**																			
Ballroom			10/23/2016	**3.4**																			
Ballroom			10/26/2016	**3.1**																			

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichlorethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Ballroom			10/27/2016	**1.5**																			
Ballroom			11/2/2016	**4.5**																			
Ballroom			11/8/2016	**14**																			
Ballroom			11/9/2016	**16**																			
Ballroom			11/16/2016	**19**																			
Ballroom			11/23/2016	**0.33 J**																			
Ballroom			11/29/2016	**0.63 J**																			
Ballroom			11/30/2016	**0.77 J**																			
Ballroom			12/6/2016	**0.95 J**																			
Ballroom			12/13/2016	**0.64 J**																			
Ballroom			12/19/2016	**1.9**																			
Ballroom			1/3/2017	**0.56 J**																			
Ballroom			1/17/2017	**1.2**																			
Ballroom			1/30/2017	**0.86 J**																			
Ballroom			2/13/2017	**2.8**																			
Ballroom			2/20/2017	**0.50 J**																			
Ballroom			3/16/2017	1.1 U																			
Ballroom			3/27/2017	1.1 U																			
Ballroom			4/10/2017	1.1 U																			
Ballroom			4/24/2017	1.1 U																			
Ballroom			5/24/2017	1.1 U																			
Ballroom			6/6/2017	1.1 U																			
Ballroom			6/20/2017	1.1 U																			
Ballroom			7/6/2017	1.1 U																			
Ballroom			7/17/2017	1.1 U																			
Ballroom			8/14/2017	1.1 U																			
Ballroom			9/19/2017	1.1 U																			
Ballroom			10/10/2017	1.1 U																			
Ballroom			10/24/2017	**0.20 J**																			
Ballroom			11/14/2017	**1.4**																			
Ballroom			12/12/2017	**7.7**																			
Ballroom			1/4/2018	**0.46 J**																			
Ballroom			1/18/2018	**1.6**																			
Ballroom			2/12/2018	**0.31 J**																			
Ballroom			3/13/2018	1.1 U																			
Ballroom			4/20/2018	1.1 U																			
Ballroom			5/14/2018	1.1 U																			
Ballroom			6/12/2018	1.1 U																			
Ballroom			7/9/2018	**0.22 J**																			
Ballroom			8/13/2018	**0.45 J**																			
Ballroom			9/17/2018	**0.058 J**																			
Ballroom			10/15/2018	1.1 U																			
Ballroom			11/16/2018	1.1 U																			
Ballroom			12/20/2018	1.1 U																			
Ballroom			2/13/2019	1.1 U																			
Ballroom			5/7/2019	1.1 U																			
Ballroom			8/5/2019	**0.78 J**																			
Ballroom			8/21/2019	NA																			
Ballroom	7138-7		5/31/2016	**4.94**																			
Ballroom	7158-2		6/5/2016	**6.4**																			
Ballroom	7170-6		6/13/2016	**3.92**																			
Ballroom	7171-6		6/20/2016	**4.14**																			
Ballroom	7189-3		7/12/2016	**4**																			
Ballroom	7238-2		10/26/2016	**3.44**																			
Ballroom	7383-2		3/27/2017	0.43U	0.41U	1.98U	1.98U	8.7U	0.16U	2.81U	2.47U	3.83U		2.73U	3.43U	0.0927U	2.02U	1.98U	3.71U	**23.4**	3.84U	3U	0.0486U
Ballroom	7564-2		10/24/2017	0.27U	0.34U	0.2U	0.2U	0.7U	0.13U	**1.1**	**2**	1.5U	1.4U	1.1U	1.4U	1.1U	0.82U	0.2U	1.5UJ	0.99U	1.6U	1.2U	0.1U
Ballroom	7976-3		10/15/2018	0.27 U	**0.36**	0.20 U	0.20 U	0.70 U	0.13 U	**2**	**2.1**	1.5 U	1.4 U	1.1 U	1.4 U	1.1 U	0.82 U	0.20 U	1.5 U	0.99 U	1.6 U	1.2 U	**0.28**

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichlorethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Ballroom behind stage	6021-2		3/13/2013	**5.16**	**0.746**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U	NA	2.73 U	3.43 U	2.73 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	2.02 U
Ballroom behind stage	6129-2		8/27/2013	**138**	**1.42**	1.98 U	1.98 U	8.7 U	0.16 U	**49.3**	**3.36**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Ballroom behind stage	6273-2		1/13/2014	**20**	0.41 U	1.98 U	1.98 U	**12.8**	1.28 U	2.81 U	2.47 U	2.81 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Ballroom behind stage	6359-2		3/24/2014	**4.51**	0.41 U	1.98 U	1.98 U	**13.3**	0.16 U	2.81 U	**3.02**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.243**
Ballroom behind stage	6360-2		6/2/2014	**169**	**1.22**	1.98 U	1.98 U	8.7 U	0.16 U	**48.3**	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Ballroom behind stage	6361-2		8/5/2014	**133**	**0.542**	1.98 U	1.98 U	8.7 U	0.16 U	**29**	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Ballroom stage	6021-3		3/13/2013	**4.57**	**0.746**	1.98 U	1.98 U	**11**	0.16 U	NA	NA	3.83 U	NA	2.73 U	3.43 U	2.73 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	2.02 U
Ballroom stage	6787-13		6/24/2015	**24**	**0.475**	1.98U	1.98U	**11.4**	0.16U	**13.5**	**2.67**	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Bat Cave	6768-11		4/28/2015	0.43 U	0.41 U	1.98 U	1.98 U	**64.9**	0.16 U	2.81 U	**3.07**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Bat Cave (left wing)	6787-10		6/24/2015	0.43U	0.41U	1.98U	1.98U	8.7U	0.16U	2.81U	2.47U	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Behind ticket counter	6359-9		3/24/2014	**4.83**	**0.542**	1.98 U	1.98 U	8.7 U	**0.256**	2.81 U	**4.2**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.364**
Between Airlock Doors	6901-12		8/26/2015	**270**	**2.7**	**2.0**	0.83U	0.71U	0.55U	**130**	**3.4**	**5.4**	1.5U	1.1U	1.5U	1.2U	**1.6**	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Between Airlock Doors	6923-12		10/22/2015	**540**	**2.9**	**3.8**	0.83U	0.71U	0.55U	**190**	**4.5**	**8.5**	1.5U	1.1U	1.5U	1.2U	**1.6**	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Cafeteria	7055-3		3/21/2016	**6.9**																			
Cafeteria	7109-2		3/27/2016	**1.29**																			
Cafeteria	7056-1		4/11/2016	**2.6**																			
Cafeteria	7118-2		4/18/2016	**4.51**																			
Cafeteria	7057-2		4/26/2016	1.1 U																			
Cafeteria	7057-3		4/26/2016	1.1 U																			
Cafeteria (last booth)	7086-2		4/4/2016	**3**																			
Conference (in slot)	6787-9		6/24/2015	**125**	**1.49**	1.98U	1.98U	8.7U	0.16U	**76.5**	**5.19**	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Conference Room	6750-9		2/25/2015	0.43 U	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.61**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Conference Room	6768-10		4/28/2015	**7.57**	0.41 U	1.98 U	1.98 U	**31.1**	0.16 U	**2.92**	**2.92**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Conference Room	6901-9		8/26/2015	**250**	**2.4**	**2.3**	0.83U	0.71U	0.55U	**110**	**3.3**	**4.8**	1.5U	1.1U	1.5U	1.2U	**1.6**	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Conference Room	6923-9		10/22/2015	**410**	**2.1**	**3.2**	0.83U	0.71U	0.55U	**140**	**4.4**	**6.6**	1.5U	1.1U	1.5U	1.2U	**1.2**	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Conference room (left vent)	6787-15		6/24/2015	**142**	**2.03**	1.98U	1.98U	8.7U	0.16U	**93.2**	**5.54**	**4.14**	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Echo Room	7138-9		5/31/2016	**3.28**																			
Echo Room	7158-5		6/5/2016	**4.1**																			
Echo Room	7171-9		6/20/2016	**2.2**																			
Echo Room	7170-9		6/13/2016	**2.2**																			
B11 - Fallout Shelter	6750-5		2/25/2015	**10.4**	0.41 U	1.98 U	1.98 U	**66.7**	0.16 U	**3.43**	**3.02**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Gazebo	6359-8		3/24/2014	0.43 U	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.26**	3.83 U	NA	2.73 U	3.43 U	**0.28**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.243**
Gazebo	6360-9		6/2/2014	**1.18**	0.41 U	1.98 U	1.98 U	**110**	0.16 U	2.81 U	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Gazebo	6361-10		8/5/2014	**0.698**	0.41 U	1.98 U	1.98 U	**16.8**	0.16 U	2.81 U	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Gazebo	6750-8		2/25/2015	0.86 U	0.82 U	3.96 U	3.96 U	17.4 U	0.32 U	2.81 U	2.47 U	7.66 U	NA	5.46 U	6.86 U	0.46 U	4.04 U	3.96 U	7.42 U	4.92 U	7.68 U	6 U	0.38 U
Gazebo	6768-9		4/28/2015	0.43 U	0.41 U	1.98 U	1.98 U	**31.4**	0.16 U	2.81 U	**3.11**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Gazebo	6787-8		6/24/2015	0.43U	0.41U	1.98U	1.98U	**8.82**	0.16U	2.81U	**2.87**	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Gazebo	6901-8		8/26/2015	1.1U	1.4U	0.84U	0.83U	0.71U	0.55U	**1.5**	**2.8**	1.5U	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Gazebo	6922-15		9/23/2015	0.43U	0.41U	1.98U	1.98U	8.7U	0.16U	2.81U	**3.61**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Gazebo	6923-8		10/22/2015	1.1U	1.4U	0.84U	0.83U	0.71U	0.55U	**1.8**	**2.8**	1.5U	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Gift Shop	7129-1		5/12/2016	**1.07**																			
Gift Shop	321241	0310329-02A	10/9/2003	**840**	5.9 U	**8.2**	14 U	3.0 U	2.2 U	**88**	**9.6**	6.7 U	6.1 U	4.7 U	6.0 U	4.7 U	3.5 U	3.4 U	26 U	4.3 U	6.7 U	5.2 U	3.5 U
Gift Shop	0410055	0402204-06A	2/4/2004	**5.2**	5.2 U	3.1 U	12 U	2.7 U	2.0 U	4.3 U	**4.2**	5.9 U	5.4 U	4.2 U	5.3 U	4.2 U	3.1 U	3.1 U	23 U	3.8 U	5.9 U	4.6 U	3.1 U
Gift Shop	501733	0S01424-06A	1/20/2005	4.8 U	6.1 U	3.5 U	3.5 U	3.1 U	2.3 U	**5.3**	4.4 U	6.8 U	6.2 U	4.9 U	6.1 U	4.9 U	3.6 U	3.5 U	26 U	4.4 U	6.9 U	5.4 U	3.6 U
Gift Shop	6021-1		3/13/2013	1.2 U	**1.42**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U	NA	2.73 U	3.43 U	2.73 U	2.02 U	1.98 U	**4.01**	2.46 U	3.84 U	3 U	2.02 U
Gift Shop	6129-1		8/27/2013	**97.5**	**1.56**	1.98 U	1.98 U	8.7 U	0.16 U	**41.8**	**2.77**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.688**
Gift Shop	6273-1		1/13/2014	**5.37**	**1.56**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	2.47 U	2.81 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.243**
Gift shop	6750-1		2/25/2015	**1.56**	**1.15**	1.98 U	1.98 U	**11.8**	0.16 U	2.81 U	**2.87**	3.83 U	NA	2.73 U	3.43 U	**0.382**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Gift Shop	6750-10		2/25/2015	**1.67**	**1.36**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.76**	3.83 U	NA	2.73 U	3.43 U	**0.382**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Gift shop	6768-1		4/28/2015	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	NA	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O
Gift shop	6787-14 FD		6/24/2015	**9.78**	0.82U	3.96U	3.96U	17.4U	0.32U	**3.09**	2.47U	7.66U	NA	5.46U	6.86U	0.46U	4.04U	3.96U	7.42U	4.92U	7.68U	6U	0.38U
Gift shop	6787-14		6/24/2015	**8.11**	**0.475**	1.98U	1.98U	**64.2**	0.16U	**5.22**	2.47U	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	**0.283**
Gift shop	6901-1		8/26/2015	**14**	1.4U	0.84U	0.83U	0.71U	0.55U	**7.2**	**2.8**	1.5U	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Gift shop	6901-1FD		8/26/2015	**13**	1.4U	0.84U	0.83U	0.71U	0.55U	**7.1**	**2.8**	1.5U	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Gift shop	6922-1		9/18/2015	**19.4**	**0.881**	1.98U	1.98U	**11.6**	0.16U	**12.7**	**3.07**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	**0.931**
Gift shop	6922-1FD		9/18/2015	**18.3**	**1.76**	1.98U	1.98U	**18.3**	0.16U	**12.6**	**4**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	**2.59**
Gift shop	6922-9		9/23/2015	**15.3**	**1.02**	1.98U	1.98U	8.7U	0.16U	**6.63**	**3.66**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	**0.566**

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Gift shop	6923-1		10/22/2015	**50**	**29**	0.84U	0.83U	0.71U	0.55U	**12**	**2.6**	1.5U	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Gift shop	6923-1FD		10/22/2015	**51**	**32**	0.84U	0.83U	0.71U	0.55U	**13**	**2.7**	1.5U	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Gift Shop	7008-1		12/1/2015	**6.5**	**7.8**	1.98U	1.98U	8.7U	0.16U	**4.16**	**3.51**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	**1.54**
Gift Shop	7008-1FD		12/1/2015	**5.69**	**8.54**	1.98U	1.98U	34.8U	0.16U	**4.21**	**5.78**	3.83U		2.73U	3.43U	**0.327**	2.02U	1.98U	3.71U	2.46U	3.84U	3U	**1.46**
Gift Shop	7054-1		2/17/2016	**3.38**	**0.949**	1.98 U	1.98 U	8.7 U	0.16 U	**2.86**	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	**0.607**
Gift Shop	7054-5		2/17/2016	**5.26**	**0.61**	1.98 U	1.98 U	8.7 U	0.16 U	**3.82**	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	**0.607**
Gift Shop	7054-5 FD		2/17/2016	**5.69**	**0.61**	1.98 U	1.98 U	8.7 U	0.16 U	**4.04**	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	**0.647**
Gift shop	7085-1		3/8/2016	**64**	**2.5**	0.80 U	0.80 U	**0.82**	0.52 U	**27**	**3.4**	**1.7**	1.4 U	1.1 U	1.4 U	1.1 U	0.82 U	0.80 U	6.0 U	0.99 U	1.6 U	1.2 U	**1.2**
Gift Shop	7055-1		3/21/2016	**4.2**																			
Gift Shop	7055-2		3/21/2016	**5.6**																			
Gift Shop	7109-1		3/27/2016	**1.88**																			
Gift Shop	7086-1		4/4/2016	**3.2**																			
Gift Shop	7056-2		4/11/2016	**2.5**																			
Gift Shop	7118-1		4/18/2016	**3.17**																			
Gift Shop	7057-1		4/26/2016	**5.3**																			
Gift Shop	7057-4		4/26/2016	1.1 U																			
Gift Shop	7128-1		5/10/2016	**1.56**																			
Gift Shop	7129-3		5/12/2016	**0.752**																			
Gift Shop	7137-6		5/23/2016	**4.35**																			
Gift Shop	7138-6		5/31/2016	**3.06**																			
Gift Shop	7158-1		6/5/2016	**4.6**																			
Gift Shop	7170-4		6/13/2016	**1.18**																			
Gift Shop	7171-4		6/20/2016	**1.72**																			
Gift Shop			6/28/2016	**1.1**																			
Gift Shop			7/6/2016	**11 J**																			
Gift Shop	7189-2		7/12/2016	**4.8**																			
Gift Shop			7/19/2016	**3.7**																			
Gift Shop		FD	7/19/2016	**3.7**																			
Gift Shop			7/26/2016	**1.7**																			
Gift Shop		FD	7/26/2016	**1.7**																			
Gift Shop			8/3/2016	**3.6**																			
Gift Shop		FD	8/3/2016	**3.5**																			
Gift Shop			8/9/2016	**3.4**																			
Gift Shop		FD	8/9/2016	**2.9**																			
Gift Shop			8/16/2016	**3.4**																			
Gift Shop		FD	8/16/2016	**2.9**																			
Gift Shop			8/23/2016	**2.3**																			
Gift Shop		FD	8/23/2016	**2.5**																			
Gift Shop			8/29/2016	**2.2**																			
Gift Shop		FD	8/29/2016	**2.4**																			
Gift Shop			9/13/2016	**3.2**																			
Gift Shop		FD	9/13/2016	**3.3**																			
Gift Shop			9/27/2016	**0.99 J**																			
Gift Shop		FD	9/27/2016	**0.91 J**																			
Gift Shop			10/4/2016	**1.3**																			
Gift Shop			10/11/2016	**4.2**																			
Gift Shop			10/13/2016	**0.74 J**																			
Gift Shop		FD	10/13/2016	**0.59 J**																			
Gift Shop			10/19/2016	**1.0 J**																			
Gift Shop			10/23/2016	**3.4**																			
Gift Shop			10/26/2016	**4.8**																			
Gift Shop		FD	10/26/2016	**4.6**																			
Gift Shop			10/27/2016	**4.7**																			
Gift Shop			11/2/2016	**2.4**																			
Gift Shop		FD	11/2/2016	**2.4**																			
Gift Shop			11/8/2016	**1.6**																			
Gift Shop		FD	11/8/2016	**1.3**																			

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Gift Shop			11/9/2016	**1.4**																			
Gift Shop			11/16/2016	**0.53 J**																			
Gift Shop	FD		11/16/2016	**0.56 J**																			
Gift Shop			11/23/2016	**0.60 J**																			
Gift Shop			11/29/2016	**1.2**																			
Gift Shop	FD		11/29/2016	**1.1**																			
Gift Shop			11/30/2016	**1.5**																			
Gift Shop	FD		11/30/2016	**1.5**																			
Gift Shop			12/6/2016	**1.9**																			
Gift Shop	FD		12/6/2016	**2.1**																			
Gift Shop			12/13/2016	**1.2**																			
Gift Shop	FD		12/13/2016	**1.7**																			
Gift Shop			12/19/2016	**2.7**																			
Gift Shop	FD		12/19/2016	**1.9**																			
Gift Shop			1/3/2017	**1.2**																			
Gift Shop	FD		1/3/2017	**1.2**																			
Gift Shop			1/17/2017	**0.74 J**																			
Gift Shop	FD		1/17/2017	**0.76 J**																			
Gift Shop			1/30/2017	**1.8**																			
Gift Shop	FD		1/30/2017	**2.7**																			
Gift Shop			2/13/2017	**3.1**																			
Gift Shop	FD		2/13/2017	**2.8**																			
Gift Shop			2/20/2017	**0.58 J**																			
Gift Shop	FD		2/20/2017	**0.57 J**																			
Gift Shop			3/16/2017	1.1 U																			
Gift Shop	FD		3/16/2017	1.1 U																			
Gift shop	7383-1		3/27/2017	0.43U	**0.949**	1.98U	1.98U	8.7U	0.16U	2.81U	2.47U	3.83U		2.73U	3.43U	0.0927U	2.02U	1.98U	3.71U	**2.56**	3.84U	3U	**0.202**
Gift Shop			3/27/2017	**0.34 J**																			
Gift Shop	FD		3/27/2017	**0.37 J**																			
Gift Shop			4/10/2017	**0.32 J**																			
Gift Shop	FD		4/10/2017	**0.33 J**																			
Gift Shop			4/24/2017	**0.44 J**																			
Gift Shop	FD		4/24/2017	**0.47 J**																			
Gift Shop			5/24/2017	1.1 U																			
Gift Shop	FD		5/24/2017	1.1 U																			
Gift Shop			6/6/2017	1.1 U																			
Gift Shop	FD		6/6/2017	1.1 U																			
Gift Shop			6/20/2017	1.1 U																			
Gift Shop	FD		6/20/2017	1.1 U																			
Gift Shop			7/6/2017	1.1 U																			
Gift Shop	FD		7/6/2017	**0.19 J**																			
Gift Shop			7/17/2017	**0.33 J**																			
Gift Shop	FD		7/17/2017	1.1 U																			
Gift Shop			8/14/2017	**0.24 J**																			
Gift Shop	FD		8/14/2017	**0.24 J**																			
Gift Shop			9/19/2017	1.1 U																			
Gift Shop	FD		9/19/2017	**0.56 J**																			
Gift Shop			10/10/2017	1.1 U																			
Gift Shop	FD		10/10/2017	1.1 U																			
Gift Shop	7564-1		10/24/2017	**0.89**	0.34U	0.2U	0.2U	0.7U	0.13U	**1.5**	**2.1**	1.5U	1.4U	1.1U	1.4U	1.1U	0.82U	0.2U	1.5UJ	0.99U	1.6U	1.2U	0.1U
Gift Shop			10/24/2017	**0.69 J**																			
Gift Shop	FD		10/24/2017	**0.68 J**																			
Gift Shop			11/14/2017	**1.8**																			
Gift Shop	FD		11/14/2017	**1.6**																			
Gift Shop			12/12/2017	**7.5**																			
Gift Shop	FD		12/12/2017	**7.5**																			
Gift Shop			1/4/2018	**0.91 J**																			

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Gift Shop			1/18/2018	**1.6**																			
Gift Shop	FD		1/18/2018	**1.8**																			
Gift Shop			2/12/2018	**0.23 J**																			
Gift Shop	FD		2/12/2018	**0.23 J**																			
Gift Shop			3/13/2018	1.1 U																			
Gift Shop	FD		3/13/2018	1.1 U																			
Gift Shop			4/20/2018	1.1 U																			
Gift Shop	FD		4/20/2018	1.1 U																			
Gift Shop			5/14/2018	1.1 U																			
Gift Shop	FD		5/14/2018	1.1 U																			
Gift Shop			6/12/2018	1.1 U																			
Gift Shop	FD		6/12/2018	1.1 U																			
Gift Shop			7/9/2018	**0.28 J**																			
Gift Shop			8/13/2018	**0.41 J**																			
Gift Shop	FD		8/13/2018	**0.43 J**																			
Gift Shop			9/17/2018	**0.61 J**																			
Gift Shop	FD		9/17/2018	**0.44 J**																			
Gift Shop	7976-4		10/15/2018	0.27 U	0.34 U	0.20 U	0.20 U	0.70 U	0.13 U	**1.6**	**2.2**	1.5 U	1.4 U	1.1 U	1.4 U	1.1 U	0.82 U	0.20 U	1.5 U	0.99 U	1.6 U	1.2 U	**0.16**
Gift Shop			10/15/2018	1.1 U																			
Gift Shop	FD		10/15/2018	1.1 U																			
Gift Shop			11/16/2018	1.1 U																			
Gift Shop	FD		11/16/2018	1.1 U																			
Gift Shop			12/20/2018	1.1 U																			
Gift Shop	FD		12/20/2018	1.1 U																			
Gift Shop			2/13/2019	1.1 U																			
Gift Shop	FD		2/13/2019	1.1 U																			
Gift Shop			5/7/2019	1.1 U																			
Gift Shop	FD		5/7/2019	1.1 U																			
Gift Shop			8/5/2019	**0.83 J**																			
Gift Shop			8/21/2019	NA																			
Gift shop (Jewelry counter)	6787-1 FD		6/24/2015	**95.7**	**1.42**	1.98U	1.98U	8.7U	0.16U	**46.4**	**3.51**	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	**0.324**
Gift shop (Jewelry counter)	6787-1		6/24/2015	**100**	**1.49**	1.98U	1.98U	8.7U	0.16U	**49.3**	**3.76**	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	**0.324**
Gift shop behind counter	6359-1		3/24/2014	**1.13**	**1.42**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**2.97**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.769**
Gift shop behind counter	6360-1		6/2/2014	**125**	**1.29**	1.98 U	1.98 U	8.7 U	0.16 U	**33.4**	**3.02**	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.485**
Gift shop behind counter	6361-1		8/5/2014	**143**	**1.22**	**2.22**	1.98 U	**20.3**	0.16 U	**31.7**	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.243**
Honeymoon	7057-7		4/26/2016	**31**																			
Honeymoon	7057-8		4/26/2016	**54**																			
Honeymoon	7128-3		5/10/2016	**70.7**																			
Honeymoon	7129-4		5/12/2016	**25.4**																			
Honeymoon	7137-8		5/23/2016	**13.8**																			
Honeymoon	7138-8		5/31/2016	**3.87**																			
Honeymoon	7158-3		6/5/2016	**5.4**																			
Honeymoon	7170-7		6/13/2016	**2.47**																			
Honeymoon	7171-7		6/20/2016	**3.22**																			
Jungle Room	321226	030S140-04A	5/1/2003	**1400**	**7**	**13**	14 U	3.0 U	2.2 U	**270**	**26**	**12**	6.1 U	4.7 U	6.0 U	4.7 U	3.5 U	3.4 U	26 U	4.3 U	6.7 U	5.2 U	3.5 U
Jungle Room	321226-FD	030S140-04AA	5/1/2003	**1400**	**6.8**	**13**	14 U	3.0 U	2.2 U	**260**	**26**	**12**	6.1 U	4.7 U	6.0 U	4.7 U	3.5 U	3.4 U	26 U	4.3 U	6.7 U	5.2 U	3.5 U
Jungle Room	321239	0310326-04A	10/9/2003	**1700**	7.4 U	**20**	17 U	3.8 U	2.8 U	**200**	**19**	8.3 J	7.6 U	6.0 U	7.5 U	6.0 U	4.4 U	4.3 U	32 U	5.4 U	8.4 U	6.6 U	4.4 U
Jungle Room	410053	0402204-04A	2/4/2004	**23**	6.2 U	3.6 U	14 U	3.2 U	2.3 U	5.1 U	**5.1**	7.0 U	6.4 U	5.0 U	6.2 U	5.0 U	3.7 U	3.6 U	27 U	4.5 U	7.0 U	5.5 U	3.7 U
Jungle Room	6021-7		3/13/2013	**22.4**	**0.61**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U	NA	2.73 U	3.43 U	2.73 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	2.02 U
Jungle Room	6129-6		8/27/2013	**177**	**1.36**	**2.3**	1.98 U	8.7 U	0.16 U	**59.9**	**3.76**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Jungle Room	6273-6		1/13/2014	**64.8**	0.41 U	1.98 U	1.98 U	8.7 U	1.28 U	**3.26**	2.47 U	2.81 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Jungle room	6359-6		3/24/2014	**17.4**	**0.475**	1.98 U	1.98 U	8.7 U	**0.179**	**2.98**	**3.46**	3.83 U	NA	2.73 U	3.43 U	**0.27**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.243**
Jungle Room	6360-7		6/2/2014	**252**	**1.36**	**3.21**	1.98 U	**42.2**	0.16 U	**4.14**	**3.92**	**4.14**	NA	2.27 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Jungle Room	6361-8		8/5/2014	**0.806**	0.41 U	1.98 U	1.98 U	**37.3**	0.16 U	2.81 U	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	**6.07**	0.19 U
Jungle Room	6750-6		2/25/2015	**14.8**	0.82 U	3.96 U	3.96 U	17.4 U	0.32 U	2.81 U	2.47 U	7.66 U	NA	5.46 U	6.86 U	0.46 U	4.04 U	3.96 U	7.42 U	4.92 U	7.68 U	6 U	0.38 U
Jungle Room	6750-15		2/25/2015	**16.5**	**0.61**	1.98 U	1.98 U	8.7 U	0.16 U	**3.37**	**3.51**	3.83 U	NA	2.73 U	3.43 U	**0.273**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Jungle Room	6768-6		4/28/2015	**111**	**1.22**	1.98 U	1.98 U	8.7 U	0.16 U	**27.1**	**2.97**	3.83 U	NA	2.73 U	3.43 U	**0.273**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichlorethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Jungle Room	6787-6		6/24/2015	**147**	**1.63**	1.98U	1.98U	8.7U	0.16U	**76.9**	**5.14**	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Jungle Room	6787-12		6/24/2015	**137**	**2.17**	1.98U	1.98U	8.7U	0.16U	**99.4**	**5.78**	**4.29**	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Jungle Room	6901-6		8/26/2015	**300**	**3.3**	**3.6**	0.83U	0.71U	0.55U	**140**	**3.8**	**6.8**	1.5U	1.1U	1.5U	1.2U	**2.4**	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Jungle Room	6922-5		9/18/2015	**207**	**2.1**	**3.01**	1.98U	8.7U	0.16U	**121**	**7.37**	**4.83**		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Jungle Room	6922-13		9/23/2015	**241**	**2.98**	**4.6**	1.98U	8.7U	0.16U	**179**	**9.34**	3.83U		2.73U	3.43U	0.23U	**2.02**	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Jungle Room	6923-6		10/22/2015	**660**	**3.5**	**6.2**	0.83U	0.71U	0.55U	**240**	**5**	**12**	1.5U	1.1U	1.5U	1.2U	**2.1**	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Jungle Room	7008-6		12/1/2015	**51.8**	**0.475**	1.98U	1.98U	8.7U	0.16U	**6.96**	**2.92**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Jungle Room	7054-2		2/17/2016	**19.6**	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	**3.93**	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	0.19 U
Jungle Room	7054-10		2/17/2016	**29.2**	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	**7.3**	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	0.19 U
Jungle Room	7085-5		3/8/2016	**490**	**7.6**	**3.9**	0.80 U	0.70 U	0.52 U	**290**	**7.9**	**13**	1.4 U	**1.8**	1.4 U	1.1 U	**3.7**	0.80 U	6.0 U	0.99 U	1.6 U	1.2 U	0.82 U
Jungle Room	7055-4		3/21/2016	**460**																			
Jungle Room	7109-4		3/27/2016	**38.4**																			
Jungle Room	7086-5		4/4/2016	**390**																			
Jungle Room	7056-4		4/11/2016	**100**																			
Jungle Room	7118-6		4/18/2016	**320**																			
Jungle Room	7057-11		4/26/2016	?																			
Jungle Room	7057-12		4/26/2016	?																			
Jungle Room	7128-2		5/10/2016	**398**																			
Jungle Room	7129-5		5/12/2016	**101**																			
Jungle Room	7137-10		5/23/2016	**316**																			
Jungle Room	7138-10		5/31/2016	**66.3**																			
Jungle Room	7158-6		6/5/2016	**33**																			
Jungle Room	7170-10		6/13/2016	**88.7**																			
Jungle Room	7171-10		6/20/2016	**21.9**																			
Jungle Room			6/28/2016	**15**																			
Jungle Room			7/6/2016	**17**																			
Jungle Room	FD		7/6/2016	**17**																			
Jungle Room	7189-6		7/12/2016	**20**																			
Jungle Room			7/12/2016	**14**																			
Jungle Room			7/19/2016	**14**																			
Jungle Room			7/26/2016	**13**																			
Jungle Room			8/3/2016	**15**																			
Jungle Room			8/9/2016	**14**																			
Jungle Room			8/16/2016	**14**																			
Jungle Room			8/23/2016	**11**																			
Jungle Room			8/29/2016	**15**																			
Jungle Room			9/13/2016	**11**																			
Jungle Room			9/27/2016	**13**																			
Jungle Room			10/11/2016	**18**																			
Jungle Room			10/12/2016	**16**																			
Jungle Room			10/13/2016	**19**																			
Jungle Room			10/19/2016	**15**																			
Jungle Room			10/23/2016	**21**																			
Jungle Room	7238-4		10/26/2016	**28.2**																			
Jungle Room			10/26/2016	**27**																			
Jungle Room			10/27/2016	**30**																			
Jungle Room			11/2/2016	**19**																			
Jungle Room			11/8/2016	**20**																			
Jungle Room			11/9/2016	**14**																			
Jungle Room			11/16/2016	**26**																			
Jungle Room			11/23/2016	**12**																			
Jungle Room			11/29/2016	**19**																			
Jungle Room			11/30/2016	**11**																			
Jungle Room			12/6/2016	**23**																			
Jungle Room			12/13/2016	**17**																			
Jungle Room			12/19/2016	**7.5**																			
Jungle Room			1/3/2017	**35**																			

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Jungle Room			1/17/2017	**24**																			
Jungle Room			1/30/2017	**20**																			
Jungle Room			2/13/2017	**27**																			
Jungle Room			2/20/2017	**22**																			
Jungle Room			3/16/2017	**19**																			
Jungle Room	7383-6		3/27/2017	**13.5**	0.41U	1.98U	1.98U	8.7U	0.16U	2.81U	2.47U	3.83U		2.73U	3.43U	0.0927U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.0486U
Jungle Room			3/27/2017	**16**																			
Jungle Room			4/10/2017	**15**																			
Jungle Room			4/24/2017	**24**																			
Jungle Room			5/24/2017	**7.4**																			
Jungle Room			6/6/2017	**8.3**																			
Jungle Room			6/20/2017	**12**																			
Jungle Room			7/6/2017	**16**																			
Jungle Room			7/17/2017	**20**																			
Jungle Room			8/14/2017	**22**																			
Jungle Room			9/19/2017	**16**																			
Jungle Room			10/10/2017	**21**																			
Jungle Room	7564-5		10/24/2017	**25**	0.34U	**0.28**	0.2U	0.7U	0.13U	**2.8**	**2.4**	1.5U	1.4U	1.1U	1.4U	1.1U	0.82U	0.2U	1.5UJ	0.99U	1.6U	1.2U	0.1U
Jungle Room			10/24/2017	**19**																			
Jungle Room			11/14/2017	**26**																			
Jungle Room			12/12/2017	**34**																			
Jungle Room			1/4/2018	**4.6**																			
Jungle Room			1/18/2018	**17**																			
Jungle Room			2/12/2018	**17**																			
Jungle Room			3/13/2018	**12**																			
Jungle Room			4/20/2018	**12**																			
Jungle Room			5/14/2018	**14**																			
Jungle Room			6/12/2018	**16**																			
Jungle Room			7/9/2018	**15**																			
Jungle Room			8/13/2018	**17**																			
Jungle Room			9/17/2018	**23**																			
Jungle Room	7976-1		10/15/2018	**24**	0.34 U	**0.26**	0.20 U	0.70 U	0.13 U	**1.8**	**2.3**	1.5 U	1.4 U	1.1 U	1.4 U	1.1 U	0.82 U	0.20 U	1.5 U	0.99 U	1.6 U	1.2 U	0.10 U
Jungle Room			10/15/2018	**20**																			
Jungle Room			11/16/2018	**21**																			
Jungle Room			12/20/2018	**15**																			
Jungle Room			2/13/2019	**15**																			
Jungle Room			5/7/2019	**7.4**																			
Jungle Room			8/5/2019	**35**																			
Jungle Room			8/21/2019	NA																			
Jungle Room	501731	0501424-04A	1/20/2005	**24**	5.7 U	3.3 U	3.3 U	2.9 U	2.1 U	**9.7**	4.2 U	6.4 U	5.9 U	4.6 U	5.8 U	4.6 U	3.4 U	3.3 U	25 U	4.1 U	6.4 U	5.0 U	3.4 U
Kitchen	7109-3		3/27/2016	**0.913**																			
Lassie Room	321225	030S140-03A	5/1/2003	**1100**	5.8 U	**5.3**	14 U	3.0 U	2.2 U	**210**	**22**	**9.7**	6.60 U	4.6 U	5.9 U	4.6 U	3.4 U	3.4 U	25 U	4.2 U	6.6 U	5.1 U	3.4 U
Lassie Room	321238	0310328-03A	10/9/2003	**900**	5.6 U	**7.5**	13 U	2.8 U	2.1 U	**95**	**10**	6.3 U	5.7 U	4.5 U	5.6 U	4.5 U	3.3 U	3.2 U	24 U	4.0 U	6.3 U	4.9 U	3.3 U
Lassie Room	410052	0402204-03A	2/4/2004	**18**	5.9 U	3.4 U	14 U	3.0 U	2.2 U	4.9 U	**5.4**	6.7 U	6.1 U	4.7 U	6.0 U	4.7 U	3.5 U	3.4 U	26 U	4.3 U	6.7 U	5.2 U	3.5 U
Lassie Room	501730	0S01424-03A	1/20/2005	**22**	6.1 U	3.5 U	3.5 U	3.1 U	2.3 U	**9.5**	4.4 U	6.8 U	6.2 U	4.9 U	6.1 U	4.9 U	3.6 U	3.5 U	26 U	4.4 U	6.9 U	5.4 U	3.6 U
Lassie Room	6021-6		3/13/2013	**18.2**	**0.61**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U	NA	2.73 U	3.43 U	2.73 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	2.02 U
Lassie Room	6129-5		8/27/2013	**117**	**1.29**	1.98 U	1.98 U	**101**	0.16 U	**42.1**	**3.31**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Lassie Room	6273-5		1/13/2014	**48.8**	0.41 U	1.98 U	1.98 U	**11.4**	1.28 U	**3.09**	2.47 U	2.81 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Lassie Room	6768-5		4/28/2015	**79.7**	**0.814**	1.98 U	1.98 U	**41.1**	0.16 U	**18.5**	**2.87**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Lassie Room	6787-5		6/24/2015	**120**	**1.42**	1.98U	1.98U	8.7U	0.16U	**76.9**	**4.15**	**3.91**	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Lassie Room	6901-5		8/26/2015	**260**	**2.6**	**2.2**	0.83U	0.71U	0.55U	**120**	**3.2**	**5.2**	1.5U	1.1U	1.5U	1.2U	**1.5**	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Lassie Room	7238-3		10/26/2016	**20.8**																			
Lassie Room	6359-5		3/24/2014	**21.4**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	**3.48**	**3.36**	3.83 U	NA	2.73 U	3.43 U	**0.249**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.202**
Lassie Room	6360-5		6/2/2014	**196**	**1.22**	1.98 U	1.98 U	**38.9**	0.16 U	**51.8**	**4.05**	3.38 U	NA	2.27 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Lassie Room	6361-5		8/5/2014	**176**	**1.15**	**2.77**	1.98 U	**107**	0.16 U	**43.5**	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Lassie Room	6750-4		2/25/2015	**11**	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**2.82**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Lassie Room	6750-14		2/25/2015	**12.4**	**0.542**	1.98 U	1.98 U	**9.93**	0.16 U	**3.2**	**3.46**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichlorethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Loot Rock	0321242	0310329-03A	10/9/2003	**1500**	11 U	**15**	25 U	5.5 U	4.0 U	**160**	**16**	12 U	11 U	8.6 U	11 U	8.6 U	6.4 U	6.2 U	47 U	7.7 U	12 U	9.5 U	6.4 U
Loot Rock	410056	0402204-07A	2/4/2004	**7.8**	8.9 U	5.2 U	21 U	4.6 U	3.4 U	7.4 U	6.5 U	10 U	9.2 U	7.2 U	9.0 U	7.2 U	5.3 U	5.2 U	39 U	6.5 U	10 U	7.9 U	5.3 U
Loot Rock	6021-5		3/13/2013	**7.09**	**0.814**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U	NA	2.73 U	3.43 U	2.73 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	2.02 U
Loot Rock	6129-3		8/27/2013	**153**	**1.36**	1.98 U	1.98 U	**10.4**	0.16 U	**54.8**	**3.56**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6129-4		8/27/2013	**164**	**1.29**	**2.06**	1.98 U	8.7 U	0.16 U	**54.8**	**3.76**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6273-3		1/13/2014	**33.8**	0.41 U	1.98 U	1.98 U	**43.2**	1.28 U	2.81 U	2.47 U	2.81 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6273-3-FD		1/13/2014	**40.1**	0.41 U	1.98 U	1.98 U	8.7 U	1.28 U	2.81 U	2.47 U	2.81 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot rock	6359-3		3/24/2014	**14**	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.21**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.202**
Loot rock	6359-3FD		3/24/2014	**13.9**	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.21**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.202**
Loot Rock	6360-3		6/2/2014	**220**	**1.42**	1.98 U	1.98 U	**27.4**	0.16 U	**55.4**	**2.77**	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6360-3-FD		6/2/2014	**217**	**1.83**	1.98 U	1.98 U	8.7 U	0.16 U	**62.9**	**4.25**	**4.14**	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6361-3		8/5/2014	**224**	**1.02**	**3.61**	1.98 U	**44.3**	0.16 U	**46.3**	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6361-3-FD		8/5/2014	**189**	**1.15**	**3.41**	1.98 U	**120**	0.16 U	**45.8**	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6750-3		2/25/2015	**9.83**	0.41 U	1.98 U	1.98 U	**41.9**	0.16 U	2.81 U	**3.31**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6750-12 FD		2/25/2015	**11.9**	**0.542**	1.98 U	1.98 U	8.7 U	0.16 U	**3.09**	**3.46**	3.83 U	NA	2.73 U	3.43 U	**0.273**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6750-12		2/25/2015	**14.1**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	**3.54**	**3.66**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6768-3 FD		4/28/2015	**77.1**	**0.678**	1.98 U	1.98 U	**10.3**	0.16 U	**14.4**	**2.67**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6768-3		4/28/2015	**79.1**	**0.542**	1.98 U	1.98 U	**16.2**	0.16 U	**14.4**	**2.62**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	6787-3		6/24/2015	**114**	**1.36**	1.98U	1.98U	8.7U	0.16U	**73.8**	**4.15**	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Loot Rock	6901-4		8/26/2015	**300**	**2.9**	**3.0**	0.83U	0.71U	0.55U	**130**	**3.3**	**5.5**	1.5U	1.1U	1.5U	1.2U	**2.0**	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Loot Rock	6922-4		9/18/2015	**158**	**1.9**	**2.73**	1.98U	8.7U	0.16U	**115**	**7.07**	**5.06**		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Loot Rock	6922-11		9/23/2015	**181**	**2.51**	**3.33**	1.98U	43.5U	0.16U	**120**	**18.9**	**5.82**		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Loot Rock	6923-4		10/22/2015	**590**	**3.0**	**5.3**	0.83U	0.71U	0.55U	**200**	**4.7**	**10**	1.5U	1.1U	1.5U	1.2U	**1.9**	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Loot Rock	7008-4		12/1/2015	**36.7**	0.41U	1.98U	1.98U	**15.3**	0.16U	**5.17**	**2.72**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Loot Rock	7054-9		2/17/2016	**22.8**	0.41 U	1.98 U	1.98 U	**20.1**	0.16 U	**5.5**	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	0.19 U
Loot Rock	7085-4		3/8/2016	**420**	**6.7**	**2.8**	0.80 U	0.70 U	0.52 U	**220**	**7.2**	**10**	1.4 U	1.1 U	1.4 U	1.1 U	**2.8**	0.80 U	6.0 U	0.99 U	1.6 U	1.2 U	0.82 U
Loot Rock			6/28/2016	**15**																			
Loot Rock			7/6/2016	**28**																			
Loot Rock	7189-5		7/12/2016	**25**																			
Loot Rock			7/12/2016	**19**																			
Loot Rock			7/19/2016	**14**																			
Loot Rock			7/26/2016	**13**																			
Loot Rock			8/3/2016	**12**																			
Loot Rock			8/9/2016	**12**																			
Loot Rock			8/16/2016	**11**																			
Loot Rock			8/23/2016	**14**																			
Loot Rock			8/29/2016	**16**																			
Loot Rock			9/13/2016	**13**																			
Loot Rock			9/27/2016	**13**																			
Loot Rock			10/13/2016	**28**																			
Loot Rock			10/19/2016	**26**																			
Loot Rock			10/23/2016	**32**																			
Loot Rock			10/26/2016	**39**																			
Loot Rock			10/27/2016	**35**																			
Loot Rock			11/2/2016	**27**																			
Loot Rock			11/8/2016	**29**																			
Loot Rock			11/9/2016	**21**																			
Loot Rock			11/16/2016	**34**																			
Loot Rock			11/23/2016	**8.8**																			
Loot Rock			11/29/2016	**22**																			
Loot Rock			11/30/2016	**1.1**																			
Loot Rock			12/6/2016	**22**																			
Loot Rock			12/13/2016	**18**																			
Loot Rock			12/19/2016	**11**																			
Loot Rock			1/3/2017	**27**																			
Loot Rock			1/17/2017	**32**																			
Loot Rock			1/30/2017	**23**																			

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Loot Rock			2/13/2017	**24**																			
Loot Rock			2/20/2017	**17**																			
Loot Rock			3/16/2017	**18**																			
Loot Rock	7383-4FD		3/27/2017	**13.8**	0.41U	1.98U	1.98U	8.7U	0.16U	2.81U	2.47U	3.83U		2.73U	3.43U	0.0927U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.0486U
Loot Rock	7383-4		3/27/2017	**14.6**	0.41U	1.98U	1.98U	8.7U	0.16U	2.81U	2.47U	3.83U		2.73U	3.43U	0.0927U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.0486U
Loot Rock			3/27/2017	**16**																			
Loot Rock			4/10/2017	**15**																			
Loot Rock			4/24/2017	**25**																			
Loot Rock			5/24/2017	**8.6**																			
Loot Rock			6/6/2017	**8.2**																			
Loot Rock			6/20/2017	**13**																			
Loot Rock			7/6/2017	**20**																			
Loot Rock			7/17/2017	**28**																			
Loot Rock			8/14/2017	**16**																			
Loot Rock			9/19/2017	**13**																			
Loot Rock			10/10/2017	**15**																			
Loot Rock	7564-4		10/24/2017	**38**	0.34U	**0.45**	0.2U	0.7U	0.13U	**4.2**	**2.4**	1.5U	1.4U	1.1U	1.4U	1.1U	0.82U	0.2U	1.5UJ	0.99U	1.6U	1.2U	0.1U
Loot Rock			10/24/2017	**31**																			
Loot Rock			11/14/2017	**21**																			
Loot Rock			12/12/2017	**37**																			
Loot Rock			1/4/2018	**0.50 J**																			
Loot Rock			1/18/2018	**18**																			
Loot Rock			2/12/2018	**17**																			
Loot Rock			3/13/2018	**12**																			
Loot Rock			4/20/2018	**10**																			
Loot Rock			5/14/2018	**12**																			
Loot Rock			6/12/2018	**17**																			
Loot Rock			7/9/2018	**17**																			
Loot Rock			8/13/2018	**15**																			
Loot Rock			9/17/2018	**22**																			
Loot Rock	7976-2		10/15/2018	**21**	0.34 U	**0.24**	0.20 U	0.70 U	0.13 U	**2.5**	**2.3**	1.5 U	1.4 U	1.1 U	1.4 U	1.1 U	0.82 U	0.20 U	1.5 U	0.99 U	1.6 U	1.2 U	0.10 U
Loot Rock			10/15/2018	**20**																			
Loot Rock			11/16/2018	**26**																			
Loot Rock			12/20/2018	**13**																			
Loot Rock			2/13/2019	**13**																			
Loot Rock			5/7/2019	**5.9**																			
Loot Rock			8/5/2019	**30**																			
Loot Rock			8/21/2019	NA																			
Loot Rock	501734	0S01424-07A	1/20/2005	**9.8**	5.8 U	3.4 U	3.4 U	3.0 U	2.2 U	**7.1**	4.2 U	6.6 U	6.0 U	4.7 U	5.9 U	4.7 U	3.5 U	3.4 U	25 U	4.2 U	6.6 U	5.1 U	3.5 U
Motel	7054-12		2/17/2016	0.43 U	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	**1.86**
Mud Alley	6768-12		4/28/2015	**117**	**1.29**	1.98 U	1.98 U	**11.5**	0.16 U	**28.5**	**3.95**	3.83 U	NA	2.73 U	3.43 U	**0.273**	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Mud Alley	6901-11		8/26/2015	**45**	1.4U	0.84U	0.83U	0.71U	0.55U	**24**	**1.3**	**1.5**	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Mud Alley	6923-11		10/22/2015	**97**	1.4U	0.84U	0.83U	0.71U	0.55U	**37**	**2.3**	**1.8**	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Office	7118-3		4/18/2016	**0.913**																			
Pavillion/Parking Lot	501728	0501424-01A	1/20/2005	3.7 U	4.7 U	2.8 U	2.8 U	2.4 U	1.8 U	3.9 U	3.4 U	5.3 U	4.8 U	3.8 U	4.8 U	3.8 U	2.8 U	2.8 U	21 U	3.4 U	5.3 U	4.2 U	2.8 U
Riverboat Tour Shelter	6021-8		3/13/2013	1.2 U	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U	NA	2.73 U	3.43 U	2.73 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	2.02 U
Riverboat Tour Shelter	6129-8		8/27/2013	**0.483**	0.41 U	1.98 U	1.98 U	**74.6**	0.16 U	2.81 U	2.47 U	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Riverboat Tour Shelter	6273-8		1/13/2014	0.43 U	0.41 U	1.98 U	1.98 U	**41.9**	1.28 U	2.81 U	2.47 U	2.81 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Site 1 (background)	#3759	0210470-01A	10/8/2002	4.4 U	4.6 U	1.7 U	5.7 U	3.5 U	2.1 U	3.6 U	**8.4 B**	13 U	4.0 U	4.5 U	5.6 U	4.5 U	3.3 U	3.2 U	24 U	4.0 U	6.3 U	4.9 U	3.3 U
Site 3 (Slot 1)	#4062	0210470-03A	10/8/2002	**450**	6.3 U	**6.6**	15 U	**7.5 B**	2.4 U	**19**	**5.1**	7.1 U	6.5 U	5.1 U	6.4 U	5.1 U	3.8 U	3.7 U	28 U	4.6 U	7.1 U	5.6 U	3.8 U
Site 4 (Slot 2)	#4282	0210470-04A	10/8/2002	4.2 U	5.3 U	3.1 U	12 U	**13 B**	2 U	4.4 U	**5.2**	6 U	5.5 U	4.3 U	5.4 U	4.3 U	3.2 U	3.1 U	23 U	3.9 U	6 U	4.7 U	3.2 U
Site 5 (Slot 3)	#2987	0210470-05A	10/8/2002	**6.5**	5.1 U	3 U	12 U	**22 B**	1.9 U	4.2 U	**32**	5.8 U	5.3 U	4.1 U	5.2 U	4.1 U	3.1 U	3 U	22 U	3.7 U	5.8 U	4.6 U	3.1 U
B11 - Fallout Shelter	6787-4		6/24/2015	**130**	**1.63**	1.98U	1.98U	8.7U	0.16U	**92.4**	**5.83**	**4.9**	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Theater	6750-7		2/25/2015	**4.83**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**2.87**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Theater	6750-16		2/25/2015	**5.32**	**0.542**	1.98 U	1.98 U	**28.7**	0.16 U	2.81 U	**3.56**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Theater	6787-7		6/24/2015	0.43U	0.41U	1.98U	1.98U	**55.6**	0.16U	2.81U	**2.47**	3.83U	NA	2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Theater	6901-7		8/26/2015	**13**	1.4U	0.84U	0.83U	0.71U	0.55U	**8.7**	**1.4**	1.5U	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichlorethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Theater	6922-6		9/17/2015	**4.46**	**0.678**	1.98U	1.98U	**32.9**	0.16U	**3.93**	**3.07**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Theater	6922-14		9/23/2015	**17.9**	0.41U	1.98U	1.98U	**47**	0.16U	**8.82**	**8.21**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Theater	6923-7		10/22/2015	**45**	1.4U	0.84U	0.83U	0.71U	0.55U	**9.1**	**1.7**	1.5U	1.5U	1.1U	1.5U	1.2U	0.84U	0.80U	1.5U	1.1U	1.7U	1.3U	0.85U
Theater	7054-3		2/17/2016	**14.6**	**0.814**	1.98 U	1.98 U	8.7 U	0.16 U	**6.51**	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	0.19 U
Theater	7054-8		2/17/2016	**28.4**	**1.22**	1.98 U	1.98 U	8.7 U	0.16 U	**14.5**	2.47 U	3.83 U		2.73 U	3.43 U	0.23 U	2.02 U		3.71 U	2.46 U	3.84 U	3 U	0.19 U
Theater	7085-3		3/8/2016	**59**	**1.9**	0.80 U	0.80 U	0.70 U	0.52 U	**25**	**2.6**	**1.6**	1.4 U	1.1 U	1.4 U	1.1 U	0.82 U	0.80 U	6.0 U	0.99 U	1.6 U	1.2 U	0.82 U
Theater	7086-4		4/4/2016	**4.4**																			
Theater	7056-3		4/11/2016	**4.3**																			
Theater	7118-4		4/18/2016	**5.59**																			
Theater	7057-9		4/26/2016	?																			
Theater	7057-10		4/26/2016	?																			
Theater	7158-4		6/5/2016	1.1 U																			
Theater	7170-8		6/13/2016	0.43 U																			
Theater	7171-8		6/20/2016	0.43 U																			
Theater			6/28/2016	1.1 U																			
Theater	FD		6/28/2016	**2.5**																			
Theater			7/6/2016	**0.44 J**																			
Theater	7189-4		7/12/2016	1.1 U																			
Theater			7/19/2016	1.1 U																			
Theater			7/26/2016	1.1 U																			
Theater			8/3/2016	1.1 U																			
Theater			8/9/2016	1.1 U																			
Theater			8/16/2016	1.1 U																			
Theater			8/23/2016	**0.28 J**																			
Theater			8/29/2016	1.1 U																			
Theater			9/13/2016	**0.55 J**																			
Theater			9/27/2016	**1.6**																			
Theater			10/11/2016	**4.5**																			
Theater			10/13/2016	**1.2**																			
Theater			10/19/2016	1.1 U																			
Theater			10/23/2016	**1.7**																			
Theater			10/26/2016	**3.9**																			
Theater			10/27/2016	**1.2**																			
Theater			11/2/2016	1.1 U																			
Theater			11/8/2016	**0.76 J**																			
Theater			11/9/2016	**9.1**																			
Theater			11/16/2016	**9.9**																			
Theater			11/23/2016	**1.9**																			
Theater			11/29/2016	**1.1**																			
Theater			11/30/2016	**1.1**																			
Theater			12/6/2016	**1.1**																			
Theater			12/13/2016	**0.89 J**																			
Theater			12/19/2016	**1.8**																			
Theater			1/3/2017	**0.55 J**																			
Theater			1/17/2017	**0.89 J**																			
Theater			1/30/2017	**0.45 J**																			
Theater			2/13/2017	**1.2**																			
Theater			2/20/2017	**0.54 J**																			
Theater			3/16/2017	1.1 U																			
Theater	7383-3		3/27/2017	0.43U	0.41U	1.98U	1.98U	8.7U	0.16U	2.81U	2.47U	3.83U		2.73U	3.43U	0.0927U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.0486U
Theater			3/27/2017	1.1 U																			
Theater			4/10/2017	1.1 U																			
Theater			4/24/2017	1.1 U																			
Theater			5/24/2017	1.1 U																			
Theater			6/6/2017	1.1 U																			
Theater			6/20/2017	1.1 U																			
Theater			7/6/2017	1.1 U																			

Location	Sample ID	Lab ID	Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Methylene Chloride	Vinyl Chloride	Trichlorofluoromethane (Freon 11)	Dichlorodifluoromethane (Freon 12)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichlorotetrafloroethane (Freon 114)	1,1,1,-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichlorethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
Theater			7/17/2017	1.1 U																			
Theater			8/14/2017	1.1 U																			
Theater			9/19/2017	1.1 U																			
Theater			10/10/2017	1.1 U																			
Theater	7564-3		10/24/2017	0.27U	0.34U	0.2U	0.2U	0.7U	0.13U	**1.1**	**1.9**	1.5U	1.4U	1.1U	1.4U	1.1U	0.82U	0.2U	1.5UJ	0.99U	1.6U	1.2U	0.1U
Theater			10/24/2017	**1.4**																			
Theater			11/14/2017	**0.56 J**																			
Theater			12/12/2017	**5.6**																			
Theater			1/4/2018	**0.53 J**																			
Theater			1/18/2018	**1.1**																			
Theater			2/12/2018	**0.27 J**																			
Theater			3/13/2018	1.1 U																			
Theater			4/20/2018	1.1 U																			
Theater			5/14/2018	1.1 U																			
Theater			6/12/2018	1.1 U																			
Theater			7/9/2018	1.1 U																			
Theater			8/13/2018	**1.3**																			
Theater			9/17/2018	1.1 U																			
Theater			10/15/2018	1.1 U																			
Theater			11/16/2018	1.1 U																			
Theater			12/20/2018	**0.69 J**																			
Theater			2/13/2019	**0.69 J**																			
Theater			5/7/2019	1.1 U																			
Theater			8/5/2019	1.1 U																			
Theater			8/21/2019	NA																			
Theater Room	321240	0310329-01A	10/9/2003	**340**	6.0 U	**3.9**	14 U	3.1 U	2.3 U	**35**	**6.2**	6.8 U	6.2 U	4.8 U	6.1 U	4.8 U	3.6 U	3.5 U	26 U	4.4 U	6.8 U	5.3 U	3.6 U
Theater room	410054	04022044-05A	2/4/2004	**5.1**	5.9 U	3.4 U	14 U	3.0 U	2.2 U	4.9 U	**6.6**	6.7 U	6.1 U	4.7 U	6.0 U	4.7 U	3.5 U	3.4 U	26 U	4.3 U	6.7 U	5.2 U	3.5 U
Theater Room	6021-4		3/13/2013	**4.19**	**0.746**	1.98 U	1.98 U	8.7 U	0.16 U	NA	NA	3.83 U	NA	2.73 U	3.43 U	2.73 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	2.02 U
Theater Room	6129-7		8/27/2013	0.43 U	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	2.47 U	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Theater Room	6273-7		1/13/2014	**12.3**	0.41 U	1.98 U	1.98 U	**9.13**	1.28 U	2.81 U	2.47 U	2.81 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Theater room	6359-7		3/24/2014	**4.35**	**0.475**	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	**3.21**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	**0.243**
Theater Room	6360-6		6/2/2014	**1.29**	0.41 U	1.98 U	1.98 U	8.7 U	0.16 U	2.81 U	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Theater Room	6361-6		8/5/2014	**240**	**1.22**	**4.44**	1.98 U	**30.6**	0.16 U	**52.9**	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Theater Room	6768-7		4/28/2015	**31.8**	0.41 U	1.98 U	1.98 U	**56.3**	0.16 U	**8.48**	**2.57**	3.83 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Theater Room	501732	0S01424-05A	1/20/2005	4.9 U	6.2 U	3.6 U	3.6 U	3.2 U	2.3 U	**5.6**	4.5 U	7.0 U	6.4 U	5.0 U	6.3 U	5.0 U	3.7 U	3.6 U	27 U	4.5 U	7.0 U	5.5 U	3.7 U
Theater	7008-7		12/1/2015	**33.4**	**1.83**	1.98U	1.98U	**17**	0.16U	**12.1**	**3.66**	3.83U		2.73U	3.43U	0.23U	2.02U	1.98U	3.71U	2.46U	3.84U	3U	0.19U
Ticket counter	6360-8		6/2/2014	**183**	**1.08**	1.98 U	1.98 U	8.7 U	0.16 U	3.83 U	**2.72**	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Ticket counter	6361-9		8/5/2014	**193**	**0.881**	**2.81**	1.98 U	**59**	0.16 U	**42.9**	2.47 U	3.38 U	NA	2.73 U	3.43 U	0.23 U	2.02 U	1.98 U	3.71 U	2.46 U	3.84 U	3 U	0.19 U
Ticket Counter	7170-5		6/13/2016	**4.51**																			
Ticket counter	7171-5		6/20/2016	**4.24**																			
Trip Blank	321243	0310329-04A	10/9/2003	2.7 U	3.4 U	2.0 U	8.0 U	1.8 U	1.3 U	2.8 U	2.5 U	3.9 U	3.6 U	2.8 U	3.5 U	2.8 U	2.0 U	2.0 U	15 U	2.5 U	3.9 U	3.0 U	2.0 U
Unknown Location	321227	0305140-05A	5/1/2003	2.7 U	3.4 U	2.0 U	8.0 U	1.8 U	1.3 U	2.8 U	2.5 U	3.9 U	3.6 U	2.8 U	3.5 U	2.8 U	2.0 U	2.0 U	15 U	2.5 U	3.9 U	3.0 U	2.0 U
Unknown Location	410050	0402204-01A	2/4/2004	4.4 U	5.6 U	3.2 U	13 U	2.8 U	2.1 U	4.6 U	4.0 U	6.3 U	5.7 U	4.5 U	5.6 U	4.5 U	3.3 U	3.2 U	24 U	4.0 U	6.3 U	4.9 U	3.3 U
Unknown Location	410050-FD	0402204-01AA	2/4/2004	4.4 U	5.6 U	3.2 U	13 U	2.8 U	2.1 U	4.6 U	4.0 U	6.3 U	5.7 U	4.5 U	5.6 U	4.5 U	3.3 U	3.2 U	24 U	4.0 U	6.3 U	4.9 U	3.3 U
Unknown Location	410057	0402204-08A	2/4/2004	2.7 U	3.4 U	2.0 U	8.0 U	1.8 U	1.3 U	2.8 U	2.5 U	3.9 U	3.6 U	2.8 U	3.5 U	2.8 U	2.0 U	2.0 U	15 U	2.5 U	3.9 U	3.0 U	2.0 U
Unknown Location	504370	0509087-01A	8/29/2005	12,000 U	15,000 U	8,600 U	8,600 U	**2,700,000**	5,500 U	12,000 U	11,000 U	**51000**	15,000 U	12,000 U	15,000 U	12,000 U	8,800 U	8,600 U	64,000 U	11,000 U	17,000 U	13,000 U	8,800 U
Unknown Location	504374	0509087-02A	8/29/2005	33 U	42 U	24 U	24 U	**5,200**	**24**	35 U	**2,600**	**64**	**5,600**	34 U	42 U	34 U	25 U	24 U	180 U	**890**	48 U	37 U	25 U
Unknown Location	504374	0509087-02AA	8/29/2005	33 U	42 U	24 U	24 U	**5,300**	**24**	35 U	**2,400**	**64**	**5,500**	34 U	42 U	34 U	25 U	24 U	180 U	**890**	48 U	37 U	25 U
Unknown Location	504375	0509087-3A	8/29/2005	**170**	110 U	63 U	63 U	**950**	**82**	**1600**	**4,100**	120 U	**2,000**	87 U	110 U	87 U	64 U	63 U	470 U	**2,000**	120 U	96 U	64 U
Unknown Location	504378	0509087-04A	8/29/2005	34 U	43 U	25 U	25 U	**5,200**	**28**	36 U	**440**	**75**	**710**	35 U	44 U	35 U	26 U	25 U	190 U	**1,500**	49 U	38 U	26 U
Unknown Location	504379	0509087-05A	8/29/2005	**230**	**140**	**610**	**180**	**1,000**	**3,400**	**390**	**6,200**	130 U	**1,000**	91 U	110 U	91 U	68 U	66 U	500 U	**4,300**	130 U	100 U	68 U

Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
Airlock																									
Amphitheater	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Amphitheater	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	1.03U
Amphitheater	2.31 U	2.46 U		3 U				**2.21**	2.05 U				2.05 U	**11.5**		**0.447**	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Amphitheater	2.31U	2.46U		3U				1.47U	2.05U				2.05U	**6.89**		**0.575**	3.35U	5.17U	1.94U	1.56U	**0.566**	2.3U	1.32U	2.44U	1.03U
Atomic Shelter	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	1.03U
B11 - Fallout Shelter	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45U	0.66U	1.1U	0.81U	**0.72**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**1.1**	0.44U
B11 - Fallout Shelter	2.31U	2.46U		3U				**3.77**	2.05U				2.05U	**20.6**		**0.671**	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	**2.91**
B11 - Fallout Shelter	2.31U	2.46U		3U				1.47U	2.05U				2.05U	**8.12**		0.31U	3.35U	5.17U	1.94U	1.56U	**0.503**	2.3U	1.32U	2.44U	1.03U
B11 - Fallout Shelter	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45UJ	0.66U	1.1U	0.81U	**0.76**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	1.0U	0.44U
B11 - Fallout Shelter	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	1.03U
B11 - Fallout Shelter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	1.03 U
Background	4.2 U	4.5 U	8.0 U	5.5 U	5.5 U	13 U	NA	11 U	15 U	8.9 U	NA	18 U	15 U	**9.7**	4.7 U	2.9 U	24 U	38 U	3.5 U	11 U	5.7 U	4.2 U	2.4 U	4.4 U	**2.1**
Background	3.9 U	4.2 U	1.9 U	5.1 U	5.1 U	12 U	NA	10 U	14 U	8.4 U	NA	17 U	14 U	**8.4**	4.4 U	2.7 U	5.7 U	35 U	3.3 U	11 U	5.4 U	3.9 U	2.2 U	4.2 U	7.0 U
Ballroom	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**8.5**	NA	**0.766**	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	1.03 U
Ballroom	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**8.45**	NA	**0.639**	3.35 U	5.17 U	1.94 U	1.56 U	**0.692**	2.3 U	1.32 U	2.44 U	**1.14**
Ballroom	0.98U	1.0U	0.45U	1.3U	**5.4**	0.71U	1.0U	0.58U	0.80U	**0.63**	0.66U	1.1U	0.81U	**1.6**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	1.0U	0.44U
Ballroom	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	**1.86**
Ballroom	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	**2.06**
Ballroom	0.98U	1.0U	0.45U	1.3U	**8.3**	0.71U	1.0U	0.58U	0.80U	0.45UJ	0.66U	1.1U	0.81U	**1.3**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**13**	0.44U
Ballroom	3.8 U	4.0 U	7.2 U	4.9 U	**28**	12 U	NA	9.6 U	13 U	8.0 U	NA	16 U	13 U	**11**	4.2 U	2.6 U	22 U	34 U	3.2 U	10 U	5.1 U	3.8 U	2.2 U	4.0 U	1.7 U
Ballroom	3.9 U	4.2 U	7.6 U	5.1 U	5.1 U	12 U	NA	10 U	14 U	8.4 U	NA	17 U	14 U	**9.6**	4.4 U	2.7 U	23 U	35 U	3.3 U	11 U	5.4 U	3.9 U	2.2 U	4.2 U	1.8 U
Ballroom	3.6 U	3.8 U	1.7 U	4.6 U	4.6 U	11 U	NA	9.1 U	13 U	7.6 U	NA	15 U	13 U	**12**	4.0 U	2.5 U	5.2 U	32 U	3.0 U	9.6 U	4.9 U	3.6 U	2.0 U	3.8 U	6.4 U
Ballroom	4.0 U	4.2 U	1.9 U	5.1 U	5.1 U	12 U	4.0 U	**2.6**	14 U	8.4 U	11 U	4.2 U	3.5 U	**10**	4.4 U	2.7 U	5.7 U	8.8 U	3.3 U	2.7 U	5.4 U	3.9 U	2.2 U	4.2 U	7.1 U
Ballroom	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	1.03 U
Ballroom	2.31U	2.46U	NA	3U	NA	NA	NA	**1.62**	2.05U	NA	NA	NA	2.05U	**16**	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Ballroom	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.503**	2.3U	1.32U	**6.59**	1.03U
Ballroom	9.24 U	9.84 U		12 U				5.88 U	8.2 U				8.2 U	**34.2**		1.24 U	13.4 U	20.7 U	7.76 U	6.24 U	1.64 U	9.2 U	5.28 U	9.76 U	4.12 U
Ballroom	2.31 U	2.46 U		3 U				1.47 U	2.05 U				2.05 U	5.95 U		0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.44**	2.3 U	1.32 U	2.44 U	1.03 U
Ballroom	0.93 U	0.99 U	0.45 U	1.2 U	1.2 U	0.73 U	0.94 U	0.96 U	1.6 U	0.50 U	0.63 U	2.2 U	0.83 U	**1.9**	1.0 UJ	0.65 U	1.4 U	2.1 U	0.78 U	0.63 U	1.3 U	0.93 U	0.53 U	**1.1**	0.42 U
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Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
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Ballroom	2.31U	**8.89**		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	1.03U
Ballroom	0.93U	0.99U	0.45U	1.2U	1.2U	0.73U	1U	1.9U	1.7U	0.5U	0.32U	4U	1.7U	**1.7**	4.2UJ	0.16U	1.4U	2.1U	0.78U	0.63U	**0.36**	0.93U	0.53U	**1.1**	0.42U
Ballroom	0.93 U	0.99 U	0.45 UJ	1.2 U	1.2 U	0.73 U	1.0 U	1.9 U	1.7 U	0.50 U	0.32 U	4.0 U	1.7 U	**2.1**	4.2 UJ	0.16 U	1.4 U	2.1 U	0.78 U	0.63 U	**0.58**	0.93 U	**0.8**	**5.5**	**4**

Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
Ballroom behind stage	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**9.52**	NA	**0.671**	3.35 U	5.17 U	1.94 U	1.56 U	**0.755**	2.3 U	1.32 U	2.44 U	1.03 U
Ballroom behind stage	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**13.8**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Ballroom behind stage	2.31 U	2.46 U	NA	3 U	NA	NA	NA	**2.59**	2.05 U	NA	NA	NA	2.05 U	**18.4**	NA	**0.319**	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Ballroom behind stage	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**13.6**	NA	**0.447**	3.35 U	5.17 U	1.94 U	1.56 U	**0.44**	2.3 U	1.32 U	2.44 U	**1.24**
Ballroom behind stage	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.503**	2.3 U	1.32 U	2.44 U	1.03 U
Ballroom behind stage	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Ballroom stage	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**10.5**	NA	**0.671**	3.35 U	5.17 U	1.94 U	1.56 U	**0.755**	2.3 U	1.32 U	2.44 U	1.03 U
Ballroom stage	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	5.95U	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Bat Cave	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**9.07**	NA	**0.383**	3.35 U	5.17 U	1.94 U	1.56 U	**0.692**	2.3 U	1.32 U	2.44 U	1.03 U
Bat Cave (left wing)	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	5.95U	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Behind ticket counter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**7.43**	NA	**0.543**	3.35 U	5.17 U	1.94 U	1.56 U	**0.943**	2.3 U	1.32 U	2.44 U	**1.49**
Between Airlock Doors	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45U	0.66U	1.1U	0.81U	**1.4**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**1.2**	0.44U
Between Airlock Doors	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45UJ	0.66U	1.1U	0.81U	**0.84**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**3.7**	0.44U
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Conference (in slot)	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	5.95U	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Conference Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	**0.575**	3.35 U	5.17 U	1.94 U	1.56 U	**0.629**	2.3 U	1.32 U	2.44 U	1.03 U
Conference Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	1.03 U
Conference Room	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45U	0.66U	1.1U	0.81U	**2.4**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**1.1**	**1.5**
Conference Room	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45UJ	0.66U	1.1U	0.81U	**2.9**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	1.0U	0.44U
Conference room (left vent)	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	**7.84**	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Echo Room																									
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B11 - Fallout Shelter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**49.3**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	**5.12**	1.03 U
Gazebo	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	**0.479**	3.35 U	5.17 U	1.94 U	1.56 U	**0.818**	2.3 U	1.32 U	2.44 U	**1.18**
Gazebo	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**19.7**	NA	**0.351**	3.35 U	5.17 U	1.94 U	1.56 U	**0.629**	2.3 U	1.32 U	2.44 U	1.03 U
Gazebo	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Gazebo	4.62 U	4.92 U	NA	6 U	NA	NA	NA	2.94 U	4.1 U	NA	NA	NA	4.1 U	11.9 U	NA	**0.639**	6.7 U	10.3 U	3.88 U	3.12 U	0.82 U	4.6 U	2.64 U	4.88 U	2.06 U
Gazebo	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**10.2**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.629**	2.3 U	1.32 U	2.44 U	1.03 U
Gazebo	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	**7.88**	NA	0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	1.03U
Gazebo	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	**5.6**	0.58U	0.80U	0.45U	0.66U	1.1U	0.81U	**8.4**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	1.0U	**1.1**
Gazebo	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Gazebo	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	**0.81**	0.80U	0.45UJ	0.66U	1.1U	0.81U	**9.4**	1.0U	**0.71**	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	1.0U	**1.3**
Gift Shop																									
Gift Shop	4.0 U	4.3 U	1.9 U	5.2 U	5.2 U	12 U	NA	10 U	14 U	8.5 U	NA	17 U	14 U	8.2 U	4.5 U	2.8 U	5.8 U	36 U	3.4 U	11 U	5.5 U	4.0 U	2.3 U	4.2 U	7.2 U
Gift Shop	3.6 U	3.8 U	1.7 U	4.6 U	4.6 U	11 U	NA	9.1 U	13 U	**15**	NA	15 U	13 U	**19**	4.0 U	2.5 U	5.2 U	32 U	3.0 U	9.6 U	4.9 U	3.6 U	2.0 U	3.8 U	6.4 U
Gift Shop	4.1 U	4.4 U	2.0 U	5.4 U	5.4 U	13 U	4.2 U	**4.0**	15 U	8.8 U	11 U	4.4 U	3.7 U	8.5 U	4.6 U	2.8 U	6.0 U	9.2 U	3.5 U	2.8 U	5.6 U	4.1 U	2.4 U	4.4 U	7.4 U
Gift Shop	2.31 U	2.46 U	NA	3 U	NA	NA	NA	**1.8**	2.05 U	NA	NA	NA	2.05 U	**15.9**	NA	**0.703**	3.35 U	5.17 U	1.94 U	1.56 U	**0.692**	2.3 U	1.32 U	2.44 U	1.03 U
Gift Shop	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**14**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Gift Shop	2.31 U	2.46 U	NA	3 U	NA	NA	NA	**1.50**	2.05 U	NA	NA	NA	2.05 U	**13.6**	NA	**0.734**	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Gift shop	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**9.4**	NA	**0.766**	3.35 U	5.17 U	1.94 U	1.56 U	**0.503**	2.3 U	1.32 U	2.44 U	**1.44**
Gift Shop	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**10.1**	NA	**0.766**	3.35 U	5.17 U	1.94 U	1.56 U	**0.692**	2.3 U	1.32 U	2.44 U	**1.55**
Gift shop	N/A O	N/A O	NA	N/A O	NA	NA	NA	N/A O	N/A O	NA	NA	NA	N/A O	N/A O	NA	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O
Gift shop	4.62U	4.92U	NA	6U	NA	NA	NA	2.94U	4.1U	NA	NA	NA	4.1U	11.9U	NA	0.62U	6.7U	10.3U	3.88U	3.12U	0.82U	4.6U	2.64U	4.88U	2.06U
Gift shop	2.31U	2.46U	NA	3U	NA	NA	NA	**1.56**	2.05U	NA	NA	NA	2.05U	**12.7**	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Gift shop	0.98U	1.0U	0.45U	1.3U	**75**	0.71U	**1.0**	**1.3**	0.80U	**8.0**	0.66U	1.1U	0.81U	**14**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	1.0U	**1.1**
Gift shop	0.98U	1.0U	0.45U	1.3U	**72**	0.71U	**1.1**	**1.3**	0.80U	**9.0**	0.66U	1.1U	0.81U	**15**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	1.0U	**1.0**
Gift shop	2.31U	2.46U		3U				**2.24**	2.05U				2.05U	**19.2**		**0.351**	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	**1.94**
Gift shop	2.31U	2.46U		3U				**6.28**	2.05U				2.05U	**32**		**0.862**	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	**2.93**
Gift shop	2.31U	2.46U		3U				**2.48**	2.05U				2.05U	**18.5**		0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	**1.8**

Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
Gift shop	0.98U	1.0U	0.45U	1.3U	**150**	0.71U	1.0U	**1.8**	0.80U	**13J**	0.66U	1.1U	0.81U	**17**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**4.3**	**1.1**
Gift shop	0.98U	1.0U	0.45U	1.3U	**150**	0.71U	1.0U	**1.7**	0.80U	**13J**	0.66U	1.1U	0.81U	**16**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**4.5**	**1.0**
Gift Shop	2.31U	2.46U		3U				1.47U	2.05U				2.05U	**84.2**		**0.607**	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	**3.9**	1.03U
Gift Shop	2.31U	2.46U		3U				1.47U	2.05U				2.05U	**167**		**0.671**	3.35U	5.17U	1.94U	1.56U	**0.629**	2.3U	1.32U	**3.51**	1.03U
Gift Shop	2.31 U	2.46 U		3 U				**26.1**	2.05 U				2.05 U	**165**		**0.319**	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Gift Shop	2.31 U	2.46 U		3 U				**4.98**	2.05 U				2.05 U	**40.8**		**0.447**	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Gift Shop	2.31 U	2.46 U		3 U				**4.54**	2.05 U				2.05 U	**40.4**		**0.415**	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Gift shop	0.93 U	0.99 U	0.45 U	1.2 U	**4.8**	0.73 U	0.94 U	**5.5**	1.6 U	**10**	0.63 U	2.2 U	0.83 U	**47**	1.0 UJ	0.65 U	1.4 U	2.1 U	0.78 U	0.63 U	1.3 U	0.93 U	0.53 U	**1.4**	**1.3**
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Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
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Gift shop	2.31U	2.46U		3U				**4.16**	2.05U				2.05U	**35.6**		**0.607**	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	**1.55**
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Gift Shop	0.93U	0.99U	0.45U	1.2U	1.2U	0.73U	1U	1.9U	1.7U	**68**	0.32U	4U	1.7U	**10**	4.2UJ	**0.26**	1.4U	2.1U	0.78U	0.63U	**0.38**	0.93U	0.53U	**0.37**	**0.9**
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Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
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Gift Shop	0.93 U	0.99 U	0.45 UJ	1.2 U	1.2 U	0.73 U	1.0 U	1.9 U	1.7 U	**1.6**	0.32 U	4.0 U	1.7 U	**13**	4.2 UJ	**0.44**	1.4 U	2.1 U	0.78 U	0.63 U	**0.51**	0.93 U	0.53 U	**2.2**	**0.98**
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Gift shop (Jewelry counter)	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	**12.1**	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Gift shop (Jewelry counter)	2.31U	2.46U	NA	3U	NA	NA	NA	**3.18**	2.05U	NA	NA	NA	2.05U	**22.7**	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Gift shop behind counter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**10.6**	NA	**0.447**	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	**1.32**
Gift shop behind counter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	**1.59**	2.05 U	NA	NA	NA	2.05 U	**13.4**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.503**	2.3 U	1.32 U	2.44 U	1.03 U
Gift shop behind counter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	**1.8**	2.05 U	NA	NA	NA	2.05 U	**16.6**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
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Jungle Room	4.0 U	4.3 U	7.7 U	5.2 U	5.2 U	12 U	NA	10 U	14 U	8.5 U	NA	17 U	14 U	8.2 U	4.5 U	2.8 U	23 U	36 U	3.4 U	11 U	5.5 U	4.0 U	2.3 U	4.2 U	1.8 U
Jungle Room	4.0 U	4.3 U	7.7 U	5.2 U	5.2 U	12 U	NA	10 U	14 U	8.5 U	NA	17 U	14 U	8.2 U	4.5 U	2.8 U	23 U	36 U	3.4 U	11 U	5.5 U	4.0 U	2.3 U	4.2 U	1.8 U
Jungle Room	5.0 U	5.4 U	2.4 U	6.6 U	6.6 U	16 U	NA	13 U	18 U	11 U	NA	21 U	18 U	10 U	5.6 U	3.5 U	7.3 U	45 U	4.2 U	14 U	6.9 U	5.0 U	2.9 U	5.3 U	9.0 U
Jungle Room	4.2 U	4.5 U	2.0 U	5.5 U	5.5 U	13 U	NA	11 U	15 U	8.9 U	NA	18 U	15 U	8.6 U	4.7 U	2.9 U	6.1 U	38 U	3.5 U	11 U	5.7 U	4.2 U	2.4 U	4.4 U	7.5 U
Jungle Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	**1.83**	2.05 U	NA	NA	NA	2.05 U	**28.1**	NA	**0.319**	3.35 U	5.17 U	1.94 U	1.56 U	**0.755**	2.3 U	1.32 U	2.44 U	1.03 U
Jungle Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**21**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Jungle Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Jungle room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.692**	2.3 U	1.32 U	2.44 U	1.03 U
Jungle Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**18.9**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.44**	2.3 U	1.32 U	2.44 U	1.03 U
Jungle Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	**1.65**	2.05 U	NA	NA	NA	2.05 U	**22.8**	NA	**0.415**	3.35 U	5.17 U	1.94 U	1.56 U	**0.44**	2.3 U	1.32 U	2.44 U	1.03 U
Jungle Room	4.62 U	4.92 U	NA	6 U	NA	NA	NA	2.94 U	4.1 U	NA	NA	NA	4.1 U	11.9 U	NA	0.62 U	6.7 U	10.3 U	3.88 U	3.12 U	0.82 U	4.6 U	2.64 U	4.88 U	2.06 U
Jungle Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.818**	2.3 U	1.32 U	2.44 U	1.03 U
Jungle Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.88**	2.3 U	1.32 U	2.44 U	1.03 U

Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
Jungle Room	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	5.95U	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Jungle Room	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	5.95U	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Jungle Room	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45U	0.66U	1.1U	0.81U	**1.1**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**1.5**	0.44U
Jungle Room	2.31U	2.46U		3U				**1.92**	2.05U				2.05U	**9.45**		0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Jungle Room	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	1.03U
Jungle Room	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45UJ	0.66U	1.1U	0.81U	**1**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**1.4**	0.44U
Jungle Room	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.503**	2.3U	1.32U	2.44U	1.03U
Jungle Room	2.31 U	2.46 U		3 U				1.47 U	2.05 U				2.05 U	5.95 U		0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Jungle Room	2.31 U	2.46 U		3 U				1.47 U	2.05 U				2.05 U	**6.7**		0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Jungle Room	0.93 U	0.99 U	0.45 U	1.2 U	1.2 U	0.73 U	0.94 U	0.96 U	1.6 U	**0.76**	0.63 U	2.2 U	0.83 U	**2.4**	1.0 UJ	0.65 U	1.4 U	2.1 U	0.78 U	0.63 U	1.3 U	0.93 U	0.53 U	**1.4**	0.42 U
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Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
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Jungle Room	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	1.03U
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Jungle Room	0.93U	0.99U	0.45U	1.2U	1.2U	0.73U	1U	1.9U	1.7U	0.5U	0.32U	4U	1.7U	**1.8**	4.2UJ	0.16U	1.4U	2.1U	0.78U	0.63U	**0.43**	0.93U	0.53U	**0.32**	0.42U
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Jungle Room	0.93 U	0.99 U	0.45 UJ	1.2 U	1.2 U	0.73 U	1.0 U	1.9 U	1.7 U	0.50 U	0.32 U	4.0 U	1.7 U	0.96 U	4.2 UJ	0.16 U	1.4 U	2.1 U	0.78 U	0.63 U	**0.51**	0.93 U	0.53 U	**0.23**	0.42 U
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Jungle Room	3.9 U	4.1 U	1.8 U	5.0 U	5.0 U	12 U	3.9 U	2.5 U	14 U	8.2 U	10 U	4.1 U	3.4 U	**11**	4.3 U	2.7 U	5.6 U	8.7 U	3.3 U	2.6 U	5.3 U	3.9 U	2.2 U	4.1 U	6.9 U
Kitchen																									
Lassie Room	3.9 U	4.2 U	7.6 U	5.1 U	5.1 U	12 U	NA	10 U	14 U	8.4 U	NA	17 U	14 U	8.1 U	4.4 U	2.7 U	23 U	35 U	3.3 U	11 U	5.4 U	3.9 U	2.2 U	4.2 U	1.8 U
Lassie Room	3.8 U	4.0 U	1.8 U	4.9 U	4.9 U	12 U	NA	9.6 U	13 U	8.0 U	NA	16 U	13 U	7.8 U	4.2 U	2.6 U	5.5 U	34 U	3.2 U	10 U	5.1 U	3.8 U	2.2 U	4.0 U	6.8 U
Lassie Room	4.0 U	4.3 U	1.9 U	5.2 U	5.2 U	12 U	NA	10 U	14 U	8.5 U	NA	17 U	14 U	**11**	4.5 U	2.8 U	5.8 U	36 U	3.4 U	11 U	5.5 U	4.0 U	2.3 U	4.2 U	7.2 U
Lassie Room	4.1 U	4.4 U	2.0 U	5.4 U	5.4 U	13 U	4.2 U	**3.4**	15 U	8.8 U	11 U	4.4 U	3.7 U	8.5 U	4.6 U	2.8 U	6.0 U	9.2 U	3.5 U	2.8 U	5.6 U	4.1 U	2.4 U	4.4 U	7.4 U
Lassie Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.755**	2.3 U	1.32 U	2.44 U	1.03 U
Lassie Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	**2.77**	2.05 U	NA	NA	NA	2.05 U	**40.6**	NA	**0.415**	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Lassie Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**47**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Lassie Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.629**	2.3 U	1.32 U	2.44 U	1.03 U
Lassie Room	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	5.95U	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Lassie Room	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45U	0.66U	1.1U	0.81U	**2.8**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**1.1**	0.44U
Lassie Room																									
Lassie Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.692**	2.3 U	1.32 U	2.44 U	1.03 U
Lassie Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**18.2**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.692**	2.3 U	1.32 U	2.44 U	1.03 U
Lassie Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**42.3**	NA	**0.351**	3.35 U	5.17 U	1.94 U	1.56 U	**0.503**	2.3 U	1.32 U	2.44 U	1.03 U
Lassie Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**6.84**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.503**	2.3 U	1.32 U	2.44 U	1.03 U
Lassie Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.755**	2.3 U	1.32 U	2.44 U	1.03 U

Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
Loot Rock	7.3 U	7.7 U	3.5 U	9.5 U	9.5 U	23 U	NA	18 U	26 U	15 U	NA	31 U	26 U	15 U	8.2 U	5.0 U	10 U	65 U	6.1 U	20 U	9.9 U	7.2 U	4.2 U	7.7 U	13 U
Loot Rock	6.1 U	6.5 U	2.9 U	7.9 U	7.9 U	19 U	NA	16 U	22 U	13 U	NA	26 U	22 U	12 U	6.8 U	4.2 U	8.8 U	54 U	5.1 U	16 U	8.3 U	6.0 U	3.5 U	6.4 U	11 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	**0.543**	3.35 U	5.17 U	1.94 U	1.56 U	**0.818**	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**15.8**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**30.7**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Loot rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	1.03 U
Loot rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.629**	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**12.3**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.818**	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**27.2**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**40.7**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**15.7**	NA	**0.351**	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**7.81**	NA	**0.319**	3.35 U	5.17 U	1.94 U	1.56 U	**0.755**	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.755**	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	**3.95**	1.03 U
Loot Rock	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	5.95U	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Loot Rock	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45U	0.66U	1.1U	0.81U	**2.1**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**1.3**	0.44U
Loot Rock	2.31U	2.46U		3U				1.47U	2.05U				2.05U	**6.6**		0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Loot Rock	2.31U	2.46U		3U				1.47U	2.05U				2.05U	**11.8**		0.31U	3.35U	5.17U	1.94U	1.56U	**0.503**	2.3U	1.32U	2.44U	**22.4**
Loot Rock	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45UJ	0.66U	1.1U	0.81U	**1.3**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**1.2**	0.44U
Loot Rock	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	1.03U
Loot Rock	2.31 U	2.46 U		3 U				1.47 U	2.05 U				2.05 U	5.95 U		0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Loot Rock	0.93 U	0.99 U	0.45 U	1.2 U	1.2 U	0.73 U	0.94 U	0.96 U	1.6 U	0.50 U	0.63 U	2.2 U	0.83 U	**2.4**	1.0 UJ	0.65 U	1.4 U	2.1 U	0.78 U	0.63 U	1.3 U	0.93 U	0.53 U	**1.1**	0.42 U
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Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
Loot Rock																									
Loot Rock																									
Loot Rock																									
Loot Rock	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Loot Rock	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	1.03U
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Loot Rock	0.93U	0.99U	0.45U	1.2U	1.2U	0.73U	1U	1.9U	1.7U	0.5U	0.32U	4U	1.7U	**3.9**	4.2UJ	0.16U	1.4U	2.1U	0.78U	0.63U	**0.43**	0.93U	0.53U	**0.31**	0.42U
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Loot Rock	0.93 U	0.99 U	0.45 UJ	1.2 U	1.2 U	0.73 U	1.0 U	1.9 U	1.7 U	0.50 U	0.32 U	4.0 U	1.7 U	**1.5**	4.2 UJ	**0.19**	1.4 U	2.1 U	0.78 U	0.63 U	**0.48**	0.93 U	0.53 U	**0.23**	0.42 U
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Loot Rock	4.0 U	4.2 U	1.9 U	5.1 U	5.1 U	12 U	4.0 U	2.5 U	14 U	8.4 U	11 U	4.2 U	3.5 U	8.1 U	4.4 U	2.7 U	5.7 U	8.8 U	3.3 U	2.7 U	5.4 U	3.9 U	2.2 U	4.2 U	7.1 U
Motel	2.31 U	2.46 U		3 U				1.47 U	2.05 U				2.05 U	**18.3**		**0.511**	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Mud Alley	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.943**	2.3 U	1.32 U	2.44 U	1.03 U
Mud Alley	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45U	0.66U	1.1U	0.81U	**1.7**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**1.8**	0.44U
Mud Alley	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45UJ	0.66U	1.1U	0.81U	**1.2**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	1.0U	0.44U
Office																									
Pavillion/Parking Lot	3.2 U	3.4 U	1.5 U	4.2 U	4.2 U	10 U	3.2 U	2.0 U	11 U	6.8 U	8.7 U	3.4 U	2.8 U	6.6 U	3.6 U	2.2 U	4.6 U	7.2 U	2.7 U	2.2 U	4.4 U	3.2 U	1.8 U	3.4 U	5.7 U
Riverboat Tour Shelter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	**0.479**	3.35 U	5.17 U	1.94 U	1.56 U	**0.818**	2.3 U	1.32 U	2.44 U	1.03 U
Riverboat Tour Shelter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**28.9**	NA	**0.383**	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Riverboat Tour Shelter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**15.6**	NA	**0.319**	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Site 1 (background)	3.8 U	4.0 U	7.2 U	4.9 U	4.9 U	12 U	NA	9.6 U	13 U	8.0 U	NA	16 U	13 U	7.8 U	4.2 U	2.6 U	22 U	34 U	3.2 U	10 U	5.1 U	3.8 U	2.2 U	4.4 U	5.6 U
Site 3 (Slot 1)	4.3 U	4.6 U	8.2 U	5.6 U	5.6 U	13 U	NA	11 U	15 U	9.1 U	NA	18 U	15 U	8.8 U	4.8 U	3.0 U	25 U	38 U	3.6 U	12 U	5.8 U	4.3 U	2.4 U	4.5 U	1.9 U
Site 4 (Slot 2)	3.6 U	3.9 U	7 U	4.7 U	4.7 U	11 U	NA	9.3 U	13 U	7.7 U	NA	15 U	13 U	**16**	4.1 U	2.5 U	21 U	32 U	3 U	9.8 U	5 U	3.6 U	2.1 U	3.8 U	1.6 U
Site 5 (Slot 3)	3.5 U	3.7 U	6.7 U	4.6 U	4.6 U	11 U	NA	8.9 U	12 U	7.4 U	NA	15 U	12 U	**42**	3.9 U	2.4 U	20 U	31 U	2.9 U	9.4 U	4.8 U	3.5 U	2 U	3.7 U	1.6 U
B11 - Fallout Shelter	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	**12.2**	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Theater	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	1.03 U
Theater	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**8.5**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.755**	2.3 U	1.32 U	2.44 U	1.03 U
Theater	2.31U	2.46U	NA	3U	NA	NA	NA	1.47U	2.05U	NA	NA	NA	2.05U	**12.5**	NA	0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	1.03U
Theater	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45U	0.66U	1.1U	0.81U	**1.5**	1.0U	0.68U	1.3U	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	1.0U	0.44U

Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
Theater	2.31U	2.46U		3U				1.47U	2.05U				2.05U	**7.76**		0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	**1.84**
Theater	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	0.41U	2.3U	1.32U	2.44U	**10.4**
Theater	0.98U	1.0U	0.45U	1.3U	1.3U	0.71U	1.0U	0.58U	0.80U	0.45UJ	0.66U	1.1U	0.81U	**1.5**	1.0U	0.68U	**1.3**	2.2U	0.84U	0.64U	1.3U	0.99U	0.57U	**25**	0.44U
Theater	2.31 U	2.46 U		3 U				1.47 U	2.05 U				2.05 U	5.95 U		0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Theater	2.31 U	2.46 U		3 U				1.47 U	2.05 U				2.05 U	**7.69**		0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Theater	0.93 U	0.99 U	0.45 U	1.2 U	1.2 U	0.73 U	0.94 U	0.96 U	1.6 U	0.50 U	0.63 U	2.2 U	0.83 U	**1.9**	1.0 UJ	0.65 U	1.4 U	2.1 U	0.78 U	0.63 U	1.3 U	0.93 U	0.53 U	0.99 U	0.42 U
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Theater	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.44**	2.3U	1.32U	2.44U	1.03U
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Location	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2-Butanone	2-Hexanone	2-Propanol	3-Chloropropene (Allyl Chloride)	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	alpha-Chlorotoluene (Benzyl Chloride)	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
Theater																									
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Theater	0.93U	0.99U	0.45U	1.2U	1.2U	0.73U	1U	1.9U	1.7U	0.5U	0.32U	4U	1.7U	**2.3**	4.2UJ	0.16U	1.4U	2.1U	0.78U	0.63U	**0.35**	0.93U	0.53U	**1.3**	0.42U
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Theater Room	4.1 U	4.4 U	2.0 U	5.3 U	5.3 U	13 U	NA	10 U	14 U	8.7 U	NA	17 U	14 U	8.4 U	4.6 U	2.8 U	6.0 U	37 U	3.4 U	11 U	5.6 U	4.1 U	2.3 U	**11**	7.3 U
Theater room	4.0 U	4.3 U	1.9 U	5.2 U	5.2 U	12 U	NA	10 U	14 U	8.5 U	NA	17 U	14 U	8.2 U	4.5 U	2.8 U	5.8 U	36 U	3.4 U	11 U	5.5 U	4.0 U	2.3 U	4.2 U	7.2 U
Theater Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**13.2**	NA	**0.383**	3.35 U	5.17 U	1.94 U	1.56 U	**0.755**	2.3 U	1.32 U	2.44 U	1.03 U
Theater Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	**2.42**	2.05 U	NA	NA	NA	2.05 U	**21.2**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.44**	2.3 U	1.32 U	2.44 U	1.03 U
Theater Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Theater room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.629**	2.3 U	1.32 U	2.44 U	1.03 U
Theater Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.755**	2.3 U	1.32 U	2.44 U	1.03 U
Theater Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**7.93**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.44**	2.3 U	1.32 U	2.44 U	1.03 U
Theater Room	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.566**	2.3 U	1.32 U	2.44 U	1.03 U
Theater Room	4.2 U	4.5 U	2.0 U	5.5 U	5.5 U	13 U	4.3 U	**7.3**	15 U	9.0 U	11 U	4.5 U	3.7 U	8.7 U	4.7 U	2.9 U	6.1 U	9.4 U	3.6 U	2.8 U	5.8 U	4.2 U	2.4 U	4.5 U	7.6 U
Theater	2.31U	2.46U		3U				1.47U	2.05U				2.05U	5.95U		0.31U	3.35U	5.17U	1.94U	1.56U	**0.503**	2.3U	1.32U	**2.73**	1.03U
Ticket counter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	5.95 U	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	**0.44**	2.3 U	1.32 U	2.44 U	1.03 U
Ticket counter	2.31 U	2.46 U	NA	3 U	NA	NA	NA	1.47 U	2.05 U	NA	NA	NA	2.05 U	**13**	NA	0.31 U	3.35 U	5.17 U	1.94 U	1.56 U	0.41 U	2.3 U	1.32 U	2.44 U	1.03 U
Ticket Counter																									
Ticket counter																									
Trip Blank	2.3 U	2.5 U	1.1 U	3.0 U	3.0 U	7.3 U	NA	6.0 U	8.3 U	5.0 U	NA	10 U	8.3 U	4.8 U	2.6 U	1.6 U	3.4 U	21 U	2.0 U	6.3 U	3.2 U	2.3 U	1.3 U	2.5 U	4.2 U
Unknown Location	2.3 U	2.5 U	4.5 U	3.0 U	3.0 U	7.3 U	NA	6.0 U	8.3 U	5.0 U	NA	10 U	8.3 U	4.8 U	2.6 U	1.6 U	14 U	21 U	2.0 U	6.3 U	3.2 U	2.3 U	1.3 U	2.5 U	1.0 U
Unknown Location	3.8 U	4.0 U	1.8 U	4.9 U	4.9 U	12 U	NA	9.6 U	13 U	8.0 U	NA	16 U	13 U	7.8 U	4.2 U	2.6 U	5.5 U	34 U	3.2 U	10 U	5.1 U	3.8 U	2.2 U	4.0 U	6.8 U
Unknown Location	3.8 U	4.0 U	1.8 U	4.9 U	4.9 U	12 U	NA	9.6 U	13 U	8.0 U	NA	16 U	13 U	7.8 U	4.2 U	2.6 U	5.5 U	34 U	3.2 U	10 U	5.1 U	3.8 U	2.2 U	4.0 U	6.8 U
Unknown Location	2.3 U	2.5 U	1.1 U	3.0 U	3.0 U	7.3 U	NA	6.0 U	8.3 U	5.0 U	NA	10 U	8.3 U	4.8 U	2.6 U	1.6 U	3.4 U	21 U	2.0 U	6.3 U	3.2 U	2.3 U	1.3 U	2.5 U	4.2 U
Unknown Location	10,000 U	11,000 U	4,800 U	13,000 U	13,000 U	31,000 U	10,000 U	**32,000**	36,000 U	21,000 U	27,000 U	11,000 U	**11,000**	21,000 U	11,000 U	6,900 U	14,000 U	22,000 U	8,400 U	6,800 U	14,000 U	10,000 U	5,700 U	10,000 U	18,000 U
Unknown Location	29 U	**320**	14 U	37 U	**120**	89 U	**550**	**80**	100 U	61 U	78 U	**510**	**26**	59 U	32 U	**2,000**	42 U	64 U	24 U	**45**	39 U	**61**	16 U	30 U	51 U
Unknown Location	29 U	**340**	14 U	37 U	**130**	89 U	**560**	**88**	100 U	61 U	78 U	**520**	**31**	59 U	32 U	**2,000**	42 U	64 U	24 U	**49**	39 U	**61**	16 U	30 U	51 U
Unknown Location	73 U	**610**	35 U	96 U	**500**	230 U	**510**	**100**	260 U	**200**	200 U	**1,500**	**140**	150 U	82 U	**1,700**	110 U	160 U	62 U	**73**	100 U	**340**	42 U	78 U	130 U
Unknown Location	29 U	**800**	14 U	38 U	**370**	92 U	**160**	**160**	100 U	62 U	80 U	**820**	**41**	**130**	33 U	**540**	42 U	66 U	25 U	**21**	40 U	**140**	17 U	31 U	52 U
Unknown Location	**150**	**1,400**	37 U	100 U	**1,700**	240 U	**4,400**	**160**	270 U	**190**	210 U	**3,100**	**470**	**190**	87 U	**2,400**	110 U	170 U	65 U	52 U	100 U	**150**	44 U	82 U	140 U

Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
Airlock																							
Amphitheater	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Amphitheater	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Amphitheater	2.27 U		4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		**30.9**	2.27 U				
Amphitheater	2.27U		4.26U		2.17U	2.05U	5.33U	**2.96**	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Atomic Shelter	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
B11 - Fallout Shelter	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72U	0.96U	1.1U	**40 J**
B11 - Fallout Shelter	2.27U		4.26U		2.17U	2.05U	5.33U	**14.2**	2.46U	4.34U		2.62U	2.17U			2.13U		**20.9**	2.27U				
B11 - Fallout Shelter	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
B11 - Fallout Shelter	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72UJ	0.96U	1.1U	
B11 - Fallout Shelter	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
B11 - Fallout Shelter	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**3.42**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Background	4.1 U	12 U	31 U	6.8 U	3.9 U	15 U	39 U	13 U	NA	4.0 U	13 U	NA	4.0 U	NA	6.3 U	3.9 U	11 U	3.4 U	4.1 U	13 U			
Background	3.9 U	2.9 U	7.3 U	6.4 U	3.7 U	3.5 U	36 U	3.0 U	4.2 U	3.7 U	12 U	NA	3.7 U	4.2 U	NA	3.6 U	10 U	3.2 U	3.9 U	12 U			
Ballroom	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	**5.88**	2.27 U	NA			
Ballroom	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	**4.52**	2.27 U	NA			
Ballroom	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		**0.45**	0.91U	0.57U	0.80U	1.0U	0.72U	0.96U	1.1U	**6 J**
Ballroom	2.27U		4.26U		2.17U	2.05U	5.33U	**2.22**	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Ballroom	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Ballroom	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		**0.56**	0.91U	0.57U	0.80U	1.0U	0.72UJ	0.96U	1.1U	
Ballroom	3.7 U	11 U	28 U	6.2 U	3.6 U	13 U	35 U	12 U	NA	3.6 U	12 U	NA	3.6 U	NA	5.6 U	3.5 U	9.6 U	3.1 U	3.7 U	12 U			
Ballroom	3.9 U	12 U	29 U	6.4 U	3.7 U	14 U	36 U	12 U	NA	3.7 U	12 U	NA	3.7 U	NA	5.9 U	3.6 U	10 U	3.2 U	3.9 U	12 U			
Ballroom	3.5 U	2.6 U	6.6 U	**12**	3.4 U	3.2 U	33 U	2.7 U	3.8 U	3.4 U	11 U	NA	3.4 U	3.8 U	NA	3.3 U	9.1 U	2.9 U	3.5 U	11 U			
Ballroom	3.9 U	2.9 U	7.3 U	**27**	3.7 U	3.5 U	36 U	3.0 U	4.2 U	3.7 U	3.1 U	NA	3.7 U	4.2 U	NA	3.6 U	2.5 U	3.2 U	3.9 U	NA			
Ballroom	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Ballroom	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Ballroom	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Ballroom	9.08 U		17 U		8.68 U	8.2 U	21.3 U	7.04 U	9.84 U	17.4 U		10.5 U	8.68 U			8.52 U		**25**	9.08 U				
Ballroom	2.27 U		4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		1.88 U	2.27 U				
Ballroom	0.92 U	0.70 U	1.7 U		0.88 U	0.83 U	2.2 U	0.71 U		1.8 U	0.73 U		0.88 U		0.35 U	0.86 U	0.60 U	0.76 U	0.92 U	0.72 U			
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Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
Ballroom																							
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Ballroom	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Ballroom	0.46U	0.7U	1.7U		0.88U	0.83U	2.2U	0.71U		1.8U	0.73U		0.88U		0.35U	0.86U	0.6U	0.76U	0.46U	0.72U	0.88U	1.1U	
Ballroom	0.46 U	0.70 U	1.7 U	NA	0.88 U	0.83 U	2.2 U	0.71 U	NA	1.8 U	0.73 U	NA	0.88 U	NA	**5.8**	0.86 U	0.60 U	0.76 U	0.46 U	0.72 U	0.88 U	**1.1**	

Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
Ballroom behind stage	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	**2.47**	NA	4.34 U	NA	**6.55**	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Ballroom behind stage	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Ballroom behind stage	2.27 U	NA	2.47 U		2.17 U	2.05 U	5.33 U	**2.11**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Ballroom behind stage	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**2.68**	2.46 U	4.34 U		2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Ballroom behind stage	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Ballroom behind stage	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Ballroom stage	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	**8.95**	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Ballroom stage	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	**1.76**	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Bat Cave	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**15.9**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Bat Cave (left wing)	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Behind ticket counter	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Between Airlock Doors	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72U	0.96U	1.1U	**6 J**
Between Airlock Doors	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72UJ	0.96U	1.1U	
Cafeteria																							
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Cafeteria																							
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Cafeteria (last booth)																							
Conference (in slot)	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Conference Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Conference Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**7.47**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Conference Room	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72U	0.96U	1.1U	**40 J**
Conference Room	0.96U	**2.7**	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72UJ	0.96U	1.1U	
Conference room (left vent)	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Echo Room																							
Echo Room																							
Echo Room																							
Echo Room																							
B11 - Fallout Shelter	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**27.7**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Gazebo	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Gazebo	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**25.4**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Gazebo	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**2.5**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Gazebo	4.54 U	NA	8.52 U	NA	4.34 U	4.1 U	10.7 U	**6.41**	4.92 U	8.68 U	NA	5.24 U	4.34 U	NA	NA	4.26 U	NA	3.76 U	4.54 U	NA			
Gazebo	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**9.34**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Gazebo	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Gazebo	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		**0.40**	0.91U	0.57U	**2.4**	1.0U	0.72U	0.96U	1.1U	
Gazebo	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Gazebo	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72UJ	0.96U	1.1U	
Gift Shop																							
Gift Shop	3.9 U	3.0 U	7.4 U	**27**	3.8 U	3.6 U	37 U	3.1 U	4.3 U	3.8 U	12 U	NA	3.8 U	4.3 U	NA	3.7 U	10 U	3.3 U	3.9 U	12 U			
Gift Shop	3.5 U	2.6 U	6.6 U	**16**	3.4 U	3.2 U	33 U	2.7 U	3.8 U	3.4 U	11 U	NA	3.4 U	3.8 U	NA	3.3 U	9.1 U	2.9 U	3.5 U	11 U			
Gift Shop	4.1 U	3.1 U	7.6 U	**35**	3.9 U	3.7 U	38 U	3.2 U	4.4 U	3.9 U	3.2 U	NA	3.9 U	4.4 U	NA	3.8 U	2.6 U	3.4 U	4.1 U	NA			
Gift Shop	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Gift Shop	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Gift Shop	2.27 U	NA	2.47 U		2.17 U	2.05 U	5.33 U	**3.81**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	**3.8**	2.27 U	NA			
Gift shop	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**3.31**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	**10.7**	2.27 U	NA			
Gift Shop	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	**2.17**	NA	**8.02**	2.27 U	NA			
Gift shop	N/A O	NA	N/A O	NA	N/A O	N/A O	N/A O	N/A O	N/A O	N/A O	NA	N/A O	N/A O	NA	NA	N/A O	NA	N/A O	N/A O	NA			
Gift shop	4.54U	NA	8.52U	NA	4.34U	4.1U	10.7U	3.52U	4.92U	8.68U	NA	5.24U	4.34U	NA	NA	4.26U	NA	3.76U	4.54U	NA			
Gift shop	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	**2.98**	NA	**1.88**	2.27U	NA			
Gift shop	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	**0.77**		1.9U	0.77U		0.94U		**5.1**	**1.9**	0.57U	**1.8**	1.0U	**0.98**	0.96U	1.1U	
Gift shop	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	**0.82**		1.9U	0.77U		0.94U		**5.2**	**1.9**	0.57U	**1.8**	1.0U	**0.78**	0.96U	1.1U	
Gift shop	2.27U		4.26U		2.17U	2.05U	5.33U	**3.45**	2.46U	4.34U		2.62U	2.17U			2.13U		**3.92**	2.27U				
Gift shop	2.27U		4.26U		2.17U	2.05U	5.33U	**4.4**	2.46U	4.34U		2.62U	2.17U			**3.07**		**20.3**	2.27U				
Gift shop	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				

Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
Gift shop	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		**9.4**	0.91U	0.57U	**1.2**	1.0U	0.93J	0.96U	**1.2**	
Gift shop	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		**9.4**	**0.93**	0.57U	**1.2**	1.0U	0.99J	0.96U	**1.2**	
Gift Shop	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		**1.92**	2.27U				
Gift Shop	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		**2.94**	2.27U				
Gift Shop	2.27 U		4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		**3.99**	2.27 U				
Gift Shop	2.27 U		4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		**5.24**	2.27 U				
Gift Shop	2.27 U		4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		**5.2**	2.27 U				
Gift shop	0.92 U	0.70 U	1.7 U		0.88 U	0.83 U	2.2 U	0.71 U		**2.9**	0.73 U		**1.1**		**4**	**3.1**	**2.2**	**3.5**	0.92 U	2.1			
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Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
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Gift shop	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		**2.49**	2.27U				
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Gift Shop	0.46U	0.7U	1.7U		0.88U	0.83U	2.2U	0.71U		1.8U	0.73U		0.88U		**0.36**	0.86U	0.6U	0.76U	0.46U	0.72U	0.88U	1.1U	
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Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
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Gift Shop	0.46 U	0.70 U	1.7 U	NA	0.88 U	0.83 U	2.2 U	0.71 U	NA	1.8 U	0.73 U	NA	0.88 U	NA	**1.8**	0.86 U	0.60 U	**1.6**	0.46 U	0.72 U	0.88 U	1.1 U	
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Gift shop (Jewelry counter)	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	**3.11**	NA	1.88U	2.27U	NA			
Gift shop (Jewelry counter)	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	**4.22**	NA	1.88U	2.27U	NA			
Gift shop behind counter	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Gift shop behind counter	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Gift shop behind counter	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**5.36**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
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Jungle Room	3.9 U	12 U	30 U	6.5 U	3.8 U	14 U	37 U	12 U	NA	3.8 U	12 U	NA	3.8 U	NA	6.0 U	3.7 U	10 U	3.3 U	3.9 U	12 U			
Jungle Room	3.9 U	12 U	30 U	6.5 U	3.8 U	14 U	37 U	12 U	NA	3.8 U	12 U	NA	3.8 U	NA	6.0 U	3.7 U	10 U	3.3 U	3.9 U	12 U			
Jungle Room	5.0 U	3.8 U	9.3 U	8.2 U	4.7 U	4.5 U	47 U	3.8 U	5.4 U	4.7 U	16 U	NA	4.7 U	5.4 U	NA	4.6 U	13 U	4.1 U	5.0 U	15 U			
Jungle Room	4.1 U	3.1 U	7.7 U	6.8 U	3.9 U	3.7 U	39 U	3.2 U	4.5 U	4.0 U	13 U	NA	4.0 U	4.5 U	NA	3.9 U	11 U	3.4 U	4.1 U	13 U			
Jungle Room	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Jungle Room	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Jungle Room	2.27 U	NA	2.47 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Jungle room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Jungle Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**12.2**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Jungle Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**10.7**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Jungle Room	4.54 U	NA	8.52 U	NA	4.34 U	4.1 U	10.7 U	3.52 U	4.92 U	8.68 U	NA	5.24 U	4.34 U	NA	NA	4.26 U	NA	3.76 U	4.54 U	NA			
Jungle Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Jungle Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			

Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
Jungle Room	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Jungle Room	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Jungle Room	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72U	0.96U	1.1U	**50 J**
Jungle Room	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Jungle Room	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Jungle Room	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72UJ	0.96U	1.1U	
Jungle Room	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Jungle Room	2.27 U		4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		1.88 U	2.27 U				
Jungle Room	2.27 U		4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		1.88 U	2.27 U				
Jungle Room	0.92 U	0.70 U	1.7 U		0.88 U	0.83 U	2.2 U	0.71 U		1.8 U	0.73 U		0.88 U		0.35 U	0.86 U	0.60 U	0.76 U	0.92 U	0.72 U			
Jungle Room																							
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Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
Jungle Room																							
Jungle Room																							
Jungle Room																							
Jungle Room																							
Jungle Room																							
Jungle Room	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
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Jungle Room	0.46U	0.7U	1.7U		0.88U	0.83U	2.2U	0.71U		1.8U	0.73U		0.88U		0.35U	0.86U	0.6U	0.76U	0.46U	0.72U	0.88U	1.1U	
Jungle Room																							
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Jungle Room	0.46 U	0.70 U	1.7 U	NA	0.88 U	0.83 U	2.2 U	0.71 U	NA	1.8 U	0.73 U	NA	0.88 U	NA	**0.42**	0.86 U	0.60 U	0.76 U	0.46 U	0.72 U	0.88 U	1.1 U	
Jungle Room																							
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Jungle Room	3.8 U	2.9 U	7.2 U	6.3 U	3.6 U	3.4 U	36 U	3.0 U	4.1 U	3.6 U	3.0 U	NA	3.6 U	4.1 U	NA	3.6 U	2.5 U	3.2 U	3.8 U	NA			
Kitchen																							
Lassie Room	3.9 U	12 U	29 U	6.4 U	3.7 U	14 U	36 U	12 U	NA	3.7 U	12 U	NA	3.7 U	NA	5.9 U	3.6 U	10 U	3.2 U	3.9 U	12 U			
Lassie Room	3.7 U	2.8 U	7.0 U	6.2 U	3.6 U	3.4 U	35 U	2.9 U	4.0 U	3.6 U	12 U	NA	3.6 U	4.0 U	NA	3.5 U	9.6 U	3.1 U	3.7 U	12 U			
Lassie Room	3.9 U	3.0 U	7.4 U	6.5 U	3.8 U	3.6 U	37 U	3.1 U	4.3 U	3.8 U	12 U	NA	3.8 U	4.3 U	NA	3.7 U	10 U	3.3 U	3.9 U	12 U			
Lassie Room	4.1 U	3.1 U	7.6 U	6.7 U	3.9 U	3.7 U	38 U	3.2 U	4.4 U	3.9 U	3.2 U	NA	3.9 U	4.4 U	NA	3.8 U	2.6 U	3.4 U	4.1 U	NA			
Lassie Room	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Lassie Room	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	**7.86**	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	**4.33**	2.27 U	NA			
Lassie Room	2.27 U	NA	2.47 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Lassie Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**3.73**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Lassie Room	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Lassie Room	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	**1.0**	0.96U	1.1U	**40 J**
Lassie Room																							
Lassie Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Lassie Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**10.9**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Lassie Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**37.8**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Lassie Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Lassie Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**3.28**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			

Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
Loot Rock	7.2 U	5.4 U	13 U	12 U	6.8 U	6.4 U	67 U	5.6 U	7.7 U	6.8 U	23 U	NA	6.8 U	7.7 U	NA	6.7 U	18 U	5.9 U	7.2 U	22 U			
Loot Rock	6.0 U	4.5 U	11 U	9.9 U	5.7 U	5.4 U	56 U	4.6 U	6.5 U	5.7 U	19 U	NA	5.7 U	6.5 U	NA	5.6 U	16 U	5.0 U	6.0 U	18 U			
Loot Rock	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	2.47 U		2.17 U	2.05 U	5.33 U	**3.52**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	2.47 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**7.82**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**16.8**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**46.9**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**17.6**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	**1.96**	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**3.59**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**3.42**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Loot Rock	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Loot Rock	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72U	0.96U	1.1U	**50 J**
Loot Rock	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Loot Rock	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Loot Rock	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72UJ	0.96U	1.1U	
Loot Rock	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Loot Rock	2.27 U		4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		**7.72**	2.27 U				
Loot Rock	0.92 U	0.70 U	1.7 U		0.88 U	0.83 U	2.2 U	0.71 U		1.8 U	0.73 U		0.88 U		0.35 U	0.86 U	0.60 U	0.76 U	0.92 U	0.72 U			
Loot Rock																							
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Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
Loot Rock																							
Loot Rock																							
Loot Rock																							
Loot Rock	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Loot Rock	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Loot Rock																							
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Loot Rock	0.46U	0.7U	1.7U		0.88U	0.83U	2.2U	0.71U		1.8U	0.73U		0.88U		0.35U	0.86U	0.6U	0.76U	0.46U	**1.2**	0.88U	1.1U	
Loot Rock																							
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Loot Rock	0.46 U	0.70 U	1.7 U	NA	0.88 U	0.83 U	2.2 U	0.71 U	NA	1.8 U	0.73 U	NA	0.88 U	NA	**0.6**	0.86 U	0.60 U	0.76 U	0.46 U	0.72 U	0.88 U	1.1 U	
Loot Rock																							
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Loot Rock																							
Loot Rock																							
Loot Rock																							
Loot Rock	3.9 U	2.9 U	7.3 U	6.4 U	3.7 U	3.5 U	36 U	3.0 U	4.2 U	3.7 U	3.1 U	NA	3.7 U	4.2 U	NA	3.6 U	2.5 U	3.2 U	3.9 U	NA			
Motel	2.27 U		4.26 U		2.17 U	**4.83**	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		**49.6**	2.27 U				
Mud Alley	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**4.62**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Mud Alley	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72U	0.96U	1.1U	**40 J**
Mud Alley	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72UJ	0.96U	1.1U	
Office																							
Pavillion/Parking Lot	3.2 U	2.4 U	5.9 U	5.2 U	3.0 U	2.8 U	30 U	2.4 U	3.4 U	3.0 U	2.5 U	NA	3.0 U	3.4 U	NA	3.0 U	2.0 U	2.6 U	3.2 U	NA	0.96U	1.1U	
Riverboat Tour Shelter	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA	0.96U	1.1U	
Riverboat Tour Shelter	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	**4.51**	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	**2.45**	2.27 U	NA	0.96U	1.1U	
Riverboat Tour Shelter	2.27 U	NA	2.47 U		2.17 U	2.05 U	5.33 U	**3.7**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Site 1 (background)	3.2 U	NA	11 U	28 U	6.2 U	3.6 U	3.6 U	NA	3.7 U	9.6 U	5.6 U	NA	3.4	3.7 U	12 U	2.1 U	6.7	6.3 U	3.7 U	12 U			
Site 3 (Slot 1)	4.2 U	13 U	32 U	7.0 U	4.0 U	15 U	40 U	13 U	NA	4.0 U	13 U	NA	4.0 U	NA	6.4 U	4.0 U	11 U	3.5 U	4.2 U	13 U			
Site 4 (Slot 2)	3.6 U	11 U	27 U	5.9 U	3.4 U	13 U	34 U	11 U	NA	3.4 U	11 U	NA	3.4 U	NA	5.4 U	3.4 U	9.3 U	3 U	3.6 U	11 U			
Site 5 (Slot 3)	3.4 U	10 U	26 U	5.7 U	3.3 U	12 U	32 U	11 U	NA	**5.8**	11 U	NA	3.3 U	NA	5.2 U	3.2 U	8.9 U	**18**	3.4 U	11 U			
B11 - Fallout Shelter	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Theater	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Theater	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**6.48**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Theater	2.27U	NA	4.26U	NA	2.17U	2.05U	5.33U	1.76U	2.46U	4.34U	NA	2.62U	2.17U	NA	NA	2.13U	NA	1.88U	2.27U	NA			
Theater	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72U	0.96U	1.1U	**2 J**

Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
Theater	2.27U		4.26U		2.17U	2.05U	5.33U	**7.08**	2.46U	4.34U		2.62U	2.17U			2.13U		**7.08**	2.27U				
Theater	2.27U		4.26U		2.17U	2.05U	5.33U	**5.32**	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Theater	0.96U	0.74U	1.8U		0.93U	0.89U	2.1U	0.76U		1.9U	0.77U		0.94U		0.38U	0.91U	0.57U	0.80U	1.0U	0.72UJ	0.96U	1.1U	
Theater	2.27 U		4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		1.88 U	2.27 U		0.96U	1.1U	
Theater	2.27 U		4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U			2.13 U		1.88 U	2.27 U		0.96U	1.1U	
Theater	0.92 U	0.70 U	1.7 U		0.88 U	0.83 U	2.2 U	0.71 U		1.8 U	0.73 U		0.88 U		0.35 U	0.86 U	0.60 U	0.76 U	0.92 U	0.72 U	0.96U	1.1U	
Theater																					0.96U	**1.2**	
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Theater	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
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Location	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Ethanol	Ethyl Benzene	Heptane	Hexachlorobutadiene	Hexane	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tert butyl ether	Naphthalene	o-Xylene	Propylbenzene	Propylene (Propene)	Styrene	Tetrahydrofuran	Toluene	trans-1,3-dichloropropene	Vinyl Acetate	Vinyl Bromide	Ethyl Acetate	Fluorodichloromethane (Freon 21)
Theater																							
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Theater	0.46U	0.7U	1.7U		0.88U	0.83U	2.2U	0.71U		1.8U	0.73U		0.88U		0.35U	0.86U	0.6U	0.76U	0.46U	0.72U	0.88U	1.1U	
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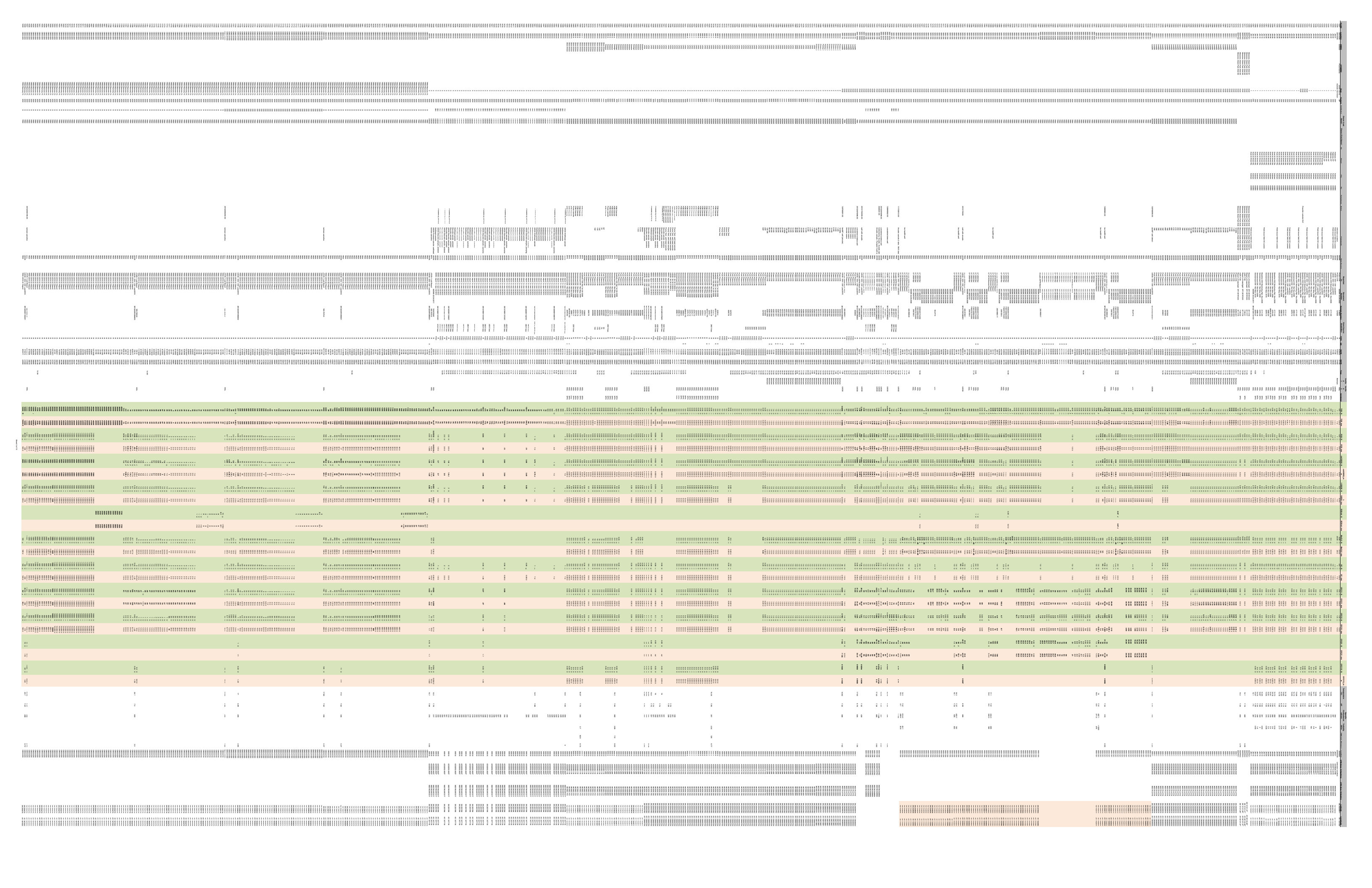
Theater Room	4.0 U	3.1 U	7.6 U	6.7 U	3.9 U	3.6 U	38 U	3.1 U	4.4 U	3.9 U	13 U	NA	3.9 U	4.4 U	NA	3.8 U	10 U	3.4 U	4.0 U	12 U			
Theater room	3.9 U	3.0 U	7.4 U	6.5 U	3.8 U	3.6 U	37 U	3.1 U	4.3 U	3.8 U	12 U	NA	3.8 U	4.3 U	NA	3.7 U	10 U	3.3 U	3.9 U	12 U			
Theater Room	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	**5.07**	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Theater Room	2.27 U	NA	4.26 U		2.17 U	2.05 U	5.33 U	1.76 U	NA	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Theater Room	2.27 U	NA	2.47 U		2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Theater room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U		2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Theater Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Theater Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**8.07**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Theater Room	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Theater Room	4.2 U	3.1 U	7.8 U	6.9 U	4.0 U	3.7 U	39 U	3.2 U	4.5 U	4.0 U	3.3 U	NA	4.0 U	4.5 U	NA	3.9 U	2.7 U	3.4 U	4.2 U	NA			
Theater	2.27U		4.26U		2.17U	2.05U	5.33U	1.76U	2.46U	4.34U		2.62U	2.17U			2.13U		1.88U	2.27U				
Ticket counter	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	1.76 U	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Ticket counter	2.27 U	NA	4.26 U	NA	2.17 U	2.05 U	5.33 U	**10.4**	2.46 U	4.34 U	NA	2.62 U	2.17 U	NA	NA	2.13 U	NA	1.88 U	2.27 U	NA			
Ticket Counter																							
Ticket counter																							
Trip Blank	2.3 U	1.7 U	4.3 U	3.8 U	2.2 U	2.1 U	22 U	1.8 U	2.5 U	2.2 U	7.3 U	NA	2.2 U	2.5 U	NA	2.2 U	6.0 U	1.9 U	2.3 U	7.2 U			
Unknown Location	2.3 U	7.0 U	17 U	3.8 U	2.2 U	8.3 U	22 U	7.2 U	NA	2.2 U	7.3 U	NA	2.2 U	NA	3.5 U	2.2 U	6.0 U	1.9 U	2.3 U	7.2 U			
Unknown Location	3.7 U	2.8 U	7.0 U	6.2 U	3.6 U	3.4 U	35 U	2.9 U	4.0 U	3.6 U	12 U	NA	3.6 U	4.0 U	NA	3.5 U	9.6 U	3.1 U	3.7 U	12 U			
Unknown Location	3.7 U	2.8 U	7.0 U	6.2 U	3.6 U	3.4 U	35 U	2.9 U	4.0 U	3.6 U	12 U	NA	3.6 U	4.0 U	NA	3.5 U	9.6 U	3.1 U	3.7 U	12 U			
Unknown Location	2.3 U	1.7 U	4.3 U	3.8 U	2.2 U	2.1 U	22 U	1.8 U	2.5 U	2.2 U	7.3 U	NA	2.2 U	2.5 U	NA	2.2 U	6.0 U	1.9 U	2.3 U	7.2 U			
Unknown Location	9,800 U	**9,800**	18,000 U	16,000 U	9,400 U	**12,000**	92,000 U	**14,000**	11,000 U	**17,000**	7,800 U	NA	9,400 U	11,000 U	NA	9,200 U	6,400 U	**300,000**	9,800 U	NA	0.88U	1.1U	
Unknown Location	28 U	**2,500**	53 U	**73**	**81**	**9,600**	260 U	**11000 E**	**580**	**9,400**	22 U	NA	**120**	**320**	NA	**33**	18 U	**1,200**	28 U	NA	0.88U	1.1U	
Unknown Location	28 U	**2,500**	53 U	**81**	**88**	**9,500**	260 U	**11000 E**	**580**	**9,400**	22 U	NA	**130**	**330**	NA	**30**	18 U	**1,100**	28 U	NA	0.88U	1.1U	
Unknown Location	72 U	**1,700**	140 U	**19,000 E**	**12,000**	**8,900**	680 U	**12,000**	**1,600**	**36,000**	57 U	NA	**3,600**	**760**	NA	68 U	**260**	**4,000**	72 U	NA	0.88U	1.1U	
Unknown Location	29 U	**390**	54 U	**130**	**210**	**1,000**	270 U	**2,900**	**620**	**17,000**	23 U	NA	**200**	**500**	NA	27 U	19 U	**960**	29 U	NA	0.88U	1.1U	
Unknown Location	76 U	**6,500**	140 U	**530**	**10,000**	**13,000**	710 U	**55,000 E**	**2,800**	**21,000**	60 U	NA	**5,400**	**930**	NA	71 U	49 U	**25,000**	76 U	NA	0.88U	1.1U	

FILEID	Location	DNRID	OTHERID	Zone	Feature	Owner (Last Name)	No.	Street	City	Zip	Notes	Comments	Data Source	Reported in:	Document Number	Sample Number	TYPE	DATE	DATE	Verified 1	Verified 2	TCE Q	TCE raw	PCE Q	PCE raw	cis12DCE Q	cis12DCE raw	t-12DCE Q	t-12DCE raw	MeCL2 Q	MeCL2 raw	VC Q	VC raw	CFC11 Q	CFC11 raw	CFC12 Q	CFC12 raw	Location	UTM Zone 15 Northing	UTM Zone 15 Easting	Latitude	Longitude
1	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		MDNR	Preliminary HWS A	SFI 30191245	86-8164	R	9/9/86	31664		HGL	2.2 U	2.2 U	22.00	22.00			2.2 U	2.2 U	14.00 U	14 U							COS02	4230692.819	660421.556	38.20991409	-91.16765816
2	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		MDNR	Preliminary HWS A	SFI 30191245	86-8810	R	12/3/86	31749		HGL	2.2 U	2.2 U	2.8 U	2.8 U			2.2 U	2.2 U	14.00 U	14 U							COS02	4230692.819	660421.556	38.20991409	-91.16765816
3	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		MDNR	Preliminary HWS A	SFI 30191245	87-2076	R	4/17/87	31884		HGL	5.0 U	5.0 U	5.0 U	5.0 U			5.0 U	5.0 U	15.00 U	15 U							COS02	4230692.819	660421.556	38.20991409	-91.16765816
4	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		MDNR	Site Investigation R	SFI 30191248	88-0885	R	5/18/88	32281	USGS	HGL	4.60	4.60	0.2 U	0.2 U			0.3 U	0.3 U	0.30 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U			COS02	4230692.819	660421.556	38.20991409	-91.16765816
5	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		City of St. Louis Wat	Groundwater Investi	SFI 30057195		R	10/2/89	32783			0.64	0.64															COS02	4230692.819	660421.556	38.20991409	-91.16765816
6	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield			Final Expanded Site	SFI 30191205		R	7/10/90	33064			5.0 U	5.0 U															COS02	4230692.819	660421.556	38.20991409	-91.16765816
7	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		USGS		SFI 40135218		R	11/28/90	33205	USGS		0.7	0.7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	COS02	4230692.819	660421.556	38.20991409	-91.16765816
8	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		USGS		SFI 40135218		R	2/11/91	33280	USGS		0.9	0.9	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	COS02	4230692.819	660421.556	38.20991409	-91.16765816
9	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield			Final Expanded Site	SFI 30191205		R	5/21/91	33379			1.0 U	1.0 U															COS02	4230692.819	660421.556	38.20991409	-91.16765816
10	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer	NOT PURGED	USGS		SFI 40135218		R	6/24/91	33413	USGS		0.7	0.7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	COS02	4230692.819	660421.556	38.20991409	-91.16765816
11	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer	PURGED	USGS		SFI 40135218		R	6/24/91	33413	USGS		0.7	0.7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	COS02	4230692.819	660421.556	38.20991409	-91.16765816
12	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		USGS		SFI 40135218		R	1/3/92	33606	USGS		0.8	0.8	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	COS02	4230692.819	660421.556	38.20991409	-91.16765816
13	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		USGS	Final Expanded Site	SFI 40135218		R	3/31/92	33694			0.60	0.60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	COS02	4230692.819	660421.556	38.20991409	-91.16765816
14	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		MDNR		SFI 30191176	92-8201	R	10/16/92	33893		HGL	0.5 U	0.5 U	5.0 U	5.0 U	5.0 U	5.0 U	0.5 U	0.5 U	5 U	5.0 U	0.5 U	0.5 U	0.2 U	0.2 U	0.2 U	0.2 U	COS02	4230692.819	660421.556	38.20991409	-91.16765816
15	COS02	GWS001	COS #02	3	PS	City of Sullivan	305	North Park	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield		MDNR		MDNR 11-24-1992	Q7823	R	10/16/92	33893		HGL	0.87	0.87	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.28 B	0.28 B	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	COS02	4230692.819	660421.556	38.20991409	-91.16765816

[illegible]

FILEID	Location	OTHERID	Zone	Feature	Owner (Last Name)	No	Street	City	Zip	Notes	Data Source	Reported In	Document Number	Sample Number	TYPE	DATE	DATE	Verified 1	Verified 2	TCE Q	TCE raw
614	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	11/15/05	38671			1 U	1.0 U
615	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	3/27/06	38803			1 U	1.0 U
616	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	9/26/06	38986			1 U	1.0 U
617	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	11/30/06	39051			1 U	1.0 U
618	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	3/28/07	39169			1 U	1.0 U
619	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	6/26/07	39259			1 U	1.0 U
620	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	9/18/07	39343			1 U	1.0 U
621	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	11/14/07	39400			1 U	1.0 U
622	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	3/18/08	39525			0.22 U	0.22 U
623	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	6/19/08	39618			0.22 U	0.22 U
624	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	9/23/08	39714			1 U	1.0 U
625	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	EPA	Baseline GW Monitoring Rpt. Nov 2008	4111-69		R	11/5/08	39757	HGL	EPA	0.5 U	0.5 U
626	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	11/20/08	39772			1 U	1.0 U
627	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	3/3/09	39874			1 U	1.0 U
628	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	EPA	Semiannual GW Rpt May 2009	4374-43		R	5/14/09	39947	HGL	EPA	0.50 U	0.50 U
629	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	6/25/09	39989			1 U	1.0 U
630	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	EPA	Semiannual GW Rpt Nov 2009	4666-7		R	11/5/09	40122	HGL	EPA	0.7	0.7
631	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	12/7/09	40154			1 U	1.0 U
632	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	EPA	Semiannual GW Rpt May 2010	4879-3		R	5/10/10	40308	HGL	EPA	1.6	1.6
633	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	6/21/10	40350				
634	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	11/17/10	40499				
635	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	5/19/11	40682				
636	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	11/2/11	40849				
637	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	6/27/12	41087			1 U	1.0 U
638	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	11/28/12	41241			1 U	1.0 U
639	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	6/4/13	41429			1 U	1.0 U
640	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	12/3/13	41611			1 U	1.0 U
641	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	6/9/14	41799			1 U	1.0 U
642	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	12/3/14	41976				
643	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	6/16/15	42171				
644	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	12/1/15	42339			1 U	1.0 U
645	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	6/1/16	42522			1 U	1.0 U
646	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	12/22/16	42726			1 U	1.0 U
647	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	6/21/17	42907				
648	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	11/16/17	43055				
649	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	10/2/18	43375				
650	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q1 Report			R	2/26/19	43522				
651	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q2 Report			R	6/5/19	43621				
652	COS07	COS #07	3	PS	City of Sullivan	800	Watson Rd.	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	TRW	TRW 2019 Q3 Report			R	9/26/19	43734			1 U	1.0 U
653	COS08	COS #08	3	PS	City of Sullivan	248	East Springfield	Sullivan	63080	Tom Harmon City Engineer - 248 E. Springfield	MDNR	Preliminary HWS A SFI 30191245		86-8185	R	9/9/86	31664	HGL			



FILEID	Location	Subfeature	Data Source	Reported in	Sample Number	QA	DATE	DATE	Time	TCE Q	TCE raw
1840	OBG-02S	S	TRW	TRW 2019 Q1 Report			10/3/18	43376		6900	6900
1841	OBG-02S	S	TRW	TRW 2019 Q1 Report			2/27/19	43523		11000	11000
1842	OBG-02S	S	TRW	TRW 2019 Q2 Report			6/6/19	43622		9500	9500
1843	OBG-02S	S	TRW	TRW 2019 Q3 Report			9/26/19	43734		13000	13000
1844	OBG-03S	S	TRW	TRW 2019 Q1 Report			5/1/93	34090		1400	1400
1845	OBG-03S	S	TRW	TRW 2019 Q1 Report			12/1/93	34304		2600	2600
1846	OBG-03S	S	TRW	TRW 2019 Q1 Report			3/1/94	34394		2200	2200
1847	OBG-03S	S	TRW	TRW 2019 Q1 Report			5/1/94	34455		2000	2000
1848	OBG-03S	S	TRW	TRW 2019 Q1 Report			9/1/94	34578		2300	2300
1849	OBG-03S	S	TRW	TRW 2019 Q1 Report			12/1/94	34669		2400	2400
1850	OBG-03S	S	TRW	TRW 2019 Q1 Report			3/1/95	34759		1800	1800
1851	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/1/95	34851		2200	2200
1852	OBG-03S	S	TRW	TRW 2019 Q1 Report			9/1/95	34943		2300	2300
1853	OBG-03S	S	TRW	TRW 2019 Q1 Report			12/1/95	35034		2500	2500
1854	OBG-03S	S	TRW	TRW 2019 Q1 Report			3/1/96	35125		2400	2400
1855	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/1/96	35217		1800	1800
1856	OBG-03S	S	TRW	TRW 2019 Q1 Report			9/1/96	35309		1900	1900
1857	OBG-03S	S	TRW	TRW 2019 Q1 Report			12/13/96	35412		1800	1800
1858	OBG-03S	S	TRW	TRW 2019 Q1 Report			3/23/97	35512		1600	1600
1859	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/30/97	35611		1600	1600
1860	OBG-03S	S	TRW	TRW 2019 Q1 Report			9/30/97	35703		1400	1400
1861	OBG-03S	S	TRW	TRW 2019 Q1 Report			12/7/97	35771		1900	1900
1862	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/27/98	35973		1800	1800
1863	OBG-03S	S	TRW	TRW 2019 Q1 Report			12/12/98	36141		1800	1800
1864	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/24/99	36335		1700	1700
1865	OBG-03S	S	TRW	TRW 2019 Q1 Report			12/12/99	36506		1900	1900
1866	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/21/00	36698		1100	1100
1867	OBG-03S	S	TRW	TRW 2019 Q1 Report			12/4/00	36864		1800	1800
1868	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/1/01	37043		2100	2100
1869	OBG-03S	S	TRW	TRW 2019 Q1 Report			12/11/01	37236		2300	2300
1870	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/18/02	37425		1900	1900
1871	OBG-03S	S	TRW	TRW 2019 Q1 Report			11/21/02	37581		2200	2200
1872	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/21/03	37793		2100	2100
1873	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/12/04	38150	12:40	2000	2000
1874	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/25/05	38528		2400	2400
1875	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/20/06	38888		2100	2100
1876	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/22/07	39255		2200	2200
1877	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/20/08	39619		2200	2200
1878	OBG-03S	S	EPA	J7463-1 Lab Report	160-7463-10		7/11/14	41831		1400	1400
1879	OBG-03S	S	USGS	USGS OGW GW post2010	381216091100901		7/11/14	41831		1400	1400
1880	OBG-03S	S	TRW	TRW 2019 Q1 Report			6/22/17	42909		2000 D	2,000 D
1881	OBG-03S	S	TRW	TRW 2019 Q1 Report			10/4/18	43377		2000	2000
1882	OBG-03S	S	TRW	TRW 2019 Q1 Report			2/27/19	43523		1700	1700
1883	OBG-03S	S	TRW	TRW 2019 Q2 Report			6/4/19	43620		1000	1000
1884	OBG-03S	S	TRW	TRW 2019 Q3 Report			9/27/19	43735		1400	1400
1885	OBG-04D	D	TRW	TRW 2019 Q1 Report			5/1/93	34090		5	5
1886	OBG-04D	D	TRW	TRW 2019 Q1 Report			12/1/93	34304		5.7	5.7
1887	OBG-04D	D	TRW	TRW 2019 Q1 Report			3/1/94	34394		4	4
1888	OBG-04D	D	TRW	TRW 2019 Q1 Report			5/1/94	34455		5	5
1889	OBG-04D	D	TRW	TRW 2019 Q1 Report			9/1/94	34578		6	6
1890	OBG-04D	D	TRW	TRW 2019 Q1 Report			12/1/94	34669		6	6
1891	OBG-04D	D	TRW	TRW 2019 Q1 Report			3/1/95	34759		6	6
1892	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/1/95	34851		6	6
1893	OBG-04D	D	TRW	TRW 2019 Q1 Report			9/1/95	34943		6	6
1894	OBG-04D	D	TRW	TRW 2019 Q1 Report			12/1/95	35034		7	7
1895	OBG-04D	D	TRW	TRW 2019 Q1 Report			3/1/96	35125		7	7
1896	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/1/96	35217		4	4
1897	OBG-04D	D	TRW	TRW 2019 Q1 Report			9/1/96	35309		8	8
1898	OBG-04D	D	TRW	TRW 2019 Q1 Report			12/13/96	35412		6	6
1899	OBG-04D	D	TRW	TRW 2019 Q1 Report			3/23/97	35512		7	7
1900	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/30/97	35611		20	20
1901	OBG-04D	D	TRW	TRW 2019 Q1 Report			9/30/97	35703		8	8
1902	OBG-04D	D	TRW	TRW 2019 Q1 Report			12/7/97	35771		8	8
1903	OBG-04D	D	TRW	TRW 2019 Q1 Report			3/27/98	35881		6	6
1904	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/27/98	35973		7	7
1905	OBG-04D	D	TRW	TRW 2019 Q1 Report			10/2/98	36070		8	8
1906	OBG-04D	D	TRW	TRW 2019 Q1 Report			12/12/98	36141		7	7
1907	OBG-04D	D	TRW	TRW 2019 Q1 Report			3/19/99	36238		7	7
1908	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/24/99	36335		7	7
1909	OBG-04D	D	TRW	TRW 2019 Q1 Report			9/16/99	36419		6	6
1910	OBG-04D	D	TRW	TRW 2019 Q1 Report			12/12/99	36506		7	7
1911	OBG-04D	D	TRW	TRW 2019 Q1 Report			3/22/00	36607		7	7
1912	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/21/00	36698		7	5
1913	OBG-04D	D	TRW	TRW 2019 Q1 Report			9/19/00	36788		41	41
1914	OBG-04D	D	TRW	TRW 2019 Q1 Report			12/4/00	36864		6	6
1915	OBG-04D	D	TRW	TRW 2019 Q1 Report			3/29/01	36979		7	7
1916	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/1/01	37043		6	6
1917	OBG-04D	D	TRW	TRW 2019 Q1 Report			10/6/01	37170		6	6
1918	OBG-04D	D	TRW	TRW 2019 Q1 Report			12/11/01	37236		7	7
1919	OBG-04D	D	TRW	TRW 2019 Q1 Report			3/22/02	37337		6.6	6.6
1920	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/18/02	37425		7.1	7.1
1921	OBG-04D	D	TRW	TRW 2019 Q1 Report			9/19/02	37518		6.5	6.5
1922	OBG-04D	D	TRW	TRW 2019 Q1 Report			11/21/02	37581		6.5	6.5
1923	OBG-04D	D	TRW	TRW 2019 Q1 Report			3/18/03	37698		6.1	6.1
1924	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/21/03	37793		6.5	6.5
1925	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/12/04	38150		6.3	6.3
1926	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/25/05	38528		6.5	6.5
1927	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/24/06	38892		6.7	6.7
1928	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/22/07	39255		6.9	6.9
1929	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/20/08	39619		8	8
1930	OBG-04D	D	TRW	TRW 2019 Q1 Report			6/21/17	42907		4.2	4.2
1931	OBG-04D	D	TRW	TRW 2019 Q1 Report			10/1/18	43374		4.7	4.7
1932	OBG-04D	D	TRW	TRW 2019 Q1 Report			2/25/19	43521		4.3	4.3
1933	OBG-04D	D	TRW	TRW 2019 Q2 Report			6/5/19	43621		1.8	1.8
1934	OBG-04D	D	TRW	TRW 2019 Q3 Report			9/24/19	43732		2.7	2.7
1935	OBG-04S	S	TRW	TRW 2019 Q1 Report			12/1/93	34304		530	530
1936	OBG-04S	S	TRW	TRW 2019 Q1 Report			3/1/94	34394		1700	1700
1937	OBG-04S	S	TRW	TRW 2019 Q1 Report			5/1/94	34455		1400	1400
1938	OBG-04S	S	TRW	TRW 2019 Q1 Report			9/1/94	34578		1600	1600
1939	OBG-04S	S	TRW	TRW 2019 Q1 Report			12/1/94	34669		1400	1400
1940	OBG-04S	S	TRW	TRW 2019 Q1 Report			3/1/95	34759		1300	1300
1941	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/1/95	34851		1300	1300
1942	OBG-04S	S	TRW	TRW 2019 Q1 Report			9/1/95	34943		1400	1400
1943	OBG-04S	S	TRW	TRW 2019 Q1 Report			12/1/95	35034		1600	1600
1944	OBG-04S	S	TRW	TRW 2019 Q1 Report			3/1/96	35125		1400	1400
1945	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/1/96	35217		1100	1100
1946	OBG-04S	S	TRW	TRW 2019 Q1 Report			9/1/96	35309		1200	1200
1947	OBG-04S	S	TRW	TRW 2019 Q1 Report			12/13/96	35412		1300	1300
1948	OBG-04S	S	TRW	TRW 2019 Q1 Report			3/23/97	35512		1100	1100
1949	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/30/97	35611		1100	1100
1950	OBG-04S	S	TRW	TRW 2019 Q1 Report			9/30/97	35703		1400	1400
1951	OBG-04S	S	TRW	TRW 2019 Q1 Report			12/7/97	35771		1300	1300
1952	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/27/98	35973		1400	1400
1953	OBG-04S	S	TRW	TRW 2019 Q1 Report			12/12/98	36141		1400	1400
1954	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/24/99	36335		1200	1200
1955	OBG-04S	S	TRW	TRW 2019 Q1 Report			12/12/99	36506		1200	1200
1956	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/21/00	36698		780	780
1957	OBG-04S	S	TRW	TRW 2019 Q1 Report			12/4/00	36864		1100	1100
1958	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/1/01	37043		2000	2000
1959	OBG-04S	S	TRW	TRW 2019 Q1 Report			12/11/01	37236		2600	2600
1960	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/18/02	37425		2500	2500
1961	OBG-04S	S	TRW	TRW 2019 Q1 Report			11/21/02	37581		2700	2700
1962	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/21/03	37793		2700	2700
1963	OBG-04S	S	TRW	TRW 2019 Q1 Report			11/20/03	37945		2600	2600
1964	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/12/04	38150		2300	2300
1965	OBG-04S	S	TRW	TRW 2019 Q1 Report			11/17/04	38308		2300	2300
1966	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/25/05	38528		2100	2100
1967	OBG-04S	S	TRW	TRW 2019 Q1 Report			11/18/05	38674		1800	1800
1968	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/20/06	38888		1600	1600
1969	OBG-04S	S	TRW	TRW 2019 Q1 Report			11/29/06	39050		1600	1600
1970	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/22/07	39255		1500	1500
1971	OBG-04S	S	TRW	TRW 2019 Q1 Report		X	11/13/07	39399		1400	1400
1972	OBG-04S	S	TRW	TRW 2019 Q1 Report		X	11/13/07	39399		1300	1300
1973	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/20/08	39619		1700	1700
1974	OBG-04S	S	TRW	TRW 2019 Q1 Report			11/18/08	39770		1400	1400
1975	OBG-04S	S	TRW	TRW 2019 Q1 Report			6/22/17	42908		800 D	800 D
1976	OBG-04S	S	TRW	TRW 2019 Q1 Report			10/4/18	43377		480	480
1977	OBG-04S	S	TRW	TRW 2019 Q1 Report			2/27/19	43523		540	540
1978	OBG-04S	S	TRW	TRW 2019 Q2 Report			6/4/19	43620		560	560
1979	OBG-04S	S	TRW	TRW 2019 Q3 Report			9/24/19	43732		670	670
1980	OBG-04S	S	TRW	TRW 2019 Q3 Report			9/24/19	43732		710	710
1981	OBG-05S	S	TRW	TRW 2019 Q1 Report			5/1/93	34090		36000	36000
1982	OBG-05S	S	TRW	TRW 2019 Q1 Report			12/1/93	34304		35000	35000
1983	OBG-05S	S	TRW	TRW 2019 Q1 Report			3/1/94	34394		28000	28000
1984	OBG-05S	S	TRW	TRW 2019 Q1 Report			5/1/94	34455		25000	25000
1985	OBG-05S	S	TRW	TRW 2019 Q1 Report			9/1/94	34578		31000	31000
1986	OBG-05S	S	TRW	TRW 2019 Q1 Report			12/1/94	34669		31000	31000
1987	OBG-05S	S	TRW	TRW 2019 Q1 Report			3/1/95	34759		25000	25000
1988	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/1/95	34851		27000	27000
1989	OBG-05S	S	TRW	TRW 2019 Q1 Report			9/1/95	34943		31000	31000
1990	OBG-05S	S	TRW	TRW 2019 Q1 Report			12/1/95	35034		31000	31000
1991	OBG-05S	S	TRW	TRW 2019 Q1 Report			3/1/96	35125		29000	29000
1992	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/1/96	35217		25000	25000
1993	OBG-05S	S	TRW	TRW 2019 Q1 Report			9/1/96	35309		22000	22000
1994	OBG-05S	S	TRW	TRW 2019 Q1 Report			12/13/96	35412		28000	28000
1995	OBG-05S	S	TRW	TRW 2019 Q1 Report			3/23/97	35512		25000	25000
1996	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/30/97	35611		22000	22000
1997	OBG-05S	S	TRW	TRW 2019 Q1 Report			9/30/97	35703		31000	31000
1998	OBG-05S	S	TRW	TRW 2019 Q1 Report			12/7/97	35771		29000	29000
1999	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/27/98	35973		27000	27000
2000	OBG-05S	S	TRW	TRW 2019 Q1 Report			12/11/98	36140		27000	27000
2001	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/24/99	36335		24000	24000
2002	OBG-05S	S	TRW	TRW 2019 Q1 Report			12/12/99	36506		24000	24000
2003	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/21/00	36698		19000	19000
2004	OBG-05S	S	TRW	TRW 2019 Q1 Report			12/4/00	36864		18000	18000
2005	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/1/01	37043		24000	24000
2006	OBG-05S	S	TRW	TRW 2019 Q1 Report			12/11/01	37236		29000	29000
2007	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/18/02	37425		32000	32000
2008	OBG-05S	S	TRW	TRW 2019 Q1 Report			11/21/02	37581		24000	24000
2009	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/21/03	37793		25000	25000
2010	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/12/04	38150	10:41	26000	26000
2011	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/25/05	38528	10:40	26000	26000
2012	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/20/06	38888		16000	16000
2013	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/22/07	39255		16000	16000
2014	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/20/08	39619		14000	14000
2015	OBG-05S	S	EPA	J7570-1 Lab Report	160-7570-10	X	07/18/14	41838		2000	2000
2016	OBG-05S	S	EPA	J7570-1 Lab Report	160-7570-9	X	07/18/14	41838		1700	1700
2017	OBG-05S	S	USGS	USGS OGW GW post2010	381218091100701	X	7/18/14	41838		2051	2051
2018	OBG-05S	S	USGS	USGS OGW GW post2010	381218091100701	X	7/18/14	41838		2048	2048
2019	OBG-05S	S	TRW	TRW 2019 Q1 Report			6/22/17	42908		1500 D	1,500 D
2020	OBG-05S	S	TRW	TRW 2019 Q1 Report			10/4/18	43377		960	960
2021	OBG-05S	S	TRW	TRW 2019 Q1 Report			2/28/19	43524		650	650
2022	OBG-05S	S	TRW	TRW 2019 Q2 Report			6/4/19	43620		840	840
2023	OBG-05S	S	TRW	TRW 2019 Q3 Report			9/26/19	43734		840	840
2024	OBG-06S	S	TRW	TRW 2019 Q1 Report			5/1/93	34090		7100	7100
2025	OBG-06S	S	TRW	TRW 2019 Q1 Report			12/1/93	34304		8700	8700
2026	OBG-06S	S	TRW	TRW 2019 Q1 Report			3/1/94	34394		7300	7300
2027	OBG-06S	S	TRW	TRW 2019 Q1 Report			5/1/94	34455		5800	5800
2028	OBG-06S	S	TRW	TRW 2019 Q1 Report			9/1/94	34578		8300	8300
2029	OBG-06S	S	TRW	TRW 2019 Q1 Report			12/1/94	34669		7100	7100
2030	OBG-06S	S	TRW	TRW 2019 Q1 Report			3/1/95	34759		7000	7000
2031	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/1/95	34851		8200	8200
2032	OBG-06S	S	TRW	TRW 2019 Q1 Report			9/1/95	34943		9900	9900
2033	OBG-06S	S	TRW	TRW 2019 Q1 Report			12/1/95	35034		9800	9800
2034	OBG-06S	S	TRW	TRW 2019 Q1 Report			3/1/96	35125		7500	7500
2035	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/1/96	35217		7900	7900
2036	OBG-06S	S	TRW	TRW 2019 Q1 Report			9/1/96	35309		7300	7300
2037	OBG-06S	S	TRW	TRW 2019 Q1 Report			12/13/96	35412		8600	8600
2038	OBG-06S	S	TRW	TRW 2019 Q1 Report			3/26/97	35515		8900	8900
2039	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/30/97	35611		8300	8300
2040	OBG-06S	S	TRW	TRW 2019 Q1 Report			9/30/97	35703		9500	9500
2041	OBG-06S	S	TRW	TRW 2019 Q1 Report			12/9/97	35773		12000	12000
2042	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/29/98	35975		10000	10000
2043	OBG-06S	S	TRW	TRW 2019 Q1 Report			12/9/98	36138		11000	11000
2044	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/24/99	36335		10000	10000
2045	OBG-06S	S	TRW	TRW 2019 Q1 Report			12/14/99	36508		12000	12000
2046	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/19/00	36696		8500	8500
2047	OBG-06S	S	TRW	TRW 2019 Q1 Report			12/3/00	36863		8700	8700
2048	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/1/01	37043		13000	13000
2049	OBG-06S	S	TRW	TRW 2019 Q1 Report			12/12/01	37237		10000	10000
2050	OBG-06S	S	TRW	TRW 2019 Q1 Report		X	6/15/02	37422		11000	11000
2051	OBG-06S	S	TRW	TRW 2019 Q1 Report		X	6/15/02	37422		11000	11000
2052	OBG-06S	S	TRW	TRW 2019 Q1 Report			11/22/02	37582		8500	8500
2053	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/23/03	37795		8200	8200
2054	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/27/05	38530		7000	7000
2055	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/21/07	39254		38	38
2056	OBG-06S	S	TRW	TRW 2019 Q1 Report			6/23/17	42909		8900 D	8,900 D
2057	OBG-06S	S	TRW	TRW 2019 Q1 Report			10/3/18	43376		10000	10000
2058	OBG-06S	S	TRW	TRW 2019 Q1 Report			2/27/19	43523		9500	9500
2059	OBG-06S	S	TRW	TRW 2019 Q2 Report			6/6/19	43622		4600	4600
2060	OBG-06S	S	TRW	TRW 2019 Q3 Report			9/27/19	43735		6600 J	6600 J
2061	OBG-06S	S	TRW	TRW 2019 Q3 Report			9/27/19	43735		6300 J	6300 J
2062	OBG-07S	S	TRW	TRW 2019 Q1 Report			5/1/93	34090		220	220
2063	OBG-07S	S	TRW	TRW 2019 Q1 Report			12/1/93	34304		250	250
2064	OBG-07S	S	TRW	TRW 2019 Q1 Report			3/1/94	34394		150	150
2065	OBG-07S	S	TRW	TRW 2019 Q1 Report			5/1/94	34455		160	160
2066	OBG-07S	S	TRW	TRW 2019 Q1 Report			9/1/94	34578		230	230
2067	OBG-07S	S	TRW	TRW 2019 Q1 Report			12/1/94	34669		250	250
2068	OBG-07S	S	TRW	TRW 2019 Q1 Report			3/1/95	34759		240	240
2069	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/1/95	34851		270	270
2070	OBG-07S	S	TRW	TRW 2019 Q1 Report			9/1/95	34943		320	320
2071	OBG-07S	S	TRW	TRW 2019 Q1 Report			12/1/95	35034		410	410
2072	OBG-07S	S	TRW	TRW 2019 Q1 Report			3/1/96	35125		380	380
2073	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/1/96	35217		360	360
2074	OBG-07S	S	TRW	TRW 2019 Q1 Report			9/1/96	35309		410	410
2075	OBG-07S	S	TRW	TRW 2019 Q1 Report			12/14/96	35413		320	320
2076	OBG-07S	S	TRW	TRW 2019 Q1 Report			3/26/97	35515		360	360
2077	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/30/97	35611		280	280
2078	OBG-07S	S	TRW	TRW 2019 Q1 Report			9/30/97	35703		350	350
2079	OBG-07S	S	TRW	TRW 2019 Q1 Report			12/9/97	35773		440	440
2080	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/26/98	35974		380	380
2081	OBG-07S	S	TRW	TRW 2019 Q1 Report			12/8/98	36137		350	350
2082	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/22/99	36333		300	300
2083	OBG-07S	S	TRW	TRW 2019 Q1 Report			12/12/99	36506		340	340
2084	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/17/00	36694		230	230
2085	OBG-07S	S	TRW	TRW 2019 Q1 Report			12/2/00	36862		300	300
2086	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/1/01	37043		310	310
2087	OBG-07S	S	TRW	TRW 2019 Q1 Report			12/7/01	37232		280	280
2088	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/19/02	37426		250	250
2089	OBG-07S	S	TRW	TRW 2019 Q1 Report			11/23/02	37583		260	260
2090	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/24/03	37796		140	140
2091	OBG-07S	S	TRW	TRW 2019 Q1 Report			11/19/03	37944		230	230
2092	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/9/04	38147		160	160
2093	OBG-07S	S	TRW	TRW 2019 Q1 Report			11/17/04	38308		140	140
2094	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/24/05	38527		280	280
2095	OBG-07S	S	TRW	TRW 2019 Q1 Report			11/16/05	38672		330	330
2096	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/25/06	38893		250 J	250J
2097	OBG-07S	S	TRW	TRW 2019 Q1 Report			11/29/06	39050	14:45	300	300
2098	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/25/07	39258		190	190
2099	OBG-07S	S	TRW	TRW 2019 Q1 Report			11/13/07	39399		190	190
2100	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/18/08	39617		270	270
2101	OBG-07S	S	TRW	TRW 2019 Q1 Report			11/18/08	39770		330	330
2102	OBG-07S	S	EPA	J7570-1 Lab Report	160-7570-3		07/16/14	41836		210	210
2103	OBG-07S	S	USGS	USGS OGW GW post2010	381224091100101		7/16/14	41836		194	194
2104	OBG-07S	S	TRW	TRW 2019 Q1 Report			6/23/17	42909		140 D	140 D
2105	OBG-07S	S	TRW	TRW 2019 Q1 Report			10/4/18	43377		360	360
2106	OBG-07S	S	TRW	TRW 2019 Q1 Report			2/26/19	43522		370	370
2107	OBG-07S	S	TRW	TRW 2019 Q2 Report			6/4/19	43620		92	92
2108	OBG-07S	S	TRW	TRW 2019 Q3 Report			9/27/19	43735		490	490
2109	OBG-08D	D	TRW	TRW 2019 Q1 Report			5/1/93	34090		260	260
2110	OBG-08D	D	TRW	TRW 2019 Q1 Report			12/1/93	34304		380	380
2111	OBG-08D	D	TRW	TRW 2019 Q1 Report			3/1/94	34394		540	540
2112	OBG-08D	D	TRW	TRW 2019 Q1 Report			5/1/94	34455		530	530
2113	OBG-08D	D	TRW	TRW 2019 Q1 Report			9/1/94	34578		640	640
2114	OBG-08D	D	TRW	TRW 2019 Q1 Report			12/1/94	34669		560	560
2115	OBG-08D	D	TRW	TRW 2019 Q1 Report			3/1/95	34759		540	540
2116	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/1/95	34851		610	610
2117	OBG-08D	D	TRW	TRW 2019 Q1 Report			9/1/95	34943		730	730
2118	OBG-08D	D	TRW	TRW 2019 Q1 Report			12/1/95	35034		740	740
2119	OBG-08D	D	TRW	TRW 2019 Q1 Report			3/1/96	35125		800	800
2120	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/1/96	35217		760	760
2121	OBG-08D	D	TRW	TRW 2019 Q1 Report			9/1/96	35309		770	770
2122	OBG-08D	D	TRW	TRW 2019 Q1 Report			12/15/96	35414		620	620
2123	OBG-08D	D	TRW	TRW 2019 Q1 Report			3/24/97	35513		840	840
2124	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/30/97	35611		870	870
2125	OBG-08D	D	TRW	TRW 2019 Q1 Report			9/30/97	35703		1100	1100
2126	OBG-08D	D	TRW	TRW 2019 Q1 Report			12/8/97	35772		1200	1200
2127	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/27/98	35973		1000	1000
2128	OBG-08D	D	TRW	TRW 2019 Q1 Report			12/9/98	36138		1100	1100
2129	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/21/99	36332		1100	1100
2130	OBG-08D	D	TRW	TRW 2019 Q1 Report			12/11/99	36505		1200	1200
2131	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/19/00	36696		910	910
2132	OBG-08D	D	TRW	TRW 2019 Q1 Report			12/2/00	36862		960	960
2133	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/1/01	37043		1300	1300
2134	OBG-08D	D	TRW	TRW 2019 Q1 Report			12/8/01	37233		1300	1300
2135	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/15/02	37422		1500	1500
2136	OBG-08D	D	TRW	TRW 2019 Q1 Report			11/21/02	37581		1500	1500
2137	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/21/03	37793		1500	1500
2138	OBG-08D	D	TRW	TRW 2019 Q1 Report			11/21/03	37946		1400	1400
2139	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/12/04	38150		1500	1500
2140	OBG-08D	D	TRW	TRW 2019 Q1 Report			11/18/04	38309		880	880
2141	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/25/05	38528		2000	2000
2142	OBG-08D	D	TRW	TRW 2019 Q1 Report			11/18/05	38674		1400	1400
2143	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/24/06	38892		2100	2100
2144	OBG-08D	D	TRW	TRW 2019 Q1 Report			11/28/06	39049		2200	2200
2145	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/23/07	39256		2500	2500
2146	OBG-08D	D	TRW	TRW 2019 Q1 Report			11/14/07	39400		2400	2400
2147	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/21/08	39620		2900	2900
2148	OBG-08D	D	TRW	TRW 2019 Q1 Report			11/18/08	39770		2900	2900
2149	OBG-08D	D	TRW	TRW 2019 Q1 Report			6/9/17	42895		2500	2500
2150	OBG-08D	D	TRW	TRW 2019 Q1 Report			10/2/18	43375		3000	3000
2151	OBG-08D	D	TRW	TRW 2019 Q1 Report			2/25/19	43521		2800	2800
2152	OBG-08D	D	TRW	TRW 2019 Q1 Report			4/2/19	43557		1700	1700
2153	OBG-08D	D	TRW	TRW 2019 Q1 Report			4/16/19	43571		2000	2000
2154	OBG-08D	D	TRW	TRW 2019 Q2 Report			6/6/19	43622		130	130
2155	OBG-08D	D	TRW	TRW 2019 Q3 Report			9/25/19	43733		4300	4300
2156	OBG-09S	S	TRW	TRW 2019 Q1 Report			5/1/93	34090		2500	2500
2157	OBG-09S	S	TRW	TRW 2019 Q1 Report			12/1/93	34304		2000	2000
2158	OBG-09S	S	TRW	TRW 2019 Q1 Report			3/1/94	34394		1600	1600
2159	OBG-09S	S	TRW	TRW 2019 Q1 Report			5/1/94	34455		1600	1600
2160	OBG-09S	S	TRW	TRW 2019 Q1 Report			9/1/94	34578		1500	1500
2161	OBG-09S	S	TRW	TRW 2019 Q1 Report			12/1/94	34669		1600	1600
2162	OBG-09S	S	TRW	TRW 2019 Q1 Report			3/1/95	34759		1700	1700
2163	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/1/95	34851		1800	1800
2164	OBG-09S	S	TRW	TRW 2019 Q1 Report			9/1/95	34943		2100	2100
2165	OBG-09S	S	TRW	TRW 2019 Q1 Report			12/1/95	35034		2500	2500
2166	OBG-09S	S	TRW	TRW 2019 Q1 Report			3/1/96	35125		2400	2400
2167	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/1/96	35217		1900	1900
2168	OBG-09S	S	TRW	TRW 2019 Q1 Report			9/1/96	35309		2200	2200
2169	OBG-09S	S	TRW	TRW 2019 Q1 Report			12/11/96	35410		2700	2700
2170	OBG-09S	S	TRW	TRW 2019 Q1 Report			3/22/97	35511		1800	1800
2171	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/30/97	35611		2100	2100
2172	OBG-09S	S	TRW	TRW 2019 Q1 Report			9/30/97	35703		2400	2400
2173	OBG-09S	S	TRW	TRW 2019 Q1 Report			12/8/97	35772		2500	2500
2174	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/27/98	35973		2300	2300
2175	OBG-09S	S	TRW	TRW 2019 Q1 Report			12/9/98	36138		2300	2300
2176	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/21/99	36332		2000	2000
2177	OBG-09S	S	TRW	TRW 2019 Q1 Report			12/11/99	36505		2300	2300
2178	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/18/00	36695		1600	1600
2179	OBG-09S	S	TRW	TRW 2019 Q1 Report			12/2/00	36862		1300	1300
2180	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/1/01	37043		2200	2200
2181	OBG-09S	S	TRW	TRW 2019 Q1 Report			12/8/01	37233		2500	2500
2182	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/15/02	37422		2200	2200
2183	OBG-09S	S	TRW	TRW 2019 Q1 Report			11/20/02	37580		2000	2000
2184	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/22/03	37794		1400	1400
2185	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/9/04	38147		1200	1200
2186	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/24/05	38527		1100	1100
2187	OBG-09S	S	TRW	TRW 2019 Q1 Report			11/16/05	38672		1500	1500
2188	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/20/06	38888		1800	1800
2189	OBG-09S	S	TRW	TRW 2019 Q1 Report			11/29/06	39050	14:15	2000	2000
2190	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/25/07	39258		1800	1800
2191	OBG-09S	S	TRW	TRW 2019 Q1 Report			11/12/07	39398		1700	1700
2192	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/18/08	39617		2200	2200
2193	OBG-09S	S	TRW	TRW 2019 Q1 Report			11/18/08	39770		2200	2200
2194	OBG-09S	S	EPA	J7463-1 Lab Report	160-7463-11		7/11/14	41831		1300	1300
2195	OBG-09S	S	USGS	USGS OGW GW post2010	381224091100601		7/11/14	41831		1300	1300
2196	OBG-09S	S	TRW	TRW 2019 Q1 Report			6/21/17	42907		960 D	960 D
2197	OBG-09S	S	TRW	TRW 2019 Q1 Report		X	10/3/18	43376		1100	1,100
2198	OBG-09S	S	TRW	TRW 2019 Q1 Report		X	10/3/18	43376		1100	1,100
2199	OBG-09S	S	TRW	TRW 2019 Q1 Report			2/25/19	43521		1400	1400
2200	OBG-09S	S	TRW	TRW 2019 Q2 Report			6/6/19	43622		910	919
2201	OBG-09S	S	TRW	TRW 2019 Q3 Report			9/26/19	43734		1400	1400
2202	OBG-10S	S	TRW	TRW 2019 Q1 Report			5/1/93	34090		98	98
2203	OBG-10S	S	TRW	TRW 2019 Q1 Report			12/1/93	34304		140	140
2204	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/1/94	34394		130	130
2205	OBG-10S	S	TRW	TRW 2019 Q1 Report			5/1/94	34455		120	120
2206	OBG-10S	S	TRW	TRW 2019 Q1 Report			9/1/94	34578		110	110
2207	OBG-10S	S	TRW	TRW 2019 Q1 Report			12/1/94	34669		120	120
2208	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/1/95	34759		150	150
2209	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/1/95	34851		110	110
2210	OBG-10S	S	TRW	TRW 2019 Q1 Report			9/1/95	34943		150	150
2211	OBG-10S	S	TRW	TRW 2019 Q1 Report			12/1/95	35034		120	120
2212	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/1/96	35125		87	87
2213	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/1/96	35217		77	77
2214	OBG-10S	S	TRW	TRW 2019 Q1 Report			9/1/96	35309		140	140
2215	OBG-10S	S	TRW	TRW 2019 Q1 Report			12/11/96	35410		130	130
2216	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/21/97	35510		120	120
2217	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/29/97	35610		84	84
2218	OBG-10S	S	TRW	TRW 2019 Q1 Report			9/27/97	35700		49	49
2219	OBG-10S	S	TRW	TRW 2019 Q1 Report			12/8/97	35772		120	120
2220	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/25/98	35879		78	78
2221	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/25/98	35971		110	110
2222	OBG-10S	S	TRW	TRW 2019 Q1 Report			10/1/98	36069		120	120
2223	OBG-10S	S	TRW	TRW 2019 Q1 Report			12/6/98	36135		120	120
2224	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/18/99	36237		58	58
2225	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/18/99	36329		43	43
2226	OBG-10S	S	TRW	TRW 2019 Q1 Report			9/15/99	36418		45	45
2227	OBG-10S	S	TRW	TRW 2019 Q1 Report			12/10/99	36504		36	36
2228	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/22/00	36607		36	36
2229	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/17/00	36694		27	27
2230	OBG-10S	S	TRW	TRW 2019 Q1 Report			9/19/00	36788		41	41
2231	OBG-10S	S	TRW	TRW 2019 Q1 Report			12/1/00	36861		28	28
2232	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/29/01	36979		24	24
2233	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/1/01	37043		24	24
2234	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/14/02	37421		22	22
2235	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/9/04	38147		18	18
2236	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/20/06	38888		15	15
2237	OBG-10S	S	TRW	TRW 2019 Q1 Report			11/29/06	39050		17	17
2238	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/26/07	39167		12	12
2239	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/22/07	39255		12	12
2240	OBG-10S	S	TRW	TRW 2019 Q1 Report			9/17/07	39342		17	17
2241	OBG-10S	S	TRW	TRW 2019 Q1 Report			11/13/07	39399		18	18
2242	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/17/08	39524		16	16
2243	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/18/08	39617		15	15
2244	OBG-10S	S	TRW	TRW 2019 Q1 Report			9/23/08	39714		13	13
2245	OBG-10S	S	TRW	TRW 2019 Q1 Report			11/18/08	39770		15	15
2246	OBG-10S	S	TRW	TRW 2019 Q1 Report			3/2/09	39874		15	15
2247	OBG-10S	S	TRW	TRW 2019 Q1 Report			6/22/17	42908		19	19
2248	OBG-10S	S	TRW	TRW 2019 Q1 Report			10/3/18	43376		22	22
2249	OBG-10S	S	TRW	TRW 2019 Q1 Report			10/3/18	43376		23	23
2250	OBG-10S	S	TRW	TRW 2019 Q1 Report			2/25/19	43521		38	38
2251	OBG-10S	S	TRW	TRW 2019 Q2 Report			6/4/19	43620		10	10
2252	OBG-10S	S	TRW	TRW 2019 Q3 Report			9/25/19	43733		22	22
2253	OBG-11D	D	TRW	TRW 2019 Q1 Report			5/1/93	34090		8	8
2254	OBG-11D	D	TRW	TRW 2019 Q1 Report			12/1/93	34304		4	4
2255	OBG-11D	D	TRW	TRW 2019 Q1 Report			3/1/94	34394		5	5
2256	OBG-11D	D	TRW	TRW 2019 Q1 Report			5/1/94	34455		7	7
2257	OBG-11D	D	TRW	TRW 2019 Q1 Report			9/1/94	34578		7	7
2258	OBG-11D	D	TRW	TRW 2019 Q1 Report			12/1/94	34669		7	7
2259	OBG-11D	D	TRW	TRW 2019 Q1 Report			3/1/95	34759		6	6
2260	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/1/95	34851		8	8
2261	OBG-11D	D	TRW	TRW 2019 Q1 Report			9/1/95	34943		8	8
2262	OBG-11D	D	TRW	TRW 2019 Q1 Report			12/1/95	35034		10	10
2263	OBG-11D	D	TRW	TRW 2019 Q1 Report			3/1/96	35125		7	7
2264	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/1/96	35217		4	4
2265	OBG-11D	D	TRW	TRW 2019 Q1 Report			9/1/96	35309		8	8
2266	OBG-11D	D	TRW	TRW 2019 Q1 Report			12/11/96	35410		11	11
2267	OBG-11D	D	TRW	TRW 2019 Q1 Report			3/21/97	35510		10	10
2268	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/28/97	35609		11	11
2269	OBG-11D	D	TRW	TRW 2019 Q1 Report			9/29/97	35702		10	10
2270	OBG-11D	D	TRW	TRW 2019 Q1 Report			12/8/97	35772		12	12
2271	OBG-11D	D	TRW	TRW 2019 Q1 Report			3/25/98	35879		9	9
2272	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/22/98	35968		12	12
2273	OBG-11D	D	TRW	TRW 2019 Q1 Report			9/30/98	36068		10	10
2274	OBG-11D	D	TRW	TRW 2019 Q1 Report			12/6/98	36135		12	12
2275	OBG-11D	D	TRW	TRW 2019 Q1 Report			3/19/99	36238		11	11
2276	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/18/99	36329		10	10
2277	OBG-11D	D	TRW	TRW 2019 Q1 Report			9/15/99	36418		11	11
2278	OBG-11D	D	TRW	TRW 2019 Q1 Report			12/10/99	36504		12	12
2279	OBG-11D	D	TRW	TRW 2019 Q1 Report			3/21/00	36606		13	13
2280	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/18/00	36695		9	9
2281	OBG-11D	D	TRW	TRW 2019 Q1 Report			9/19/00	36788		13	13
2282	OBG-11D	D	TRW	TRW 2019 Q1 Report			12/1/00	36861		9	9
2283	OBG-11D	D	TRW	TRW 2019 Q1 Report			3/27/01	36977		14	14
2284	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/29/01	37071		11	11
2285	OBG-11D	D	TRW	TRW 2019 Q1 Report			10/6/01	37170		13	13
2286	OBG-11D	D	TRW	TRW 2019 Q1 Report			12/5/01	37230		15	15
2287	OBG-11D	D	TRW	TRW 2019 Q1 Report			3/19/02	37334		15	15
2288	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/14/02	37421		16	16
2289	OBG-11D	D	TRW	TRW 2019 Q1 Report			9/19/02	37518		14	14
2290	OBG-11D	D	TRW	TRW 2019 Q1 Report			11/20/02	37580		15	15
2291	OBG-11D	D	TRW	TRW 2019 Q1 Report			3/18/03	37698		14	14
2292	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/18/03	37790		15	15
2293	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/11/04	38149	13:05	13	13
2294	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/22/05	38525		13	13
2295	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/24/06	38892		13	13
2296	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/22/07	39255		12	12
2297	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/17/08	39616		15	15
2298	OBG-11D	D	EPA	J7463-1 Lab Report	160-7463-2		7/8/14	41828		8.2	8.2
2299	OBG-11D	D	USGS	USGS OGW GW post2010	381234091100801		7/8/14	41828		8.2	8.20
2300	OBG-11D	D	TRW	TRW 2019 Q1 Report			6/21/17	42907		5.2	5.2
2301	OBG-11D	D	TRW	TRW 2019 Q1 Report			10/3/18	43376		3.7	3.7
2302	OBG-11D	D	TRW	TRW 2019 Q1 Report			2/21/19	43517		3.7	3.7
2303	OBG-11D	D	TRW	TRW 2019 Q2 Report			6/5/19	43621		2.2	2.2
2304	OBG-11D	D	TRW	TRW 2019 Q3 Report			9/25/19	43733		5.9	5.9
2305	OBG-11S	S	TRW	TRW 2019 Q1 Report			5/1/93	34090		15	15
2306	OBG-11S	S	TRW	TRW 2019 Q1 Report			12/1/93	34304		48	48
2307	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/1/94	34394		81	81
2308	OBG-11S	S	TRW	TRW 2019 Q1 Report			5/1/94	34455		110	110
2309	OBG-11S	S	TRW	TRW 2019 Q1 Report			9/1/94	34578		100	100
2310	OBG-11S	S	TRW	TRW 2019 Q1 Report			12/1/94	34669		89	89
2311	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/1/95	34759		65	65
2312	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/1/95	34851		100	100
2313	OBG-11S	S	TRW	TRW 2019 Q1 Report			9/1/95	34943		110	110
2314	OBG-11S	S	TRW	TRW 2019 Q1 Report			12/1/95	35034		100	100
2315	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/1/96	35125		67	67
2316	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/1/96	35217		41	41
2317	OBG-11S	S	TRW	TRW 2019 Q1 Report			9/1/96	35309		34	34
2318	OBG-11S	S	TRW	TRW 2019 Q1 Report			12/11/96	35410		27	27
2319	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/21/97	35510		18	18
2320	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/28/97	35609		16	16
2321	OBG-11S	S	TRW	TRW 2019 Q1 Report			9/29/97	35702		18	18
2322	OBG-11S	S	TRW	TRW 2019 Q1 Report			12/8/97	35772		21	21
2323	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/25/98	35879		11	11
2324	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/22/98	35968		15	15
2325	OBG-11S	S	TRW	TRW 2019 Q1 Report			10/1/98	36069		16	16
2326	OBG-11S	S	TRW	TRW 2019 Q1 Report			12/6/98	36135		16	16
2327	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/18/99	36237		10	10
2328	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/18/99	36329		10	10
2329	OBG-11S	S	TRW	TRW 2019 Q1 Report			9/15/99	36418		12	12
2330	OBG-11S	S	TRW	TRW 2019 Q1 Report			12/10/99	36504		20	20
2331	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/21/00	36606		18	18
2332	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/17/00	36694		4	4
2333	OBG-11S	S	TRW	TRW 2019 Q1 Report			12/1/00	36861		10	10
2334	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/27/01	36977		10	10
2335	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/1/01	37043		7	7
2336	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/9/04	38147		1.4	1.4
2337	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/20/06	38888		7.4	7.4
2338	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/26/07	39167		6	6
2339	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/22/07	39255		4.5	4.5
2340	OBG-11S	S	TRW	TRW 2019 Q1 Report			9/17/07	39342		5.6	5.6
2341	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/17/08	39524		0.39 U	0.39 U
2342	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/17/08	39616		4	4
2343	OBG-11S	S	TRW	TRW 2019 Q1 Report			9/23/08	39714		4.1	4.1
2344	OBG-11S	S	TRW	TRW 2019 Q1 Report			11/17/08	39769		4	4
2345	OBG-11S	S	TRW	TRW 2019 Q1 Report			3/3/09	39875		7	7
2346	OBG-11S	S	TRW	TRW 2019 Q1 Report			6/21/17	42907		7.3	7.3
2347	OBG-11S	S	TRW	TRW 2019 Q1 Report			10/2/18	43375		8.4	8.4
2348	OBG-11S	S	TRW	TRW 2019 Q1 Report			2/21/19	43517		6.2	6.2
2349	OBG-11S	S	TRW	TRW 2019 Q2 Report			6/6/19	43622		5.3	5.3
2350	OBG-11S	S	TRW	TRW 2019 Q3 Report			9/27/19	43735		9.9	9.9
2351	OBG-12D	D	TRW	TRW 2019 Q1 Report			5/1/93	34090		5 U	5 U
2352	OBG-12D	D	TRW	TRW 2019 Q1 Report			12/1/93	34304		0.9	0.9
2353	OBG-12D	D	TRW	TRW 2019 Q1 Report			3/1/94	34394		1	1
2354	OBG-12D	D	TRW	TRW 2019 Q1 Report			5/1/94	34455		1 U	1 U
2355	OBG-12D	D	TRW	TRW 2019 Q1 Report			9/1/94	34578		1	1
2356	OBG-12D	D	TRW	TRW 2019 Q1 Report			12/1/94	34669		1	1
2357	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/1/95	34851		1	1
2358	OBG-12D	D	TRW	TRW 2019 Q1 Report			12/1/95	35034		3	3
2359	OBG-12D	D	TRW	TRW 2019 Q1 Report			12/7/96	35406		2	2
2360	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/28/97	35609		2	2
2361	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/21/98	35967		2	2
2362	OBG-12D	D	TRW	TRW 2019 Q1 Report			12/4/98	36133		2	2
2363	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/18/99	36329		2	2
2364	OBG-12D	D	TRW	TRW 2019 Q1 Report			12/10/99	36504		3	3
2365	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/14/00	36691		2	2
2366	OBG-12D	D	TRW	TRW 2019 Q1 Report			12/1/00	36861		2	2
2367	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/29/01	37071		2	2
2368	OBG-12D	D	TRW	TRW 2019 Q1 Report			12/5/01	37230		3	3
2369	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/14/02	37421		3	3
2370	OBG-12D	D	TRW	TRW 2019 Q1 Report			11/20/02	37580		3.5	3.5
2371	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/18/03	37790		3.1	3.1
2372	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/10/04	38148		2.8	2.8
2373	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/21/05	38524		3.1	3.1
2374	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/22/06	38890		3.3	3.3
2375	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/19/07	39252		4.3	4.3
2376	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/17/08	39616		3.8	3.8
2377	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/24/09	39988		2.9	2.9
2378	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/25/10	40354		3.6	3.6
2379	OBG-12D	D	TRW	TRW 2019 Q1 Report			5/20/11	40683		1 U	1.0 U
2380	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/26/12	41086		2.7	2.7
2381	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/4/13	41429		2.7	2.7
2382	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/11/14	41801		2.8	2.8
2383	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/16/15	42171		2.3	2.3
2384	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/2/16	42523		2.1	2.1
2385	OBG-12D	D	TRW	TRW 2019 Q1 Report			6/21/17	42907		1.3	1.3
2386	OBG-12D	D	TRW	TRW 2019 Q1 Report			10/2/18	43375		1.0 UB	1.0 UB
2387	OBG-12D	D	TRW	TRW 2019 Q1 Report			2/20/19	43516		0.78 J	0.78 J
2388	OBG-12D	D	TRW	TRW 2019 Q2 Report			6/5/19	43621		0.86 J	0.86 J
2389	OBG-12D	D	TRW	TRW 2019 Q3 Report			9/25/19	43733		1.20	1.2
2390	OBG-12S	S	TRW	TRW 2019 Q1 Report			5/1/93	34090		5 U	5 U
2391	OBG-12S	S	TRW	TRW 2019 Q1 Report			12/1/93	34304		0.5 U	0.5 U
2392	OBG-12S	S	TRW	TRW 2019 Q1 Report			3/1/94	34394		1 U	1 U
2393	OBG-12S	S	TRW	TRW 2019 Q1 Report			5/1/94	34455		1 U	1 U
2394	OBG-12S	S	TRW	TRW 2019 Q1 Report			9/1/94	34578		1 U	1 U
2395	OBG-12S	S	TRW	TRW 2019 Q1 Report			12/1/94	34669		1 U	1 U
2396	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/1/95	34851		1 U	1 U
2397	OBG-12S	S	TRW	TRW 2019 Q1 Report			12/1/95	35034		1 U	1 U
2398	OBG-12S	S	TRW	TRW 2019 Q1 Report			12/7/96	35406		1 U	1 U
2399	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/28/97	35609		1 U	1 U
2400	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/21/98	35967		1 U	1 U
2401	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/18/99	36329		1 U	1 U
2402	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/14/00	36691		1 U	1 U
2403	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/29/01	37071		1 U	1 U
2404	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/14/02	37421		1 U	1 U
2405	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/18/03	37790		1 U	1 U
2406	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/26/05	38529		1 U	1 U
2407	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/19/07	39252		1 U	1 U
2408	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/24/09	39988		1 U	1 U
2409	OBG-12S	S	TRW	TRW 2019 Q1 Report			5/16/11	40679		1 U	1 U
2410	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/4/13	41429		1 U	1 U
2411	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/15/15	42170		5 U	5.0 U
2412	OBG-12S	S	TRW	TRW 2019 Q1 Report			6/23/17	42909		1 U	1.0 U
2413	OBG-12S	S	TRW	TRW 2019 Q1 Report			2/21/19	43517		2.9	2.9
2414	OBG-13D	D	TRW	TRW 2019 Q1 Report			5/1/93	34090		140	140
2415	OBG-13D	D	TRW	TRW 2019 Q1 Report			12/1/93	34304		180	180
2416	OBG-13D	D	TRW	TRW 2019 Q1 Report			3/1/94	34394		1000	1000
2417	OBG-13D	D	TRW	TRW 2019 Q1 Report			5/1/94	34455		910	910
2418	OBG-13D	D	TRW	TRW 2019 Q1 Report			9/1/94	34578		940	940
2419	OBG-13D	D	TRW	TRW 2019 Q1 Report			12/1/94	34669		760	760
2420	OBG-13D	D	TRW	TRW 2019 Q1 Report			3/1/95	34759		840	840
2421	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/1/95	34851		900	900
2422	OBG-13D	D	TRW	TRW 2019 Q1 Report			9/1/95	34943		1200	1200
2423	OBG-13D	D	TRW	TRW 2019 Q1 Report			12/1/95	35034		910	910
2424	OBG-13D	D	TRW	TRW 2019 Q1 Report			3/1/96	35125		820	820
2425	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/1/96	35217		830	830
2426	OBG-13D	D	TRW	TRW 2019 Q1 Report			9/1/96	35309		770	770
2427	OBG-13D	D	TRW	TRW 2019 Q1 Report			12/10/96	35409		1200	1200
2428	OBG-13D	D	TRW	TRW 2019 Q1 Report			3/22/97	35511		880	880
2429	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/27/97	35608		1000	1000
2430	OBG-13D	D	TRW	TRW 2019 Q1 Report			9/30/97	35703		1100	1100
2431	OBG-13D	D	TRW	TRW 2019 Q1 Report			12/8/97	35772		1200	1200
2432	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/25/98	35971		1200	1200
2433	OBG-13D	D	TRW	TRW 2019 Q1 Report			12/7/98	36136		1200	1200
2434	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/18/99	36329		1000	1000
2435	OBG-13D	D	TRW	TRW 2019 Q1 Report			12/8/99	36502		1100	1100
2436	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/14/00	36691		980	980
2437	OBG-13D	D	TRW	TRW 2019 Q1 Report			12/1/00	36861		960	960
2438	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/29/01	37071		1300	1300
2439	OBG-13D	D	TRW	TRW 2019 Q1 Report			12/5/01	37230		1500	1500
2440	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/13/02	37420		1400	1400
2441	OBG-13D	D	TRW	TRW 2019 Q1 Report			11/19/02	37579		1400	1400
2442	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/17/03	37789		1100	1100
2443	OBG-13D	D	TRW	TRW 2019 Q1 Report			11/18/03	37943		1400	1400
2444	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/10/04	38148		1100	1100
2445	OBG-13D	D	TRW	TRW 2019 Q1 Report			11/18/04	38309		1300	1300
2446	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/21/05	38524		1300	1300
2447	OBG-13D	D	TRW	TRW 2019 Q1 Report			11/18/05	38674		1800	1800
2448	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/21/06	38889		1600	1600
2449	OBG-13D	D	TRW	TRW 2019 Q1 Report			11/28/06	39049		2000	2000
2450	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/19/07	39252		2000	2000
2451	OBG-13D	D	TRW	TRW 2019 Q1 Report			11/13/07	39399		1700	1700
2452	OBG-13D	D	TRW	TRW 2019 Q1 Report			6/17/08	39616		2300	2300

FILEID	Location	Subfeature	Data Source	Reported in	Sample Number	TYPE	QA	DATE	DATE	Time	Validated	TCE Q	TCE raw
2453	OBG-13D	D	TRW	TRW 2019 Q1 Report		R		11/18/08	39770			2300	2300
2454	OBG-13D	D	TRW	TRW 2019 Q1 Report		R		6/21/17	42907			1100	1100
2455	OBG-13D	D	TRW	TRW 2019 Q1 Report		R		10/2/18	43375			460	460
2456	OBG-13D	D	TRW	TRW 2019 Q1 Report		R		2/20/19	43516			2500	2,500
2457	OBG-13D	D	TRW	TRW 2019 Q2 Report		R		6/5/19	43621			830	830
2458	OBG-13D	D	TRW	TRW 2019 Q3 Report		R		9/24/19	43732			2100	2100
2459	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			5 U	5 U
2460	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			0.6	0.6
2461	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			1 U	1 U
2462	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			1 U	1 U
2463	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1	1
2464	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1 U	1 U
2465	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		3/1/95	34759			1	1
2466	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2467	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		9/1/95	34943			1	1
2468	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			2	2
2469	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		3/1/96	35125			2	2
2470	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/1/96	35217			1 U	1 U
2471	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		9/1/96	35309			1 U	1 U
2472	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		12/11/96	35410			2	2
2473	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		3/22/97	35511			2	2
2474	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/27/97	35608			1	1
2475	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		9/30/97	35703			3	3
2476	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		12/8/97	35772			2	2
2477	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/25/98	35971			1	1
2478	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		12/7/98	36136			5	5
2479	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/18/99	36329			2	2
2480	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		12/9/99	36503			3	3
2481	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/14/00	36691			3	3
2482	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/1/01	37043			5	5
2483	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/13/02	37420			7.5	7.5
2484	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		11/18/03	37943			15	15
2485	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/11/04	38149			11	11
2486	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/20/06	38888			12	12
2487	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/19/07	39252			19	19
2488	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/17/08	39616			17	17
2489	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		6/22/17	42908			21	21
2490	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		10/2/18	43375			24	24
2491	OBG-13S	S	TRW	TRW 2019 Q1 Report		R		2/20/19	43516			27	27
2492	OBG-13S	S	TRW	TRW 2019 Q2 Report		R		6/6/19	43622			29	29
2493	OBG-13S	S	TRW	TRW 2019 Q3 Report		R		9/27/19	43735			41	41
2494	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			5 U	5 U
2495	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			0.5 U	0.5 U
2496	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			1 U	1 U
2497	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			1 U	1 U
2498	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1 U	1 U
2499	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1 U	1 U
2500	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2501	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1	1
2502	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/7/96	35406			1 U	1 U
2503	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		3/22/97	35511			1 U	1 U
2504	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/26/97	35607			1 U	1 U
2505	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		9/27/97	35700			1 U	1 U
2506	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/4/97	35768			1 U	1 U
2507	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		3/26/98	35880			1 U	1 U
2508	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/21/98	35967			1 U	1 U
2509	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		10/1/98	36069			1 U	1 U
2510	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/6/98	36135			1 U	1 U
2511	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		3/19/99	36238			1 U	1 U
2512	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/19/99	36330			1 U	1 U
2513	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		9/14/99	36417			1 U	1 U
2514	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/9/99	36503			1 U	1 U
2515	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		3/22/00	36607			1 U	1 U
2516	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/17/00	36694			1 U	1 U
2517	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		9/19/00	36788			1 U	1 U
2518	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/1/00	36861			1 U	1 U
2519	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		3/28/01	36978			1 U	1 U
2520	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/27/01	37069			1 U	1 U
2521	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		10/4/01	37168			1 U	1 U
2522	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/7/01	37232			1	1
2523	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		3/22/02	37337			1 U	1.0 U
2524	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/17/02	37424			1 U	1.0 U
2525	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		9/18/02	37517			1 U	1.0 U
2526	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/21/02	37581			1 U	1.0 U
2527	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		3/18/03	37698			1 U	1.0 U
2528	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/19/03	37791			1 U	1.0 U
2529	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/20/03	37945			1 U	1.0 U
2530	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/11/04	38149			1 U	1.0 U
2531	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/17/04	38308			1 U	1.0 U
2532	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/22/05	38525			1 U	1.0 U
2533	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/18/05	38674			1 U	1.0 U
2534	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/23/06	38891			1 U	1.0 U
2535	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/27/06	39048			1 U	1.0 U
2536	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/21/07	39254			1 U	1.0 U
2537	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/13/07	39399			1 U	1.0 U
2538	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/18/08	39617			0.39 U	0.39 U
2539	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/20/08	39772			1 U	1.0 U
2540	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/26/09	39990			1 U	1.0 U
2541	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/1/09	40148			1 U	1.0 U
2542	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/23/10	40352			1 U	1.0 U
2543	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/16/10	40498			1 U	1.0 U
2544	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		5/17/11	40680			1 U	1.0 U
2545	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/1/11	40848			1 U	1.0 U
2546	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/27/12	41087			1 U	1.0 U
2547	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/28/12	41241			1 U	1.0 U
2548	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/3/13	41428			1 U	1.0 U
2549	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/3/13	41611			1 U	1.0 U
2550	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/10/14	41800			1 U	1.0 U
2551	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/3/14	41976			1 U	1.0 U
2552	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/18/15	42173			1 U	1.0 U
2553	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/1/15	42339			1 U	1.0 U
2554	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/2/16	42523			1 U	1.0 U
2555	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		12/21/16	42725			1 U	1.0 U
2556	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		6/19/17	42905			1 U	1.0 U
2557	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		11/16/17	43055			1 U	1.0 U
2558	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		10/3/18	43376			1 U	1.0 U
2559	OBG-14D	D	TRW	TRW 2019 Q1 Report		R		2/19/19	43515			0.13 J	0.13 J
2560	OBG-14D	D	TRW	TRW 2019 Q2 Report		R		6/4/19	43620			0.12 J	0.12 J
2561	OBG-14D	D	TRW	TRW 2019 Q3 Report		R		9/23/19	43731			1 U	1.0 U
2562	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			10 U	10 U
2563	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			0.5 U	0.5 U
2564	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			1 U	1 U
2565	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			1 U	1 U
2566	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1 U	1 U
2567	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1 U	1 U
2568	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		3/1/95	34759			1 U	1 U
2569	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2570	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		9/1/95	34943			1 U	1 U
2571	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1 U	1 U
2572	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		3/1/96	35125			1 U	1 U
2573	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/1/96	35217			1 U	1 U
2574	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		9/1/96	35309			1 U	1 U
2575	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		12/8/96	35407			1 U	1 U
2576	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		3/19/97	35508			1	1
2577	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/25/97	35606			1 U	1 U
2578	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		9/30/97	35703			1 U	1 U
2579	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		12/5/97	35769			1 U	1 U
2580	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		3/26/98	35880			1 U	1 U
2581	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/20/98	35966			1 U	1 U
2582	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		10/1/98	36069			1 U	1 U
2583	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		12/5/98	36134			1 U	1 U
2584	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		3/18/99	36237			1 U	1 U
2585	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/19/99	36330			1 U	1 U
2586	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		9/14/99	36417			1 U	1 U
2587	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		12/9/99	36503			1 U	1 U
2588	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		3/23/00	36608			1 U	1 U
2589	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/17/00	36694			1 U	1 U
2590	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		9/20/00	36789			1 U	1 U
2591	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		12/6/00	36866			1 U	1 U
2592	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		3/28/01	36978			1 U	1 U
2593	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/1/01	37043			1 U	1 U
2594	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		10/4/01	37168			1 U	1 U
2595	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		12/6/01	37231			1	1
2596	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		12/7/01	37232			1	1
2597	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		3/29/02	37344			1 U	1.0 U
2598	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/19/02	37426			1 U	1.0 U
2599	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		9/18/02	37517			1 U	1.0 U
2600	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		11/24/02	37584			1 U	1.0 U
2601	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		3/19/03	37699			1 U	1.0 U
2602	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/25/03	37797			1 U	1.0 U
2603	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		11/20/03	37945			1 U	1.0 U
2604	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/16/04	38154			1 U	1.0 U
2605	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		11/17/04	38308			1 U	1.0 U
2606	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/23/05	38526			1 U	1.0 U
2607	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		11/16/05	38672			2.6	2.6
2608	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/23/06	38891			1 U	1.0 U
2609	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		11/29/06	39050			1 U	1.0 U
2610	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/21/07	39254			1 U	1.0 U
2611	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		11/16/07	39402			1 U	1.0 U
2612	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/20/08	39619			1 U	1.0 U
2613	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		11/20/08	39772			1 U	1.0 U
2614	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/26/09	39990			1 U	1.0 U
2615	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/22/10	40351			1 U	1.0 U
2616	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		5/16/11	40679			1 U	1.0 U
2617	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/27/12	41087			1 U	1.0 U
2618	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/3/13	41428			1 U	1.0 U
2619	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/10/14	41800			1 U	1.0 U
2620	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/18/15	42173			1 U	1.0 U
2621	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/1/16	42522			1 U	1.0 U
2622	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		6/19/17	42905			1 U	1.0 U
2623	OBG-14DD	DD	TRW	TRW 2019 Q1 Report		R		2/19/19	43515			0.25 J	0.25 J
2624	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			5 U	5 U
2625	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			0.5 U	0.5 U
2626	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			1 U	1 U
2627	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			1 U	1 U
2628	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1 U	1 U
2629	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1 U	1 U
2630	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		3/1/95	34759			1 U	1 U
2631	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2632	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		9/1/95	34943			1 U	1 U
2633	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1	1
2634	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		3/1/96	35125			1 U	1 U
2635	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/1/96	35217			1 U	1 U
2636	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		9/1/96	35309			1 U	1 U
2637	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		12/7/96	35406			1 U	1 U
2638	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		3/20/97	35509			1	1
2639	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/26/97	35607			1 U	1 U
2640	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		9/27/97	35700			1 U	1 U
2641	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		12/4/97	35768			1 U	1 U
2642	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/20/98	35966			1 U	1 U
2643	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		12/6/98	36135			1 U	1 U
2644	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/19/99	36330			1 U	1 U
2645	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		12/9/99	36503			1 U	1 U
2646	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/18/00	36695			1 U	1 U
2647	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		12/1/00	36861			1 U	1 U
2648	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/27/01	37069			1 U	1 U
2649	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		12/7/01	37232			1	1
2650	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/18/02	37425			1 U	1.0 U
2651	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		11/22/02	37582			2.2	2.2
2652	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/19/03	37791			1 U	1.0 U
2653	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/11/04	38149			1 U	1.0 U
2654	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/22/05	38525			1 U	1.0 U
2655	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/23/06	38891			1 U	1.0 U
2656	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/21/07	39254			1 U	1.0 U
2657	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/18/08	39617			0.39 U	0.39 U
2658	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/26/09	39990			1 U	1.0 U
2659	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/22/10	40351			1 U	1.0 U
2660	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		5/15/11	40678			1 U	1.0 U
2661	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/26/12	41086			1 U	1.0 U
2662	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/3/13	41428			1 U	1.0 U
2663	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/10/14	41800			1 U	1.0 U
2664	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/18/15	42173			1 U	1.0 U
2665	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/2/16	42523			1 U	1.0 U
2666	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		6/19/17	42905			1 U	1.0 U
2667	OBG-14S	S	TRW	TRW 2019 Q1 Report		R		2/19/19	43515			0.16 J	0.16 J
2668	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			47	47
2669	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			50 U	50 U
2670	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			100 U	100 U
2671	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			100 U	100 U
2672	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			100 U	100 U
2673	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			100 U	100 U
2674	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		3/1/95	34759			100 U	100 U
2675	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			100 U	100 U
2676	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		9/1/95	34943			100 U	100 U
2677	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			100 U	100 U
2678	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		3/1/96	35125			100 U	100 U
2679	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/1/96	35217			100 U	100 U
2680	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		9/1/96	35309			100	100
2681	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		12/13/96	35412			100 U	100 U
2682	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		3/24/97	35513			280	280
2683	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/30/97	35611			100 U	100 U
2684	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		9/30/97	35703			100 U	100 U
2685	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		12/7/97	35771			100 U	100 U
2686	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/25/98	35971			200 U	200 U
2687	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		12/11/98	36140			200 U	200 U
2688	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/21/99	36332			200 U	200 U
2689	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		12/11/99	36505			200 U	200 U
2690	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/19/00	36696			200 U	200 U
2691	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		12/3/00	36863			50 U	50 U
2692	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/1/01	37043			50 U	50 U
2693	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		12/8/01	37233			50	50
2694	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/15/02	37422			50 U	50 U
2695	OBG-15S	S	TRW	TRW 2019 Q1 Report		R	X	11/22/02	37582	11:30		61	61
2696	OBG-15S	S	TRW	TRW 2019 Q1 Report		D	X	11/22/02	37582			52	52
2697	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/21/03	37793			50	50
2698	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/22/05	38525			100 U	100 U
2699	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/23/07	39256			100 U	100 U
2700	OBG-15S	S	EPA	J7463-1 Lab Report	160-7463-7	R		7/10/14	41830		HGL	17	17
2701	OBG-15S	S	USGS	USGS_OGV_GW_post2010	381222091101001	R		7/10/14	41830			16.2	16.20
2702	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		6/22/17	42908			23 J	23 J
2703	OBG-15S	S	TRW	TRW 2019 Q1 Report		R		2/27/19	43523			93 J	93 J
2704	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			2500	2500
2705	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			4500	4500
2706	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			4000	4000
2707	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			4000	4000
2708	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			5300	5300
2709	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			4900	4900
2710	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		3/1/95	34759			4700	4700
2711	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			4800	4800
2712	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		9/1/95	34943			5500	5500
2713	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			6100	6100
2714	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		3/1/96	35125			6100	6100
2715	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/1/96	35217			5700	5700
2716	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		9/1/96	35309			5000	5000
2717	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		12/13/96	35412			5800	5800
2718	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		3/24/97	35513			6500	6500
2719	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/30/97	35611			6600	6600
2720	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		9/30/97	35703			8400	8400
2721	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		12/7/97	35771			8900	8900
2722	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/25/98	35971			7900	7900
2723	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		12/10/98	36139			7500	7500
2724	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/21/99	36332			6900	6900
2725	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		12/11/99	36505			7400	7400
2726	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/19/00	36696			5600	5600
2727	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		12/3/00	36863			5300	5300
2728	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/1/01	37043			6000	6000
2729	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		12/8/01	37233			6500	6500
2730	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/15/02	37422			5500	5500
2731	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		11/22/02	37582			4800	4800
2732	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/21/03	37793			5200	5200
2733	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/12/04	38150	13:35		3500	3500
2734	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/22/05	38525			2500	2500
2735	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/24/06	38892			2600	2600
2736	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/23/07	39256			2400	2400
2737	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/18/08	39617			2500	2500
2738	OBG-16S	S	EPA	J7570-1 Lab Report (isotope sampling)	160-7570-1	R		7/15/14	41835		HGL	840	840
2739	OBG-16S	S	USGS	USGS_OGV_GW_post2010	381219091100901	R		7/15/14	41835			942	942
2740	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		6/22/17	42908			430 D	430 D
2741	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		10/2/18	43375			420	420
2742	OBG-16S	S	TRW	TRW 2019 Q1 Report		R		2/27/19	43523			340	340
2743	OBG-16S	S	TRW	TRW 2019 Q2 Report		R		6/6/19	43622			240	240
2744	OBG-16S	S	TRW	TRW 2019 Q3 Report		R		9/24/19	43732			390	390
2745	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			10 U	10 U
2746	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			0.5 U	0.5 U
2747	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			1 U	1 U
2748	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			1 U	1 U
2749	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1 U	1 U
2750	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1 U	1 U
2751	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2752	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1 U	1 U
2753	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		12/7/96	35406			1 U	1 U
2754	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/26/97	35607			1 U	1 U
2755	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/19/98	35965			1 U	1 U
2756	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/21/99	36332			1 U	1 U
2757	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/18/00	36695			1 U	1 U
2758	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/28/01	37070			1 U	1 U
2759	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/14/02	37421			1 U	1.0 U
2760	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/18/03	37790			1 U	1.0 U
2761	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/22/05	38525			1 U	1.0 U
2762	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/23/07	39256			1 U	1.0 U
2763	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/23/09	39987			1 U	1.0 U
2764	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		5/20/11	40683			1 U	1.0 U
2765	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/5/13	41430			1 U	1.0 U
2766	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/7/15	42162			1 U	1.0 U
2767	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		6/22/17	42908			1 U	1.0 U
2768	OBG-17D	D	TRW	TRW 2019 Q1 Report		R		2/22/19	43518			1	1
2769	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			10 U	10 U
2770	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			0.5 U	0.5 U
2771	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1 U	1 U
2772	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1 U	1 U
2773	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2774	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1 U	1 U
2775	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		12/7/96	35406			1 U	1 U
2776	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/26/97	35607			1 U	1 U
2777	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/19/98	35965			1 U	1 U
2778	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/21/99	36332			1 U	1 U
2779	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/18/00	36695			1 U	1 U
2780	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/28/01	37070			1 U	1 U
2781	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/14/02	37421			1 U	1.0 U
2782	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/18/03	37790			1 U	1.0 U
2783	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/9/04	38147			1 U	1.0 U
2784	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/22/05	38525			1 U	1.0 U
2785	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/23/06	38891			1 U	1.0 U
2786	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/23/07	39256			1 U	1.0 U
2787	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/17/08	39616			0.39 U	0.39 U
2788	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/23/09	39987			1 U	1.0 U
2789	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/25/10	40354			1 U	1.0 U
2790	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		5/20/11	40683			1 U	1.0 U
2791	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/28/12	41088			1 U	1.0 U
2792	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/5/13	41430			1 U	1.0 U
2793	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/11/14	41801			1 U	1.0 U
2794	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/17/15	42172			1 U	1.0 U
2795	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		6/2/16	42523			1 U	1.0 U
2796	OBG-17S	S	TRW	TRW 2019 Q1 Report		R	X	6/22/17	42908			1 U	1.0 U
2797	OBG-17S	S	TRW	TRW 2019 Q1 Report		D	X	6/22/17	42908			1 U	1.0 U
2798	OBG-17S	S	TRW	TRW 2019 Q1 Report		R		2/22/19	43518			1 U	1.0 U
2799	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			0.7	0.7
2800	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			1.2	1.2
2801	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			1	1
2802	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			1	1
2803	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1	1
2804	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1	1
2805	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2806	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1	1
2807	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		12/10/96	35409			1	1
2808	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/27/97	35608			1	1
2809	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/25/98	35971			1	1
2810	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/22/99	36333			1	1
2811	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/14/00	36691			1 U	1 U
2812	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/28/01	37070			1	1
2813	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/12/02	37419			1.5	1.5
2814	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/18/03	37790			1.6	1.6
2815	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/11/04	38149			1 U	1.0 U
2816	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/21/05	38524			2	2
2817	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/23/06	38891			2.1	2.1
2818	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/20/07	39253			2	2
2819	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/17/08	39616			7.1	7.1
2820	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		3/2/09	39874			2.1	2.1
2821	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/24/09	39988			1.9	1.9
2822	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/24/10	40353	10:55		2.3	2.3
2823	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		5/18/11	40681			2.2	2.2
2824	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/27/12	41087			2.2	2.2
2825	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/5/13	41430			2.2	2.2
2826	OBG-18D	D	TRW	TRW 2014 Annual Report		R		6/11/14	41801			2.3	2.3
2827	OBG-18D	D	EPA	J7463-1 Lab Report	160-7463-1	R		7/8/14	41828		HGL	1.7 J	1.7 J
2828	OBG-18D	D	USGS	USGS_OGV_GW_post2010	381246091094101	R		7/18/14	41838			1.7 J	1.7 J
2829	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/17/15	42172			1.8	1.8
2830	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/2/16	42523			2	2
2831	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		6/20/17	42906			0.8 J	0.77 J
2832	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		10/2/18	43375			1.0 U	1.0 UB
2833	OBG-18D	D	TRW	TRW 2019 Q1 Report		R		2/19/19	43515			1.9	1.9
2834	OBG-18D	D	TRW	TRW 2019 Q2 Report		R		6/5/19	43621			0.49 J	0.49 J
2835	OBG-18D	D	TRW	TRW 2019 Q3 Report		R		9/24/19	43732			2.60	2.6
2836	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			10 U	10 U
2837	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			0.5 U	0.5 U
2838	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			1 U	1 U
2839	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			1 U	1 U
2840	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1 U	1 U
2841	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1 U	1 U
2842	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2843	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1 U	1 U
2844	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		12/9/96	35408			1 U	1 U
2845	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/30/97	35611			1 U	1 U
2846	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/24/98	35970			1 U	1 U
2847	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/22/99	36333			1 U	1 U
2848	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/15/00	36692			1 U	1 U
2849	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/1/01	37043			1 U	1 U
2850	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/12/02	37419			1 U	1.0 U
2851	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/20/03	37792			1 U	1.0 U
2852	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/29/05	38532			1 U	1.0 U
2853	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/20/07	39253			1 U	1.0 U
2854	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/24/09	39988			1 U	1.0 U
2855	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		5/18/11	40681			1 U	1.0 U
2856	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/5/13	41430			1 U	1.0 U
2857	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/17/15	42172			1 U	1.0 U
2858	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		6/22/17	42908			1 U	1.0 U
2859	OBG-18DD	DD	TRW	TRW 2019 Q1 Report		R		2/19/19	43515			1 U	1.0 U
2860	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			5 U	5 U
2861	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			0.5 U	0.5 U
2862	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			1 U	1 U
2863	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			1 U	1 U
2864	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1 U	1 U
2865	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1 U	1 U
2866	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2867	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1 U	1 U
2868	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		12/10/96	35409			1 U	1 U
2869	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/27/97	35608			1 U	1 U
2870	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/25/98	35971			1 U	1 U
2871	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/22/99	36333			1 U	1 U
2872	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/15/00	36692			1 U	1 U
2873	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/28/01	37070			1 U	1 U
2874	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/12/02	37419			1 U	1.0 U
2875	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/18/03	37790			1 U	1.0 U
2876	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/22/05	38525			1 U	1.0 U
2877	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/20/07	39253			1 U	1.0 U
2878	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/24/09	39988			1 U	1.0 U
2879	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		5/18/11	40681			1 U	1.0 U
2880	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/5/13	41430			1 U	1.0 U
2881	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/17/15	42172			1 U	1.0 U
2882	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		6/20/17	42906			1 U	1.0 U
2883	OBG-18S	S	TRW	TRW 2019 Q1 Report		R		2/19/19	43515			6.4	6.4
2884	OBG-18S	S	TRW	TRW 2019 Q2 Report		R		6/6/19	43622			0.52 J	0.52 J
2885	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			5 U	5 U
2886	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			0.5 U	0.5 U
2887	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			1 U	1 U
2888	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			1 U	1 U
2889	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1 U	1 U
2890	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1 U	1 U
2891	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2892	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1 U	1 U
2893	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/8/96	35407			1 U	1 U
2894	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/27/97	35608			1 U	1 U
2895	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/19/98	35965			1 U	1 U
2896	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/4/98	36133			1 U	1 U
2897	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/17/99	36328			1 U	1 U
2898	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/8/99	36502			1 U	1 U
2899	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/14/00	36691			1 U	1 U
2900	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/1/00	36861			1 U	1 U
2901	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/27/01	37069			1 U	1 U
2902	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/4/01	37229			1	1
2903	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/13/02	37420			1 U	1.0 U
2904	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/19/02	37579			1 U	1.0 U
2905	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/17/03	37789			1 U	1.0 U
2906	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/18/03	37943			1 U	1.0 U
2907	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/10/04	38148			1 U	1.0 U
2908	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/15/04	38306			1 U	1.0 U
2909	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/21/05	38524			1 U	1.0 U
2910	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/17/05	38673			1 U	1.0 U
2911	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/21/06	38889			1 U	1.0 U
2912	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/28/06	39049			1 U	1.0 U
2913	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/19/07	39252			1 U	1.0 U
2914	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/13/07	39399			1 U	1.0 U
2915	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/17/08	39616			0.39 U	0.39 U
2916	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/18/08	39770			1 U	1.0 U
2917	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/24/09	39988			1 U	1.0 U
2918	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/1/09	40148			1 U	1.0 U
2919	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/25/10	40354			1 U	1.0 U
2920	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/16/10	40498			1 U	1.0 U
2921	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		5/19/11	40682			1 U	1.0 U
2922	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/1/11	40848			1 U	1.0 U
2923	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/27/12	41087			1 U	1.0 U
2924	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/28/12	41241			1 U	1.0 U
2925	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/4/13	41429			1 U	1.0 U
2926	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/5/13	41613			1 U	1.0 U
2927	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/9/14	41799			1 U	1.0 U
2928	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/3/14	41976			1 U	1.0 U
2929	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/8/15	42163			1 U	1.0 U
2930	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/1/15	42339			1 U	1.0 U
2931	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		5/31/16	42521			1 U	1.0 U
2932	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		12/22/16	42726			1 U	1.0 U
2933	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		6/21/17	42907			1 U	1.0 U
2934	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		11/16/17	43055			1 U	1.0 U
2935	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		10/2/18	43375			1 U	1.0 UB
2936	OBG-19D	D	TRW	TRW 2019 Q1 Report		R		2/20/19	43516			1 U	1.0 U
2937	OBG-19D	D	TRW	TRW 2019 Q2 Report		R		6/4/19	43620			0.49 J	0.49 J
2938	OBG-19D	D	TRW	TRW 2019 Q3 Report		R		9/24/19	43732			1 U	1.0 U
2939	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		5/1/93	34090			10 U	10 U
2940	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		12/1/93	34304			0.5 U	0.5 U
2941	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		3/1/94	34394			1 U	1 U
2942	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		5/1/94	34455			1 U	1 U
2943	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		9/1/94	34578			1 U	1 U
2944	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		12/1/94	34669			1 U	1 U
2945	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			1 U	1 U
2946	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1 U	1 U
2947	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		12/8/96	35407			1 U	1 U
2948	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/27/97	35608			1 U	1 U
2949	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/19/98	35965			1 U	1 U
2950	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		12/4/98	36133			1 U	1 U
2951	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/17/99	36328			1 U	1 U
2952	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		12/8/99	36502			1 U	1 U
2953	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/14/00	36691			1 U	1 U
2954	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		12/1/00	36861			1 U	1 U
2955	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/27/01	37069			1 U	1 U
2956	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		12/5/01	37230			1	1
2957	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/13/02	37420			1 U	1.0 U
2958	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		11/19/02	37579			1 U	1.0 U
2959	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/17/03	37789			1 U	1.0 U
2960	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/26/05	38529			1 U	1.0 U
2961	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/19/07	39252			1 U	1.0 U
2962	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/24/09	39988			1 U	1.0 U
2963	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/22/10	40351			1 U	1.0 U
2964	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		5/19/11	40682			1 U	1.0 U
2965	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/27/12	41087			1 U	1.0 U
2966	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/4/13	41429			1 U	1.0 U
2967	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/9/14	41799			1 U	1.0 U
2968	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/18/15	42173			1 U	1.0 U
2969	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		5/31/16	42521			1 U	1.0 U
2970	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		6/21/17	42907			1 U	1.0 U
2971	OBG-19S	S	TRW	TRW 2019 Q1 Report		R		2/20/19	43516			0.18 J	0.18 J
2972	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			2	2
2973	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		9/1/95	34943			1 U	1 U
2974	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1 U	1 U
2975	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		3/1/96	35125			1 U	1 U
2976	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/1/96	35217			1 U	1 U
2977	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		9/1/96	35309			1 U	1 U
2978	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		12/12/96	35411			1 U	1 U
2979	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		3/25/97	35514			2	2
2980	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/30/97	35611			1 U	1 U
2981	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		9/29/97	35702			1 U	1 U
2982	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		12/6/97	35770			1 U	1 U
2983	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/22/98	35968			1 U	1 U
2984	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/20/99	36331			1 U	1 U
2985	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/16/00	36693			1 U	1 U
2986	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/1/01	37043			1 U	1 U
2987	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/17/02	37424			1 U	1.0 U
2988	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/22/03	37794			1 U	1.0 U
2989	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/13/04	38151			1	1
2990	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/28/05	38531			1.8	1.8
2991	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/25/06	38893			2.0 J	2.0 J
2992	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/24/07	39257			2	2
2993	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/21/08	39620			2.2	2.2
2994	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/23/09	39987			2.6	2.6
2995	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/24/10	40353			3.9	3.9
2996	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		5/19/11	40682			3.6	3.6
2997	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/26/12	41086			3.7	3.7
2998	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/4/13	41429			4.1	4.1
2999	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/10/14	41800			4.7	4.7
3000	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/16/15	42171			3.8	3.8
3001	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/1/16	42522			4.0	4
3002	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		6/20/17	42906			1.0 U	1.0 U
3003	OBG-20DD	DD	TRW	TRW 2019 Q1 Report		R		2/20/19	43516			0.12 J	0.12 J
3004	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			5	5
3005	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		9/1/95	34943			1 U	1 U
3006	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			1 U	1 U
3007	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		3/1/96	35125			1 U	1 U
3008	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/1/96	35217			1 U	1 U
3009	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		9/1/96	35309			1 U	1 U
3010	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		12/12/96	35411			1 U	1 U
3011	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		3/25/97	35514			1 U	1 U
3012	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/30/97	35611			1 U	1 U
3013	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		9/29/97	35702			1 U	1 U
3014	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		12/6/97	35770			1 U	1 U
3015	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/23/98	35969			1 U	1 U
3016	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/20/99	36331			1 U	1 U
3017	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/17/08	39616			0.39 U	0.39 U
3018	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/23/09	39987			1 U	1.0 U
3019	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/22/10	40351			1 U	1.0 U
3020	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		5/19/11	40682			1 U	1.0 U
3021	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/26/12	41086			1 U	1.0 U
3022	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/4/13	41429			1 U	1.0 U
3023	OBG-20S	S	TRW	TRW 2014 Annual Report		R		6/10/14	41800			1 U	1.0 U
3024	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/16/15	42171			1 U	1.0 U
3025	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/1/16	42522			1 U	1.0 U
3026	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		6/22/17	42908			1 U	1.0 U
3027	OBG-20S	S	TRW	TRW 2019 Q1 Report		R		2/21/19	43517			0.30 J	0.30 J
3028	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/1/95	34851			10	10
3029	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		9/1/95	34943			10	10
3030	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		12/1/95	35034			12	12
3031	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		3/1/96	35125			16	16
3032	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/1/96	35217			13	13
3033	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		9/1/96	35309			15	15
3034	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		12/10/96	35409			16	16
3035	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		3/21/97	35510			18	18
3036	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/27/97	35608			15	15
3037	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		9/28/97	35701			19	19
3038	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		12/4/97	35768			22	22
3039	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		3/25/98	35879			20	20
3040	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/19/98	35965			26	26
3041	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		9/30/98	36068			22	22
3042	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		12/3/98	36132			23	23
3043	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		3/19/99	36238			23	23
3044	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/17/99	36328			20	20
3045	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		9/15/99	36418			23	23
3046	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		12/8/99	36502			23	23
3047	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		3/21/00	36606			25	25
3048	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/13/00	36690			19	19
3049	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		9/18/00	36787			25	25
3050	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		12/1/00	36861			19	19
3051	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		3/29/01	36979			25	25
3052	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/29/01	37071			22	22
3053	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		10/5/01	37169			25	25
3054	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		12/4/01	37229			26	26
3055	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		3/21/02	37336			20	20
3056	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/13/02	37420			24	24
3057	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		9/19/02	37518			20	20
3058	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		11/19/02	37579			25	25
3059	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		3/18/03	37698			21	21
3060	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/17/03	37789			21	21
3061	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		11/21/03	37946			24	24
3062	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/11/04	38149			22	22
3063	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		11/15/04	38306			23	23
3064	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		6/21/05	38524			19	19
3065	OBG-21D	D	TRW	TRW 2019 Q1 Report		R		11/17/05	38673			23	23

FILEID	Location	Zone	Feature	Sublfeature	Owner (Last Name)	Data Source	Reported In	Document Number	Sample Number	TYPE	DATE	DATE	Time	TCE Q	TCE raw	PCE Q	PCE raw	cis12DCE Q	cis12DCE raw
3066	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	6/21/06	38889		22	22	1 U	1.0 U	1.5	1.5
3067	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	11/28/06	39049	11:35	24 J	24 J	1 U	1.0 U	1 U	1.0 U
3068	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	6/19/07	39252		26	26	1 U	1.0 U	1.7	1.7
3069	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	11/12/07	39398		21	21	1 U	1.0 U	1.5	1.5
3070	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	6/16/08	39615		24	24	1 U	0.44 U	1.4	1.4
3071	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	11/17/08	39769		24	24	1 U	1.0 U	1.3	1.3
3072	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	EPA	J7463-1 Lab Report		160-7463-5	R	7/9/14	41829		21	21	5.0 U	<5.0 U	0.80 J	0.80 J
3073	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	USGS	USGS OGV GW post2010		381213091100501	R	7/9/14	41829		21	21	0.28 U	<.28	0.80 J	0.8 J
3074	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	6/22/17	42908		14	14	1 U	1.0 U	0.98 J	0.98 J
3075	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	10/2/18	43375		12	12	1 U	1.0 U	0.76 J	0.76 J
3076	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	2/20/19	43516		12	12	1 U	1.0 U	0.60 J	0.60 J
3077	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	6/5/19	43621		5.3	5.3	1 U	1.0 U	0.41 J	0.41 J
3078	OBG-21D	TRW/Ramsey Fa	MW	D	TRW	TRW	TRW 2019 Q1 Report			R	9/24/19	43732		8.9	8.9	1 U	1.0 U	0.56 J	0.56 J
3079	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	6/1/95	34851		310	310				
3080	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	9/1/95	34943		240	240				
3081	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	12/1/95	35034		310	310				
3082	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	3/1/96	35125		250	250				
3083	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	6/1/96	35217		330	330				
3084	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	9/1/96	35309		380	380				
3085	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	12/10/96	35409		390	390				
3086	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	3/21/97	35510		370	370	10 U	10 U	29	29
3087	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	6/27/97	35608		440	440	10 U	10 U	30	30
3088	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	9/28/97	35701		540	540	10 U	10 U	38	38
3089	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	12/4/97	35768		470	470	10 U	10 U	48	48
3090	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	3/25/98	35879		190	190	10 U	10 U	37	37
3091	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	6/19/98	35965		600	600	10 U	10 U	13	13
3092	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	9/30/98	36068		480	480	10 U	10 U	48	48
3093	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	12/3/98	36132		500	500	10 U	10 U	44	44
3094	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	3/17/99	36236		420	420	10 U	10 U	44	44
3095	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	6/17/99	36328		350	350	10 U	10 U	36	36
3096	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	9/15/99	36418		510	510	10 U	10 U	33	33
3097	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	12/8/99	36502		560	560	10 U	10 U	49	49
3098	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	3/21/00	36606		430	430	10 U	10 U	53	53
3099	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	6/14/00	36691		340	340	10 U	10 U	41	41
3100	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	9/18/00	36787		360	360	10 U	10 U	30	30
3101	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	12/1/00	36861		220	220	10 U	10 U	27	27
3102	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	3/29/01	36979		430	430	10 U	10 U	21	21
3103	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	6/29/01	37071		490	490	10 U	10 U	38	38
3104	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	10/5/01	37169		270	270	10 U	10 U	21	21
3105	OBG-21S	TRW/Ramsey Fa	MW	S	TRW	TRW	TRW 2019 Q1 Report			R	12/4/01	37229		140	140	10 U	10 U	20	20

FILEID	Location	Street	Data Source	Reported in / Document	DATE	TCE Q	TCE raw
3679	PH041	East & West Rd.	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.54	0.54
3680	PH041	East & West Rd.	EPA	Semiannual GW Rpt May 2010	5/10/10	0.74	0.74
3681	PH041	East & West Rd.	USGS		12/6/10	0.72 J	0.72 J
3682	PH042	E. Springfield Rd.	MDNR	Phase II RI	11/2/04	2.22	2.22
3683	PH042	E. Springfield Rd.	MDNR	Phase II RI	3/9/05	3.32	3.32
3684	PH042	E. Springfield Rd.	MDNR	Phase II RI	5/24/05	3.11	3.11
3685	PH042	E. Springfield Rd.	MDNR	MDNR Summary	9/1/05	3.65	3.65
3686	PH042	E. Springfield Rd.	MDNR	MDNR Summary	3/1/06	3.12	3.12
3687	PH042	E. Springfield Rd.	MDNR	MDNR Summary	10/1/06	3.04	3.04
3688	PH042	E. Springfield Rd.	MDNR	MDNR Summary	9/1/07	3.12	3.12
3689	PH042	E. Springfield Rd.	MDNR	MDNR Summary	9/1/07	3.02	3.02
3690	PH042	E. Springfield Rd.	USGS	OGV FEB2013 QWDATA	2/8/13	3.40	3.40
3691	PH042	E. Springfield Rd.	EPA	ASR 7120	5/2/16	6.1	6.1
3692	PH042	E. Springfield Rd.	EPA	ASR 7188	7/13/16	4.2	4.2
3693	PH042	E. Springfield Rd.	EPA	ASR 7381	3/6/17	1 U	1 U
3694	PH042	E. Springfield Rd.	EPA	ASR 7381	3/6/17	4.70	4.70
3695	PH042	E. Springfield Rd.	EPA	ASR 7962	8/10/18	3.1	3.1
3696	PH042	E. Springfield Rd.	EPA	ASR 7962	8/10/18	4.6	4.6
3697	PH043		No Data				
3698	PH044	Sherwood Forest	MDNR	Phase II RI	12/12/01	1.0 U	1.0 U
3699	PH048	Acid Mine Rd.	MDNR	MDNR Summary	9/1/07	0.00 U	0.00
3700	PH049	Acid Mine Rd.	MDNR	MDNR Summary	9/1/07	0.00 U	0.00
3701	PH050	Ronnie Dr.	MDNR	Phase II RI	3/10/05	0.2 U	0.2 U
3702	PH050	Ronnie Dr.	MDNR	Phase II RI	3/10/05	0.2 U	0.2 U
3703	PH050	Ronnie Dr.	MDNR	Phase II RI	5/25/05	0.2 U	0.2 U
3704	PH050	Ronnie Dr.	MDNR	Phase II RI	5/25/05	0.2 U	0.2 U
3705	PH050	Ronnie Dr.	MDNR	MDNR Summary	3/1/06	0.00 U	0.00
3706	PH050	Ronnie Dr.	EPA	ASR 7962	8/10/18	0.50 U	0.50 U
3707	PH050	Ronnie Dr.	EPA	ASR8348	9/17/19	0.50 U	0.50 U
3708	PH050	Ronnie Dr.	EPA	ASR 8349	10/15/19	0.50 U	0.50 U
3709	PH051	Wildwood Dr.	MDNR	Phase II RI	3/10/05	0.2 U	0.2 U
3710	PH051	Wildwood Dr.	MDNR	Phase II RI	5/25/05	0.2 U	0.2 U
3711	PH051	Wildwood Dr.	MDNR	MDNR Summary	3/1/06	0.00 U	0.00
3712	PH052	Timber Oak Dr.	MDNR	MDNR Summary	9/1/05	0.00 U	0.00
3713	PH052	Timber Oak Dr.	MDNR	MDNR Summary	3/1/06	0.00 U	0.00
3714	PH053	Highway AF	MDNR	MDNR Summary	9/1/05	0.63	0.63
3715	PH053	Highway AF	MDNR	Post Phase II RI	6/1/06	0.30 J	0.30
3716	PH053	Highway AF	MDNR	Post Phase II RI	10/1/06	0.25 U	0.25 U
3717	PH053	Highway AF	MDNR	MDNR Summary	9/1/07	0.00 U	0.00
3718	PH053	Highway AF	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3719	PH053	Highway AF	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3720	PH053	Highway AF	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3721	PH053	Highway AF	EPA	Semiannual GW Rpt May 2010	5/10/10	0.50 U	0.50 U
3722	PH054	Highway AF	MDNR	MDNR Summary	9/1/05	0.00 U	0.00
3723	PH054	Highway AF	MDNR	Post Phase II RI	6/1/06	0.25 U	0.25 U
3724	PH054	Highway AF	MDNR	Post Phase II RI	6/1/06	0.25 U	0.25 U
3725	PH054	Highway AF	MDNR	Post Phase II RI	10/1/06	0.25 U	0.25 U
3726	PH054	Highway AF	MDNR	MDNR Summary	3/1/07	0.00 U	0.00
3727	PH054	Highway AF	MDNR	MDNR Summary	9/1/07	0.00 U	0.00
3728	PH054	Highway AF	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3729	PH054	Highway AF	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3730	PH054	Highway AF	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3731	PH054	Highway AF	EPA	Semiannual GW Rpt May 2010	5/10/10	0.50 U	0.50 U
3732	PH054	Highway AF	EPA	ASR 7381	3/13/17	0.50 U	0.5 U
3733	PH054	Highway AF	EPA	ASR 7381	3/13/17	0.50 U	0.5 U
3734	PH055	Elm Spring Hills Dr.	MDNR	MDNR Summary	3/1/06	0.00 U	0.00
3735	PH055	Elm Spring Hills Dr.	MDNR	MDNR Summary	10/1/06	0.00 U	0.00
3736	PH056	Chickadee Lane	MDNR	MDNR Summary	3/1/06	0.00 U	0.00
3737	PH056	Chickadee Lane	MDNR	MDNR Summary	10/1/06	0.00 U	0.00
3738	PH056	Chickadee Lane	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3739	PH057	E. Springfield Rd.	MDNR	MDNR Summary	3/1/06	0.00 U	0.00
3740	PH057	E. Springfield Rd.	MDNR	MDNR Summary	10/1/06	0.63	0.63
3741	PH058	Highway AF	MDNR	Post Phase II RI	10/1/06	1.11	1.11
3742	PH058	Highway AF	MDNR	MDNR Summary	3/1/07	0.00 U	0.00
3743	PH058	Highway AF	MDNR	MDNR Summary	9/1/07	1.13	1.13
3744	PH058	Highway AF	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3745	PH058	Highway AF	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3746	PH058	Highway AF	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3747	PH058	Highway AF	EPA	Semiannual GW Rpt May 2010	5/10/10	0.50 U	0.50 U
3748	PH058	Highway AF	EPA	ASR 7381	3/14/17	0.50 U	0.5 U
3749	PH059	Beckett Rd.	MDNR	MDNR Summary	10/1/06	0.00 U	0.00
3750	PH060	Watson Rd.	MDNR	MDNR Summary	10/1/06	0.00 U	0.00
3751	PH060	Watson Rd.	MDNR	MDNR Summary	3/1/07	0.00 U	0.00
3752	PH060	Watson Rd.	EPA	ASR 7120	4/27/16	0.50 U	0.5 U
3753	PH061	Dinky Rd.	MDNR	MDNR Summary	3/1/07	0.00 U	0.00
3754	PH061	Dinky Rd.	MDNR	MDNR Summary	9/1/07	0.00 U	0.00
3755	PH061	Dinky Rd.	EPA	ASR 7381	3/7/17	0.50 U	0.5 U
3756	PH062	Highway AF	TRW	TRW 2019 Q1 Report	12/1/93	4.5	4.5
3757	PH062	Highway AF	TRW	TRW 2019 Q1 Report	3/1/94	4.4	4.4
3758	PH062	Highway AF	TRW	TRW 2019 Q1 Report	5/1/94	3.7	3.7
3759	PH062	Highway AF	TRW	TRW 2019 Q1 Report	9/1/94	3.8	3.8
3760	PH062	Highway AF	TRW	TRW 2019 Q1 Report	12/1/94	3.3	3.3
3761	PH062	Highway AF	TRW	TRW 2019 Q1 Report	6/1/95	3.1	3.1
3762	PH062	Highway AF	TRW	TRW 2019 Q1 Report	12/1/95	4.9	4.9
3763	PH062	Highway AF	TRW	TRW 2019 Q1 Report	12/5/96	4.8	4.8
3764	PH062	Highway AF	TRW	TRW 2019 Q1 Report	6/30/97	5.7	5.7
3765	PH062	Highway AF	TRW	RCRA 73630	8/18/97	5.4	5.4
3766	PH062	Highway AF	MDNR	MDNR 08-29-97	8/25/97	6.1	6.1
3767	PH062	Highway AF	TRW	RCRA 73630	8/25/97	5	5
3768	PH062	Highway AF	TRW	RCRA 73630	9/1/97	5.6	5.6
3769	PH062	Highway AF	TRW	RCRA 73630	9/7/97	5.2	5.2
3770	PH062	Highway AF	MDNR	Additional Site Ass SFI 30191303	9/11/97	6.3	6.3
3771	PH062	Highway AF	MDNR	Additional Site Ass SFI 30191303	9/11/97	6.2	6.2
3772	PH062	Highway AF	TRW	TRW 2019 Q1 Report	3/24/98	4.7	4.7
3773	PH062	Highway AF	TRW	TRW 2019 Q1 Report	6/23/98	5	5
3774	PH062	Highway AF	USGS	Post Phase II RI	2/6/06	1.2	1.2
3775	PH062	Highway AF	USGS	Post Phase II RI	2/6/06	1.5	1.5
3776	PH062	Highway AF	USGS	Post Phase II RI	2/6/06	1.3	1.3
3777	PH062	Highway AF	USGS	Post Phase II RI	2/6/06	1.3	1.3
3778	PH062	Highway AF	USGS	Post Phase II RI	2/6/06	1.3	1.3
3779	PH062	Highway AF	MDNR	Post Phase II RI	2/6/06	1.55	1.55
3780	PH062	Highway AF	MDNR	Post Phase II RI	2/6/06	1.78	1.78
3781	PH062	Highway AF	MDNR	Post Phase II RI	2/6/06	1.48	1.48
3782	PH062	Highway AF	MDNR	Post Phase II RI	2/6/06	1.50	1.50
3783	PH062	Highway AF	MDNR	Post Phase II RI	2/6/06	1.44	1.44
3784	PH062	Highway AF	USGS	Post Phase II RI	2/14/06	1.6	1.6
3785	PH062	Highway AF	USGS	Post Phase II RI	2/14/06	1.5	1.5
3786	PH062	Highway AF	USGS	Post Phase II RI	2/14/06	1.3	1.3
3787	PH062	Highway AF	USGS	Post Phase II RI	2/14/06	1.2	1.2
3788	PH062	Highway AF	USGS	Post Phase II RI	2/14/06	1.6	1.6
3789	PH062	Highway AF	USGS	Post Phase II RI	2/14/06	2.0	2.0
3790	PH062	Highway AF	USGS	OGV FEB2013 QWDATA	2/20/13	0.79 J	0.79 J
3791	PH063	Elmont Road	MDOH	MDNR 11-19-1992	10/22/92	0.40 U	0.4 U
3792	PH063	Elmont Road	TRW	Phase II RI	12/1/93	0.5 U	0.5 U
3793	PH063	Elmont Road	TRW	Phase II RI	3/1/94	0.5 U	0.5 U
3794	PH063	Elmont Road	TRW	Phase II RI	5/1/94	0.5 U	0.5 U
3795	PH063	Elmont Road	TRW	Phase II RI	9/1/94	0.5 U	0.5 U
3796	PH063	Elmont Road	TRW	Phase II RI	12/1/94	0.5 U	0.5 U
3797	PH063	Elmont Road	TRW	Phase II RI	6/1/95	0.5 U	0.5 U
3798	PH063	Elmont Road	TRW	Phase II RI	12/1/95	0.5 U	0.5 U
3799	PH063	Elmont Road	TRW	Phase II RI	12/5/96	0.5 U	0.5 U
3800	PH063	Elmont Road	TRW	Phase II RI	6/30/97	0.5 U	0.5 U
3801	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/23/98	0.5 U	0.5 U
3802	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/15/99	0.5 U	0.5 U
3803	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/15/00	0.5 U	0.5 U
3804	PH063	Elmont Road	TRW	Phase II RI	6/1/01	0.5 U	0.5 U
3805	PH063	Elmont Road	MDNR	RCRA 422012	6/11/02	1.0 U	1.0 U
3806	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/11/02	1 U	1 U
3807	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/23/03	1 U	1.0 U
3808	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/8/04	1 U	1.0 U
3809	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/24/05	1 U	1.0 U
3810	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/21/06	1 U	1.0 U
3811	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/26/07	1 U	1.0 U
3812	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/21/08	1 U	1.0 U
3813	PH063	Elmont Road	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3814	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/25/09	1 U	1.0 U
3815	PH063	Elmont Road	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3816	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/23/10	1 U	1.0 U
3817	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	5/19/11	1 U	1.0 U
3818	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/26/12	1 U	1.0 U
3819	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/4/13	1 U	1.0 U
3820	PH063	Elmont Road	TRW	TRW 2014 Annual Report	6/9/14	1 U	1.0 U
3821	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/16/15	1 U	1.0 U
3822	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/1/16	1 U	1.0 U
3823	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	6/21/17	1 U	1.0 U
3824	PH063	Elmont Road	TRW	TRW 2019 Q1 Report	2/26/19	1 U	1.0 U
3825	PH064	Highway WW	TRW	TRW 2019 Q1 Report	12/1/93	0.5 U	0.5 U
3826	PH064	Highway WW	TRW	TRW 2019 Q1 Report	3/1/94	0.5 U	0.5 U
3827	PH064	Highway WW	TRW	TRW 2019 Q1 Report	5/1/94	0.5 U	0.5 U
3828	PH064	Highway WW	TRW	TRW 2019 Q1 Report	9/1/94	0.5 U	0.5 U
3829	PH064	Highway WW	TRW	TRW 2019 Q1 Report	12/1/94	0.5 U	0.5 U
3830	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/1/95	0.5 U	0.5 U
3831	PH064	Highway WW	TRW	TRW 2019 Q1 Report	12/1/95	0.5 U	0.5 U
3832	PH064	Highway WW	TRW	TRW 2019 Q1 Report	12/5/96	0.5 U	0.5 U
3833	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/30/97	0.5 U	0.5 U
3834	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/23/98	0.5 U	0.5 U
3835	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/15/99	0.5 U	0.5 U
3836	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/15/00	0.5 U	0.5 U
3837	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/1/01	0.5 U	0.5 U
3838	PH064	Highway WW	MDNR	RCRA 422012	6/11/02	1.0 U	1.0 U
3839	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/11/02	1 U	1 U
3840	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/23/03	1 U	1.0 U
3841	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/8/04	1 U	1.0 U
3842	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/24/05	1 U	1.0 U
3843	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/21/06	1 U	1.0 U
3844	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/26/07	1 U	1.0 U
3845	PH064	Highway WW	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3846	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/25/09	1 U	1.0 U
3847	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/23/10	1 U	1.0 U
3848	PH064	Highway WW	TRW	TRW 2019 Q1 Report	5/19/11	1 U	1.0 U
3849	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/26/12	1 U	1.0 U
3850	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/4/13	1 U	1.0 U
3851	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/9/14	1 U	1.0 U
3852	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/16/15	1 U	1.0 U
3853	PH064	Highway WW	TRW	TRW 2019 Q1 Report	6/21/17	1 U	1.0 U
3854	PH064	Highway WW	TRW	TRW 2019 Q1 Report	2/26/19	1 U	1.0 U
3855	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	12/1/93	0.5 U	0.5 U
3856	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	3/1/94	0.5 U	0.5 U
3857	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	5/1/94	0.5 U	0.5 U
3858	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	9/1/94	0.5 U	0.5 U
3859	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	12/1/94	0.5 U	0.5 U
3860	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/1/95	0.5 U	0.5 U
3861	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	12/1/95	0.5 U	0.5 U
3862	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	12/5/96	0.5 U	0.5 U
3863	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/30/97	0.5 U	0.5 U
3864	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/23/98	0.5 U	0.5 U
3865	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/15/99	0.5 U	0.5 U
3866	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/15/00	0.5 U	0.5 U
3867	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/1/01	0.5 U	0.5 U
3868	PH065	Pump Hollow Road	MDNR	RCRA 422012	6/11/02	1.0 U	1.0 U
3869	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/11/02	1 U	1 U
3870	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/23/03	1 U	1.0 U
3871	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/8/04	1 U	1.0 U
3872	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/24/05	1 U	1.0 U
3873	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/21/06	1 U	1.0 U
3874	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/26/07	1 U	1.0 U
3875	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/21/08	1 U	1.0 U
3876	PH065	Pump Hollow Road	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3877	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/25/09	1 U	1.0 U
3878	PH065	Pump Hollow Road	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3879	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/26/12	1 U	1.0 U
3880	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/4/13	1 U	1.0 U
3881	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/9/14	1 U	1.0 U
3882	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/16/15	1 U	1.0 U
3883	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	6/21/17	1 U	1.0 U
3884	PH065	Pump Hollow Road	TRW	TRW 2019 Q1 Report	2/26/19	1 U	1.0 U
3885	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	12/1/93	0.5 U	0.5 U
3886	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	3/1/94	0.5 U	0.5 U
3887	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	5/1/94	0.5 U	0.5 U
3888	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	9/1/94	0.5 U	0.5 U
3889	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	12/1/94	0.5 U	0.5 U
3890	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/1/95	0.5 U	0.5 U
3891	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	12/1/95	0.5 U	0.5 U
3892	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	12/5/96	0.5 U	0.5 U
3893	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/30/97	0.5 U	0.5 U
3894	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/23/98	0.5 U	0.5 U
3895	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/15/99	0.5 U	0.5 U
3896	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/15/00	0.5 U	0.5 U
3897	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/1/01	0.5 U	0.5 U
3898	PH066	Crawford Circle	MDNR	RCRA 422012	6/11/02	1.0 U	1.0 U
3899	PH066	Crawford Circle	MDNR	RCRA 422012	6/11/02	1.0 U	1.0 U
3900	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/11/02	1 U	1 U
3901	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/23/03	1 U	1.0 U
3902	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/8/04	1 U	1.0 U
3903	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/24/05	1 U	1.0 U
3904	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/21/06	1 U	1.0 U
3905	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/26/07	1 U	1.0 U
3906	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/21/08	1 U	1.0 U
3907	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/25/09	1 U	1.0 U
3908	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/24/10	1 U	1.0 U
3909	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	5/19/11	1 U	1.0 U
3910	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/26/12	1 U	1.0 U
3911	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/4/13	1 U	1.0 U
3912	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/9/14	1 U	1.0 U
3913	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	6/21/17	1 U	1.0 U
3914	PH066	Crawford Circle	TRW	TRW 2019 Q1 Report	2/26/19	1 U	1.0 U
3915	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	12/1/93	0.5 U	0.5 U
3916	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	3/1/94	0.5 U	0.5 U
3917	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	5/1/94	0.5 U	0.5 U
3918	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	9/1/94	1.0 U	0.5 U
3919	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	12/1/94	0.5 U	0.5 U
3920	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report / RCRA 28231	6/1/95	0.5 U	0.5 U
3921	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	12/1/95	0.5 U	0.5 U
3922	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	12/5/96	0.5 U	0.5 U
3923	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/30/97	0.5 U	0.5 U
3924	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/23/98	0.5 U	0.5 U
3925	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/15/99	0.5 U	0.5 U
3926	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/15/00	0.5 U	0.5 U
3927	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/1/01	0.5 U	0.5 U
3928	PH067	Hughes Ford Road	MDNR	RCRA 410193	6/11/02	1 U	<1U
3929	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/11/02	1 U	1 U
3930	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/23/03	1 U	1.0 U
3931	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/8/04	1 U	1.0 U
3932	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/24/05	1 U	1.0 U
3933	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/21/06	1 U	1.0 U
3934	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/26/07	1 U	1.0 U
3935	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/21/08	1 U	1.0 U
3936	PH067	Hughes Ford Road	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3937	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/25/09	1 U	1.0 U
3938	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/23/10	1 U	1.0 U
3939	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	5/19/11	1 U	1.0 U
3940	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/26/12	1 U	1.0 U
3941	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/4/13	1 U	1.0 U
3942	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/9/14	1 U	1.0 U
3943	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/16/15	1 U	1.0 U
3944	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/1/16	1 U	1.0 U
3945	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	6/21/17	1 U	1.0 U
3946	PH067	Hughes Ford Road	TRW	TRW 2019 Q1 Report	2/26/19	1 U	1.0 U
3947	PH068	Old white house next t	MDNR	Post Phase II RI	5/18/07	0.00 U	0.00
3948	PH068	Old white house next t	MDNR	Post Phase II RI	5/18/07	0.00 U	0.00
3949	PH068	Old white house next t	MDNR	Post Phase II RI	5/24/07	0.30 U	0.30 U
3950	PH069	Olive Road	MDOH	MDOH 610578	5/1/01	0.00 U	0.00
3951	PH069	Olive Road	MDOH	MDOH 610578	5/1/01	0.00 U	0.00
3952	PH070	Spring Bluff Rd.	MDOH	MDOH 1998 sample	9/30/98	0.00 U	0.00
3953	PH070	Spring Bluff Rd.	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3954	PH070	Spring Bluff Rd.	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3955	PH070	Spring Bluff Rd.	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3956	PH070	Spring Bluff Rd.	EPA	Semiannual GW Rpt May 2010	5/10/10	0.50 U	0.50 U
3957	PH071	Spring Bluff Rd.	MDOH	MDOH 1998 sample	9/30/98	0.00 U	0.00
3958	PH071	Spring Bluff Rd.	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3959	PH071	Spring Bluff Rd.	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3960	PH071	Spring Bluff Rd.	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3961	PH071	Spring Bluff Rd.	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3962	PH071	Spring Bluff Rd.	EPA	Semiannual GW Rpt May 2010	5/10/10	0.50 U	0.50 U
3963	PH072	Spring Bluff Rd.	MDOH	MDOH 1998 sample	9/30/98	0.00 U	0.00
3964	PH072	Spring Bluff Rd.	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3965	PH072	Spring Bluff Rd.	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3966	PH072	Spring Bluff Rd.	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3967	PH072	Spring Bluff Rd.	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3968	PH072	Spring Bluff Rd.	EPA	Semiannual GW Rpt May 2010	5/10/10	0.50 U	0.50 U
3969	PH073	Spring Bluff Rd.	MDOH	MDOH 1998 sample	9/30/98	0.00 U	0.00
3970	PH073	Spring Bluff Rd.	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3971	PH073	Spring Bluff Rd.	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3972	PH073	Spring Bluff Rd.	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3973	PH073	Spring Bluff Rd.	EPA	Semiannual GW Rpt May 2010	5/10/10	0.50 U	0.50 U
3974	PH074	Nailbender Ln	MDOH	MDOH 1998 sample	9/30/98	0.00 U	0.00
3975	PH074	Nailbender Ln	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3976	PH074	Nailbender Ln	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3977	PH074	Nailbender Ln	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3978	PH074	Nailbender Ln	EPA	Semiannual GW Rpt May 2010	5/10/10	0.50 U	0.50 U
3979	PH075	North & South Rd.	MDOH	MDOH 1998 sample	9/30/98	0.00 U	0.00
3980	PH075	North & South Rd.	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3981	PH075	North & South Rd.	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3982	PH075	North & South Rd.	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3983	PH075	North & South Rd.	EPA	Semiannual GW Rpt May 2010	5/10/10	0.50 U	0.50 U
3984	PH076	Spring Bluff Rd.	MDOH	MDOH 1998 sample	9/30/98	0.00 U	0.00
3985	PH076	Spring Bluff Rd.	EPA	Baseline GW Monitoring Rpt. Nov 2008	11/5/08	0.5 U	0.5 U
3986	PH076	Spring Bluff Rd.	EPA	Semiannual GW Rpt May 2009	5/14/09	0.50 U	0.50 U
3987	PH076	Spring Bluff Rd.	EPA	Semiannual GW Rpt Nov 2009	11/5/09	0.5 U	0.5 U
3988	PH076	Spring Bluff Rd.	EPA	Semiannual GW Rpt May 2010	5/10/10	0.50 U	0.50 U
3989	PH077	Tyler	No Data	MDOH well on Spring bluff. No Data			
3990	PH078	La Jolla Spring -End of Trail	USGS	1991 USGS EoT Sample	9/24/91	2.8	2.8
3991	PH078	La Jolla Spring -End of Trail	USGS	MDNR USGS WP Progress Reports	4/9/10	1.12	1.12
3992	PH078	La Jolla Spring -End of Trail	USGS	MDNR 02-24-2011	5/27/10	1.17	1.17
3993	PH078	La Jolla Spring -End of Trail	TRW	OU2 NOV 2010 Mo	5/27/10	1.0 U	1.0 U
3994	PH078	La Jolla Spring -End of Trail	USGS	MDNR 02-24-2011	10/13/10	6.44	6.44
3995	PH078	La Jolla Spring -End of Trail	TRW	OU2 NOV 2010 Mo	10/13/10	5.00	5.00
3996	PH078	La Jolla Spring -End of Trail	USGS	La Jolla 8-30-12	8/30/12	6.29	6.29
3997	PH078	La Jolla Spring -End of Trail	USGS	42738 Final Reports	8/30/12	5.2	5.2
3998	PH078	La Jolla Spring -End of Trail	USGS	OGV FEB2013 QWDATA	1/29/13	9.78	9.78
3999	PH078	La Jolla Spring -End of Trail	USGS	OGV FEB2013 QWDATA	1/31/13	3.60	3.60
4000	PH078	La Jolla Spring -End of Trail	USGS	OGV FEB2013 QWDATA	2/13/13	2.44	2.44
4001	PH078	La Jolla Spring -End of Trail	USGS	USGS OGV GW post2010	9/27/13	2.49	2.49
4002	PH078	La Jolla Spring -End of Trail	USGS	USGS OGV GW post2010	11/14/13	5.614	5.614
4003	PH078	La Jolla Spring -End of Trail	USGS	USGS OGV GW post2010	3/26/14	2.98	2.98
4004	PH078	La Jolla Spring -End of Trail	USGS	USGS OGV GW post2010	6/6/14	3.65	3.65
4005	PH078	La Jolla Spring -End of Trail	USGS	USGS OGV GW post2010	8/4/14	4.03	4.03
4006	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	EPA	ASR 7188	7/12/16	1.4	1.4
4007	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	7/28/16	1.6	1.6
4008	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	9/29/16	2.1	2.1
4009	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	9/29/16	1.8	1.8
4010	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	11/2/16	2.6	2.6
4011	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	11/10/16	2.6	2.6
4012	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	11/10/16	2.6	2.6
4013	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	11/17/16	2.6	2.6
4014	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	1/19/17	5.4	5.4
4015	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	2/14/17	6.5	6.5
4016	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	3/27/17	2.6	2.6
4017	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	4/25/17	2.8	2.8
4018	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	6/20/17	1.1	1.1
4019	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	7/19/17	2.4	2.4
4020	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	7/31/17	2.3	2.3
4021	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	8/15/17	2.4	2.4
4022	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	9/18/17	1.6	1.6
4023	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	10/23/17	4.1	4.1
4024	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	11/15/17	4.5	4.5
4025	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	11/15/17	4.3	4.3
4026	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	12/11/17	7.1	7.1
4027	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	1/4/18	2.1	2.1
4028	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	1/17/18	4.2	4.2
4029	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	2/13/18	5.7	5.7
4030	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	3/12/18	2.5	2.5
4031	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	4/16/18	2.0	2.0
4032	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	5/15/18	1.8	1.8
4033	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	6/11/18	1.7	1.7
4034	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	7/10/18	1.8	1.8
4035	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	8/14/18	2.4	2.4
4036	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	9/19/18	2.6	2.6
4037	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	10/16/18	4.1	4.1
4038	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	11/14/18	2.9	2.9
4039	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	12/21/18	3.5	3.5
4040	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	1/10/19	3.0	3.0
4041	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	2/13/19	1.9	1.9
4042	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	3/11/19	1.2	1.2
4043	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	4/1/19	1.1	1.1
4044	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	5/8/19	0.61 J	0.61 J
4045	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	6/10/19	0.31 J	0.31 J
4046	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	7/15/19	0.68 J	0.68 J
4047	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	8/6/19	1.0 J	1.0 J
4048	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q3 Cave Report	9/3/19	1.3	1.3
4049	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q4 Cave Report	10/7/19	2.3	2.3
4050	PH078	La Jolla Spring - Jungle Room (SW-LJ03)	TRW	TRW 2019 Q4 Cave Report	11/5/19	3.4	3.4
4051	PH079	La Jolla Spring	USGS	1990 USGS Upstream sample	11/29/90	4.8	4.8
4052	PH080	City of Sullivan	USGS	1990 USGS Leachate L-1	12/3/90	0.2	2
4053	PH080	City of Sullivan	USGS	1990 USGS Leachate L-1	12/3/90	0.2	0.3
4054	PH081	City of Sullivan	USGS	1990 USGS Leachate L-9	12/3/90	150	150.
4055	PH081	City of Sullivan	USGS	1990 USGS Leachate L-9	12/3/90	150	150.
4056	PH082	La Jolla Spring	USGS	USGS 1990 downstream sample	11/29/90	2.6	2.6
4057	PH082	La Jolla Spring - Loot Rock	EPA	ASR 7188	7/12/16	1.4	1.4
4058	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	7/28/16	1.5	1.5
4059	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	7/28/16	1.5	1.5
4060	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	9/29/16	2.5	2.5
4061	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	11/2/16	2.3	2.3
4062	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	11/10/16	2.5	2.5
4063	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	11/17/16	2.4	2.4
4064	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	11/17/16	2.4	2.4
4065	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	11/29/16	3.5	3.5
4066	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	1/19/17	5.1	5.1
4067	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	1/19/17	5.1	5.1
4068	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	2/14/17	6.1	6.1
4069	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	2/14/17	5.9	5.9
4070	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	3/27/17	2.5	2.5
4071	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	3/27/17	2.3	2.3
4072	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	4/25/17	2.7	2.7
4073	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	4/25/17	2.8	2.8
4074	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	5/24/17	1.1	1.1
4075	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	5/24/17	1.1	1.1
4076	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	6/20/17	1.0	1.0
4077	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	6/20/17	1.1	1.1
4078	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	7/19/17	1.9	1.9
4079	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	7/19/17	2.1	2.1
4080	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	7/31/17	2.1	2.1
4081	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	7/31/17	2.0	2.0
4082	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	8/15/17	2.4	2.4
4083	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	8/15/17	2.6	2.6
4084	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	9/18/17	1.8	1.8
4085	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	9/18/17	1.8	1.8
4086	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	10/23/17	4.1	4.1
4087	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	10/23/17	4.2	4.2
4088	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	11/15/17	4.1	4.1
4089	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	12/11/17	6.0	6.0
4090	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	12/11/17	6.2	6.2
4091	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	1/4/18	2.3	2.3
4092	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	1/4/18	2.1	2.1
4093	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	1/17/18	4.1	4.1
4094	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	1/17/18	4.3	4.3
4095	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	2/13/18	5.5	5.5
4096	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	2/13/18	4.9	4.9
4097	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	3/12/18	2.3	2.3
4098	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	3/12/18	2.6	2.6
4099	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	4/16/18	2.0	2.0
4100	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	4/16/18	1.7	1.7
4101	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	5/15/18	1.6	1.6
4102	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	5/15/18	1.6	1.6
4103	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	6/11/18	1.4	1.4
4104	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	7/10/18	1.9	1.9
4105	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	7/10/18	1.6	1.6
4106	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	8/14/18	2.2	2.2
4107	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	8/14/18	2.1	2.1
4108	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	9/19/18	2.6	2.6
4109	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	9/19/18	2.6	2.6
4110	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	10/16/18	3.9	3.9
4111	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	10/16/18	3.8	3.8
4112	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	11/14/18	2.7	2.7
4113	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	11/14/18	2.7	2.7
4114	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	12/21/18	2.9	2.9
4115	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	12/21/18	3.2	3.2
4116	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	1/10/19	3.0	3.0
4117	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	1/10/19	3.0	3.0
4118	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	2/13/19	1.9	1.9
4119	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	2/13/19	0.14 J	0.14 J
4120	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	3/11/19	1.2	1.2
4121	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	3/11/19	1.2	1.2
4122	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	4/1/19	0.98 J	0.98 J
4123	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	4/1/19	0.93 J	0.93 J
4124	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	5/8/19	0.54 J	0.54 J
4125	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	6/10/19	0.29 J	0.29 J
4126	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	6/10/19	0.27 J	0.27 J
4127	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	7/15/19	0.65 J	0.65 J
4128	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	7/15/19	0.70 J	0.70 J
4129	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	8/6/19	0.99 J	0.99 J
4130	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	8/6/19	0.89 J	0.89 J
4131	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	9/3/19	1.2	1.2
4132	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q3 Cave Report	9/3/19	1.0	1.0
4133	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q4 Cave Report	10/7/19	2.3	2.3
4134	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q4 Cave Report	10/7/19	2.1	2.1
4135	PH082	La Jolla Spring - Loot Rock	TRW	TRW 2019 Q4 Cave Report	11/5/19	3.1	3.1
4136	PH083	La Jolla Spring (SW-LJ01)	TRW	OU2 NOV 2010 Mo / MDNR 12-06-2010	5/27/10	1.00	1.00
4137	PH083	La Jolla Spring (SW-LJ01)	USGS	Sample Trip with Arcadis/USGS / MDNR 02-24-2011	5/27/10	1.15	1.15
4138	PH083	La Jolla Spring (SW-LJ01)	TRW	OU2 NOV 2010 Mo / MDNR 12-06-2010	10/13/10	5.10	5.10
4139	PH083	La Jolla Spring (SW-LJ01)	USGS	Sample Trip with Arcadis / MDNR 02-24-2011	10/13/10	5.99	5.99
4140	PH084	City of Sullivan	USGS	1990 USGS Leachate L-13	12/11/90	370	370.
4141	PH090	Highway W	EPA	ASR 7120	4/22/16	0.50 U	0.5 U
4142	PH091	Highway W	EPA	ASR 7120	4/22/16	0.50 U	0.5 U
4143	PH092	Highway W	EPA	ASR 7120	4/22/16	0.50 U	0.5 U
4144	PH093	Highway W	EPA	ASR 7120	4/22/16	0.50 U	0.5 U
4145	PH093	Highway W	EPA	ASR 7381	3/7/17	0.50 U	0.5 U
4146	PH095	Oak Pass Lane	EPA	ASR 7120	4/23/16	0.50 U	0.5 U
4147	PH096		EPA	ASR 7120	4/25/16	0.50 U	0.5 U
4148	PH098		EPA	ASR 7120	4/25/16	0.50 U	0.5 U
4149	PH099		EPA	ASR 7120	4/25/16	0.50 U	0.5 U
4150	PH100	Springfield Rd	EPA	ASR 7120	4/27/16	0.50 U	0.5 U
4151	PH102	Springfield Loop	EPA	ASR 7120	4/29/16	0.50 U	0.5 U
4152	PH102	Springfield Loop	EPA	ASR 7381	3/7/17	0.50 U	0.5 U
4153	PH103		EPA	ASR 7120	4/22/16	0.50 U	0.5 U
4154	PH106	Meramec River upstream of cave	EPA	ASR 7188	7/13/16	0.50 U	0.5 U
4155	PH106	Meramec River upstream of cave	EPA	ASR 7188	7/13/16	0.50 U	0.5 U
4156	PH107	Meramec River downstream of cave	EPA	ASR 7188	7/13/16	0.50 U	0.5 U
4157	PW000		No Data				
4158	PW001	Glaser Rd	MDNR	Phase I RI	6/26/01	1 U	<1
4159	PW001	Glaser Rd	MDNR	Phase II RI	4/28/03	0.5 U	0.5 U
4160	PW002	Glaser Rd	MDNR	Phase I RI	6/26/01	1 U	<1
4161	PW002	Glaser Rd	MDNR	Phase II RI	4/28/03	0.5 U	0.5 U
4162	PW002	Glaser Rd	MDNR	Phase II RI	8/25/03	0.67	0.67
4163	PW002	Glaser Rd	EPA	ASR 7120	5/2/16	0.50 U	0.5 U
4164	PW002	Glaser Rd	EPA	ASR 7120	5/2/16	0.50 U	0.5 U
4165	PW003	Glaser Rd	MDNR	Phase I RI	6/26/01	1 U	<1
4166	PW003	Glaser Rd	MDNR	Phase II RI	4/28/03	0.5 U	0.5 U
4167	PW003	Glaser Rd	USGS	OGV FEB2013 QWDATA	2/8/13	0.022 U	<0.022
4168	PW004	Glaser Rd	Supplied by USGS				
4169	PW004	Glaser Rd	MDNR	Phase I RI	6/26/01	1 U	<1
4170	PW004	Glaser Rd	MDNR	Phase I RI	6/26/01	1 U	<1
4171	PW004	Glaser Rd	MDNR	Phase II RI	4/28/03	0.5 U	0.5 U
4172	PW005	Glaser Rd	MDNR	Phase I RI	6/27/01	1 U	<1
4173	PW005	Glaser Rd	MDNR	Phase II RI	4/28/03	0.5 U	0.5 U
4174	PW006	Glaser Rd	MDNR	Phase I RI	6/27/01	1 U	<1
4175	PW006	Glaser Rd	MDNR	Phase II RI	4/25/03	0.5 U	0.5 U
4176	PW007	Glaser Rd	MDOH	MDNR 11-19-1992	10/22/92	0.40 U	0.4 U
4177	PW007	Glaser Rd	MDNR	Phase I RI	6/27/01	1 U	<1
4178	PW007	Glaser Rd	MDNR	Phase II RI	4/28/03	0.5 U	0.5 U
4179	PW008	Glaser Rd	MDOH	MDNR 11-19-1992	10/22/92	0.40 U	0.4 U
4180	PW008	Glaser Rd	MDNR	MDNR 09-22-00	6/29/00	1.0 U	1.0 U
4181	PW008	Glaser Rd	MDNR	MDNR 09-22-00	6/29/00	1.0 U	1.0 U
4182	PW008	Glaser Rd	MDNR	Phase I RI	6/27/01	1 U	<1
4183	PW008	Glaser Rd	MDNR	HHRA	4/28/03	0.5 U	0.5 U
4184	PW008	Glaser Rd	MDNR	HHRA	8/27/03	0.2 U	0.2 U
4185	PW008	Glaser Rd	MDNR	Phase II RI/HHRA	12/4/03	0.2 U	0.2 U
4186	PW008	Glaser Rd	MDNR	Phase II RI/HHRA	12/4/03	0.2 U	0.2 U
4187	PW008	Glaser Rd	MDNR	Phase II RI/HHRA	3/1/04	0.2 U	0.2 U
4188	PW008	Glaser Rd	MDNR	Phase II RI/HHRA	3/1/04	0.2 U	0.2 U
4189	PW008	Glaser Rd	MDNR	Phase II RI/HHRA	5/11/04	0.2 U	0.2 U
4190	PW008	Glaser Rd	MDNR	Phase II RI	8/16/04	0.2 U	0.2 U
4191	PW008	Glaser Rd	MDNR	MDNR Summary	11/18/04	0.2 U	0.2 U
4192	PW008	Glaser Rd	MDNR	MDNR 03-07-2005	3/9/05	0.2 U	0.2 U
4193	PW008	Glaser Rd	MDNR	MDNR 05-24-2005	5/26/05	0.2 U	0.2 U
4194	PW008	Glaser Rd	MDNR	MDNR Summary	9/1/05	0.00 U	0.00
4195	PW008	Glaser Rd	MDNR	MDNR Summary	3/1/06	0.00 U	0.00
4196	PW008	Glaser Rd	MDNR		10/1/06	0.00 U	0.00
4197	PW008	Glaser Rd	MDNR	MDNR Summary	9/1/07	0.00 U	0.00
4198	PW008	Glaser Rd	USGS	OGV FEB2013 QWDATA	2/6/13	0.16 U	<0.16
4199	PW009	Glaser Rd	MDNR	Phase I RI	6/27/01	1 U	<1
4200	PW009	Glaser Rd	MDNR	Phase II RI	4/29/03	0.5 U	0.5 U
4201	PW010	Glaser Rd	MDOH	MDNR 11-19-1992	10/22/92	0.40 U	0.4 U
4202	PW010	Glaser Rd	MDNR	MDNR 09-22-00	6/29/00	1.0 U	1.0 U
4203	PW010	Glaser Rd	MDNR	Phase I RI	6/27/01	1 U	<1
4204	PW010	Glaser Rd	MDNR	Phase I RI	6/27/01	1 U	<1
4205	PW010	Glaser Rd	MDNR	Phase II RI	4/29/03	0.5 U	0.5 U
4206	PW010	Glaser Rd	EPA	ASR 7120	5/3/16	0.50 U	0.5 U
4207	PW011	Glaser Rd	MDNR	Phase I RI	6/27/01	1 U	<1
4208	PW011	Glaser Rd	MDNR	Phase II RI	4/28/03	0.5 U	0.5 U
4209	PW011	Glaser Rd	MDNR	Phase II RI	4/28/03	0.5 U	0.5 U
4210	PW012	E. Springfield Rd.	USGS	SFI 40135218	6/24/91	0.9	.9
4211	PW012	E. Springfield Rd.	MDNR	Phase I RI	8/10/00	1.00	1.00
4212	PW012	E. Springfield Rd.	MDNR	Phase I RI	6/28/01	1.30	1.30
4213	PW012	E. Springfield Rd.	MDNR	MDNR Summary	4/11/02	4.30	4.30
4214	PW012	E. Springfield Rd.	MDNR	SFI 40329196	6/11/02	1.0 U	1.0 U
4215	PW012	E. Springfield Rd.	MDNR	MDNR 10-16-2002	9/9/02	3.87	3.87
4216	PW012	E. Springfield Rd.	MDNR	MDNR 10-16-2002	9/9/02	3.94	3.94
4217	PW012	E. Springfield Rd.	MDNR	SFI 40329196	6/23/03	2.28	2.28
4218	PW012	E. Springfield Rd.	MDNR	MDNR 08-26-2003	8/26/03	3.48	3.48
4219	PW012	E. Springfield Rd.	MDNR	MDNR 08-26-2003	8/26/03	3.56	3.56
4220	PW012	E. Springfield Rd.	MDNR	SFI 40329196	12/3/03	1.94	1.94
4221	PW012	E. Springfield Rd.	MDNR	SFI 40329196	5/12/04	3.59	3.59
4222	PW012	E. Springfield Rd.	MDNR	SFI 40329196	5/12/04	3.38	3.38
4223	PW012	E. Springfield Rd.	MDNR	MDNR Summary	8/16/04	2.56	2.56
4224	PW012	E. Springfield Rd.	MDNR	MDNR Summary	11/16/04	4.21	4.21
4225	PW012	E. Springfield Rd.	MDNR	MDNR 03-07-2005	3/9/05	4.49	4.49
4226	PW012	E. Springfield Rd.	MDNR	MDNR 03-07-2005	3/9/05	4.71	4.71
4227	PW012	E. Springfield Rd.	MDNR	MDNR 05-24-2005	5/24/05	0.95	0.95
4228	PW012	E. Springfield Rd.	MDNR	MDNR Summary	9/1/05	4.26	4.26
4229	PW012	E. Springfield Rd.	MDNR	MDNR Summary	3/1/06	3.94	3.94
4230	PW012	E. Springfield Rd.	MDNR		10/1/06	3.53	3.53
4231	PW012	E. Springfield Rd.	MDNR	MDNR Summary	3/1/07	1.18	1.18
4232	PW012	E. Springfield Rd.	MDNR	MDNR Summary	9/1/07	4.63	4.63
4233	PW012	E. Springfield Rd.	USGS	OGV FEB2013 QWDATA	2/13/13	1.26	1.26
4234	PW012	E. Springfield Rd.	EPA	ASR 7381	3/6/17	3.50	3.50
4235	PW012	E. Springfield Rd.	EPA	ASR 7962	8/10/18	2.2	2.2
4236	PW013	E. Springfield Rd.	MDNR	MDNR 09-22-00	7/20/00	12.80	12.80
4237	PW013	E. Springfield Rd.	MDNR	SFI 40329196	3/1/01	7.00	7.00
4238	PW013	E. Springfield Rd.	MDNR	Phase I RI	6/28/01	2.80	2.80
4239	PW013	E. Springfield Rd.	MDNR	Phase II RI	1/15/02	2.30	2.30
4240	PW013	E. Springfield Rd.	MDNR	MDNR Summary	4/10/02	2.10	2.10
4241	PW013	E. Springfield Rd.	MDNR	SFI 40329196	6/11/02	3.00	3.00
4242	PW013	E. Springfield Rd.	MDNR	MDNR 10-16-2002	9/10/02	4.34	4.34
4243	PW013	E. Springfield Rd.	MDNR	Phase II RI	10/9/02	5.16	5.16
4244	PW013	E. Springfield Rd.	MDNR	MDNR 01-08-2003	12/10/02	2.74	2.74
4245	PW013	E. Springfield Rd.	MDNR	SFI 40329196	2/18/03	1.90	1.90
4246	PW013	E. Springfield Rd.	MDNR	MDNR 04-28-2003	4/29/03	2.68	2.68
4247	PW013	E. Springfield Rd.	MDNR	MDNR 08-26-2003	8/27/03	1.74	1.74
4248	PW013	E. Springfield Rd.	MDNR	SFI 40329196	12/3/03	1.66	1.66
4249	PW013	E. Springfield Rd.	MDNR	SFI 40329196	3/1/04	1.66	1.66
4250	PW013	E. Springfield Rd.	MDNR	SFI 40329196	5/13/04	1.35	1.35
4251	PW013	E. Springfield Rd.	MDNR	MDNR Summary	8/16/04	3.49	3.49
4252	PW013	E. Springfield Rd.	MDNR	MDNR Summary	11/16/04	2.41	2.41
4253	PW013	E. Springfield Rd.	MDNR	Phase II RI	1/13/05	2.93	2.93
4254	PW013	E. Springfield Rd.	MDNR	MDNR 03-07-2005	3/9/05	5.16	5.16
4255	PW013	E. Springfield Rd.	MDNR	MDNR 05-24-2005	5/24/05	5.03	5.03
4256	PW013	E. Springfield Rd.	MDNR	MDNR Summary	9/1/05	2.87	2.87
4257	PW013	E. Springfield Rd.	MDNR	MDNR Summary	3/1/06	2.18	2.18
4258	PW013	E. Springfield Rd.	MDNR	MDNR Summary	3/1/06	2.12	2.12
4259	PW013	E. Springfield Rd.	MDNR		10/1/06	1.38	1.38
4260	PW013	E. Springfield Rd.	MDNR	MDNR Summary	9/1/07	1.38	1.38
4261	PW013	E. Springfield Rd.	MDNR	MDNR Summary	9/1/07	1.35	1.35
4262	PW013	E. Springfield Rd.	EPA	ASR 7381	3/7/17	3.70	3.70
4263	PW014	E. Springfield Rd.	MDNR	MDNR 09-22-00	7/20/00	16.40	16.40
4264	PW014	E. Springfield Rd.	MDNR	SFI 40329196	3/1/01	15.00	15.00
4265	PW014	E. Springfield Rd.	MDNR	Phase I RI	6/28/01	12.00	12.00
4266	PW014	E. Springfield Rd.	MDNR	Phase II RI	12/13/01	14.20	14.20
4267	PW014	E. Springfield Rd.	MDNR	Phase II RI	1/15/02	13.80	13.80
4268	PW014	E. Springfield Rd.	MDNR	MDNR Summary	4/10/02	15.30	15.30
4269	PW014	E. Springfield Rd.	MDNR	SFI 40329196	6/11/02	10.30	10.30
4270	PW014	E. Springfield Rd.	MDNR	MDNR 10-16-2002	9/10/02	11.30	11.30
4271	PW014	E. Springfield Rd.	MDNR	HHRA	10/9/02	12.20	12.20
4272	PW014	E. Springfield Rd.	MDNR	MDNR 01-08-2003	12/10/02	13.00	13.00
4273	PW014	E. Springfield Rd.	MDNR	MDNR Summary	2/18/03	11.30	11.30
4274	PW014	E. Springfield Rd.	MDNR	MDNR 04-28-2003	4/29/03	11.40	11.40
4275	PW014	E. Springfield Rd.	MDNR	MDNR 04-28-2003	4/29/03	10.90	10.90
4276	PW014	E. Springfield Rd.	MDNR	MDNR 08-26-2003	8/27/03	9.75	9.75
4277	PW014	E. Springfield Rd.	MDNR	SFI 40329196	12/3/03	11.20	11.20
4278	PW014	E. Springfield Rd.	MDNR	SFI 40329196	3/1/04	9.92	9.92
4279	PW014	E. Springfield Rd.	MDNR	SFI 40329196	5/12/04	0.2 U	0.2 U
4280	PW014	E. Springfield Rd.	MDNR	MDNR Summary	8/16/04	10.80	10.80
4281	PW014	E. Springfield Rd.	MDNR	MDNR Summary	11/16/04	10.90	10.90
4282	PW014	E. Springfield Rd.	MDNR	MDNR 03-07-2005	3/10/05	11.10	11.10
4283	PW014	E. Springfield Rd.	MDNR	MDNR 05-24-2005	6/14/05	9.73	9.73
4284	PW014	E. Springfield Rd.	MDNR	MDNR Summary	9/1/05	10.90	10.90
4285	PW014	E. Springfield Rd.	MDNR	MDNR Summary	3/1/06	8.43	8.43
4286	PW014	E. Springfield Rd.	MDNR	MDNR Summary	9/1/07	9.69	9.69
4287	PW014	E. Springfield Rd.	EPA	ASR 7381	3/7/17	3.90	3.90
4288	PW015	E. Springfield Rd.	MDNR	Site Investigation SFI 30191248	5/18/88	0.2 U	0.2 U
4289	PW015	E. Springfield Rd.	PDWP	RCRA 190601	1/10/00	1.10	1.10
4290	PW015	E. Springfield Rd.	PDWP	RCRA 190601	5/1/00	1.20	1.20
4291	PW015	E. Springfield Rd.	MDNR	MDNR 09-22-00	6/29/00	1.0 U	1.0 U

FILEID	Location	Zone	Street	Data Source	Sample Number	TYPE	DATE	TCE Q
4292	PW015	OU2	E. Springfield Rd.	MDNR	PW015GWP0019	R	6/28/01	1 U
4293	PW015			MDNR	220683	R	6/11/02	1.0 U
4294	PW015			MDNR	301220	R	2/19/03	0.5 U
4295	PW015			MDNR	319077	R	5/1/03	1.87
4296	PW015			MDNR	331205	R	8/27/03	1.13
4297	PW015			MDNR	333502	R	12/2/03	0.77
4298	PW015			MDNR	411376	R	3/3/04	0.88
4299	PW015			MDNR	422721	R	5/12/04	0.50
4300	PW015			MDNR	445297	R	8/17/04	0.94
4301	PW015			MDNR	449558	R	11/17/04	1.20
4302	PW015			MDNR	504073	R	5/25/05	0.2 U
4303	PW015			MDNR		R	9/1/05	0.00 U
4304	PW015			MDNR		R	3/1/06	0.76
4305	PW015			MDNR		R	10/1/06	0.66
4306	PW015			MDNR		R	3/1/07	0.88
4307	PW015			MDNR		R	9/1/07	0.80
4308	PW015			EPA	7381-16	R	3/8/17	0.65
4309	PW016	OU2	E. Springfield Rd.	MDNR	2129	R	6/29/00	1.0 U
4310	PW016			MDNR	PW016GWP0020	R	6/28/01	1 U
4311	PW016			MDNR	PW016GWP0020	S	6/28/01	1 U
4312	PW016			MDNR	220684	R	6/11/02	1.0 U
4313	PW016			MDNR	301221	R	2/20/03	0.5 U
4314	PW016			MDNR	319078	R	4/30/03	1.0 U
4315	PW016			MDNR	331206	R	8/27/03	0.2 U
4316	PW016			MDNR	333501	R	12/2/03	0.2 U
4317	PW016			MDNR	411377	R	3/3/04	0.2 U
4318	PW016			MDNR	422722	R	5/12/04	0.2 U
4319	PW016			MDNR	445297	R	8/17/04	0.2 U
4320	PW016			MDNR	449558	R	11/17/04	0.2 U
4321	PW016			MDNR	504074	R	5/26/05	0.2 U
4322	PW016			MDNR		R	9/1/05	0.00 U
4323	PW016			MDNR		R	3/1/06	0.00 U
4324	PW016			MDNR		R	9/1/07	0.00 U
4325	PW016			USGS		R	2/13/13	0.16 U
4326	PW016			EPA	7381-19	R	3/13/17	0.96
4327	PW017	OU2	E. Springfield Rd.	USGS		R	2/11/91	0.2 U
4328	PW017			MDOH	92-0283	R	10/22/92	0.40 U
4329	PW017			MDNR	PW017GWP0021	R	6/28/01	1.0 U
4330	PW017			MDNR	220980	R	6/13/02	1.0 U
4331	PW017			MDNR	220981	D	6/13/02	1.0 U
4332	PW017			MDNR	300408	R	2/20/03	0.5 U
4333	PW017			MDNR	319074	R	4/29/03	0.5 U
4334	PW017			MDNR	331208	R	8/27/03	0.2 U
4335	PW017			MDNR	331209	D	8/27/03	0.2 U
4336	PW017			MDNR	445298	R	8/17/04	0.2 U
4337	PW017			MDNR	445299	D	8/17/04	0.2 U
4338	PW017			MDNR		R	11/16/04	0.00 U
4339	PW017			EPA	7381-4	R	3/6/17	0.50 U
4340	PW018	OU2	Hidden Oaks Dr.	MDOH	92-0278	R	10/22/92	0.40 U
4341	PW018			MDNR	9104	R	8/10/00	1.0 U
4342	PW018			MDNR	PW018GWP0022	R	6/28/01	1 U
4343	PW018			MDNR	142731	R	12/13/01	1.0 U
4344	PW018			MDNR	210513	R	4/11/02	2.30
4345	PW018			MDNR	220690	R	6/12/02	1.0 U
4346	PW018			MDNR	228425	R	9/10/02	1 U
4347	PW018			MDNR	228426	D	9/10/02	1 U
4348	PW018			MDNR	232515	R	12/11/02	0.81
4349	PW018			MDNR	301222	R	2/20/03	0.56
4350	PW018			MDNR	301223	D	2/20/03	0.62
4351	PW018			MDNR	319057	R	4/28/03	0.5 U
4352	PW018			MDNR	331293	R	8/26/03	0.68
4353	PW018			MDNR	333523	R	12/3/03	0.69
4354	PW018			MDNR	333524	D	12/3/03	0.70
4355	PW018			MDNR	411358	R	3/1/04	0.66
4356	PW018			MDNR	422732	R	5/12/04	0.49 J
4357	PW018			MDNR	445282	R	8/16/04	0.68
4358	PW018			MDNR	411876	R	11/14/04	0.65
4359	PW018			MDNR	504063	R	5/24/05	0.2 U
4360	PW018			MDNR		R	9/1/05	1.00
4361	PW018			MDNR		R	3/1/06	1.18
4362	PW018			MDNR		R	10/1/06	0.93
4363	PW018			MDNR		R	9/1/07	1.09
4364	PW018			EPA	7120-33	R	5/3/16	1.4
4365	PW019	OU2	Hidden Oaks Dr.	MDNR	PW019GWP0023	R	6/28/01	1.20
4366	PW019			MDNR	210511	R	4/10/02	1.60
4367	PW019			MDNR	220689	R	6/12/02	1.60
4368	PW019			MDNR	228429	R	9/10/02	1.56
4369	PW019			MDNR	232518	R	12/11/02	2.01
4370	PW019			MDNR	301224	R	2/20/03	2.16
4371	PW019			MDNR	319060	R	4/28/03	1.97
4372	PW019			MDNR	331296	R	8/26/03	2.14
4373	PW019			MDNR	333526	R	12/3/03	2.42
4374	PW019			MDNR	411362	R	3/1/04	2.68
4375	PW019			MDNR	422735	R	5/12/04	2.34
4376	PW019			MDNR	445283	R	8/16/04	2.23
4377	PW019			MDNR	411879	R	11/17/04	2.27
4378	PW019			MDNR		R	9/1/05	2.36
4379	PW019			MDNR		D	3/1/06	3.03
4380	PW019			MDNR		R	3/1/06	2.85
4381	PW019			MDNR		R	10/1/06	3.05
4382	PW019			MDNR		R	10/1/06	2.92
4383	PW019			MDNR		R	9/1/07	3.19
4384	PW019			USGS		R	2/8/13	4.76
4385	PW019			USGS	381413091082801	R	06/20/13	3.5
4386	PW019			EPA	7120-25	R	4/29/16	3.3
4387	PW019			EPA	7381-5	R	3/6/17	3.80
4388	PW019			EPA	7962-7	R	8/10/18	3.1
4389	PW020	OU2	E. Nottingham	MDNR	PW020GWP0024	D	6/29/01	1 U
4390	PW020			MDNR	PW020GWP0024	R	6/29/01	1 U
4391	PW020			MDNR	319134	R	4/29/03	0.5 U
4392	PW021	2	Highway AF	MDNR	PW021GWP0028	R	6/29/01	1 U
4393	PW021			MDNR	319086	R	4/29/03	0.5 U
4394	PW021			EPA	4111-37	R	11/5/08	0.5 U
4395	PW021			EPA	4374-24	R	5/14/09	0.50 U
4396	PW021			EPA	4666-69	R	11/5/09	0.5 U
4397	PW021			EPA	4879-60	R	5/10/10	0.50 U
4398	PW022	2	Highway AF	MDNR	2121	R	6/29/00	1.0 U
4399	PW022			MDNR	PW022GWP0029	R	6/29/01	1 U
4400	PW022			MDNR	319149	R	4/29/03	0.5 U
4401	PW022			EPA	4111-10	R	11/5/08	0.5 U
4402	PW022			EPA	4374-23	R	5/14/09	0.50 U
4403	PW022			EPA	4666-68	R	11/5/09	0.5 U
4404	PW022			EPA	4879-85	R	5/10/10	0.50 U
4405	PW023	1	Highway AF	MDNR		R	2/17/98	7.00
4406	PW023			Supplied by USGS		R	9/30/98	6.50
4407	PW023			MDNR	2122	R	6/29/00	4.00
4408	PW023			EPA	6048512-003	R	3/1/01	3.90
4409	PW023			Supplied by USGS		R	5/22/01	3.30
4410	PW023			MDNR	PW023GWP0030	R	6/29/01	3.00
4411	PW023			MDNR	142727	R	12/13/01	2.90
4412	PW023			MDNR	210517	R	4/11/02	2.80
4413	PW023			MDNR	220693	R	6/12/02	2.90
4414	PW023			MDNR	228419	R	9/10/02	2.78
4415	PW023			MDNR	232503	R	12/10/02	2.60
4416	PW023			MDNR	301206	R	2/18/03	2.22
4417	PW023			MDNR	319143	R	4/29/03	1.99
4418	PW023			MDNR	331281	R	8/25/03	2.34
4419	PW023			MDNR	333510	R	12/2/03	2.11
4420	PW023			MDNR	411354	R	3/1/04	2.42
4421	PW023			MDNR	422717	R	5/11/04	1.79
4422	PW023			MDNR	445308	R	8/17/04	2.11
4423	PW023			MDNR	445309	D	8/17/04	2.06
4424	PW023			MDNR	449563	R	11/17/04	1.66
4425	PW023			MDNR	502706	R	3/9/05	0.45 J
4426	PW023			MDNR	504051	R	5/24/05	0.2 U
4427	PW023			MDNR		D	9/1/05	1.19
4428	PW023			MDNR		R	9/1/05	1.13
4429	PW023			MDNR	606127	R	6/1/06	1.17
4430	PW023			MDNR	610231	R	10/1/06	0.94
4431	PW023			MDNR		R	3/1/07	0.45
4432	PW023			MDNR		R	9/1/07	0.83
4433	PW023			USGS		FGC	7/10/08	0.30 J
4434	PW023			EPA	4111-17	R	11/5/08	0.5 U
4435	PW023			EPA	4374-68 FD	D	5/14/09	0.50 U
4436	PW023			EPA	4374-68	R	5/14/09	0.50 U
4437	PW023			EPA	4666-39	R	11/5/09	0.5 U
4438	PW023			EPA	4879-30	R	5/10/10	0.50 U
4439	PW023			USGS		R	12/8/10	0.409
4440	PW023			USGS		R	2/4/13	0.55
4441	PW023			EPA	7120-35	R	5/4/16	0.50 U
4442	PW023			EPA	7381-18	R	3/8/17	0.50 U
4443	PW023			EPA	7962-11	R	8/13/18	0.50 U
4444	PW024	OU2	E. Springfield Rd.	MDNR		R	5/18/88	0.2 U
4445	PW024			EPA	DSX74-016	R	7/13/94	1 U
4446	PW024			EPA	DSX74-016	D	7/13/94	1 U
4447	PW024			MDNR	97-8405	R	9/11/97	0.5 U
4448	PW024			MDNR	7929	R	11/15/00	1 U
4449	PW024			MDNR	PW024GWP0031	R	7/2/01	1 U
4450	PW024			MDNR	320952	R	4/28/03	0.5 U
4451	PW024			MDNR		R	10/1/06	1.28
4452	PW024			MDNR		R	3/1/07	0.27
4453	PW024			MDNR		D	9/1/07	0.00 U
4454	PW024			MDNR		R	9/1/07	0.00 U
4455	PW025	1	Highway AF	MDNR	PW025GWP0032	R	7/2/01	1 U
4456	PW025			MDNR	319145	R	4/29/03	0.5 U
4457	PW025			EPA	4111-55	R	11/5/08	0.5 U
4458	PW025			EPA	4374-27	R	5/14/09	0.50 U
4459	PW025			EPA	4666-36 FD	D	11/5/09	0.5 U
4460	PW025			EPA	4666-36	R	11/5/09	0.5 U
4461	PW025			EPA	4879-22	R	5/10/10	0.50 U
4462	PW026	3	Highway AF	MDNR	PW026GWP0033	R	7/2/01	1 U
4463	PW026			MDNR	319088	R	4/29/03	0.5 U
4464	PW026			MDNR		R	5/24/05	0.00 U
4465	PW026			MDNR		R	3/1/06	0.00 U
4466	PW026			MDNR		R	3/1/06	0.00 U
4467	PW026			MDNR		R	3/1/06	0.00 U
4468	PW026			EPA	4111-35 FD	D	11/5/08	0.5 UJ
4469	PW026			EPA	4111-35	R	11/5/08	0.5 UJ
4470	PW027	1	East & West Rd.	MDNR	PW027GWP0034	R	7/2/01	1 U
4471	PW027			MDNR	142729	R	12/13/01	1.0 U
4472	PW027			MDNR	210518	R	4/11/02	1.0 U
4473	PW027			MDNR	220695	R	6/12/02	1.0 U
4474	PW027			MDNR	228417	R	9/10/02	1 U
4475	PW027			MDNR	232505	R	12/10/02	0.69
4476	PW027			MDNR	301202	R	2/18/03	0.5 U
4477	PW027			MDNR	331269	R	6/23/03	0.00 U
4478	PW027			MDNR	331277	R	8/25/03	0.57
4479	PW027			MDNR	333503	R	12/2/03	0.63
4480	PW027			MDNR	411355	R	3/1/04	0.69
4481	PW027			MDNR	422712	R	5/11/04	0.45 J
4482	PW027			MDNR	445311	R	8/17/04	0.68
4483	PW027			MDNR	449564	R	11/17/04	0.66
4484	PW027			MDNR		R	9/1/05	0.63
4485	PW027			MDNR	606132	R	6/1/06	0.46
4486	PW027			MDNR	610246	D	10/1/06	0.37
4487	PW027			MDNR	610247	R	10/1/06	0.35
4488	PW027			MDNR		R	9/1/07	0.37
4489	PW027			EPA	4111-44	R	11/5/08	0.5 U
4490	PW027			EPA	4374-37	R	5/14/09	0.50 U
4491	PW027			EPA	4666-34	R	11/5/09	0.5 U
4492	PW027			EPA	4879-26	R	5/10/10	0.50 U
4493	PW028	1	East & West Rd.	MDNR	PW028GWP0035	R	7/2/01	0.87 J
4494	PW028			MDNR	142730	R	12/13/01	1.10
4495	PW028			MDNR	220696	R	6/12/02	1.10
4496	PW028			MDNR	228418	R	9/10/02	1 U
4497	PW028			MDNR	232505	R	12/10/02	0.86
4498	PW028			MDNR	301203	R	2/18/03	0.73
4499	PW028			MDNR	331270	R	6/23/03	0.83
4500	PW028			MDNR	331278	R	8/25/03	0.62
4501	PW028			MDNR	333504	R	12/2/03	0.79
4502	PW028			MDNR	411356	R	3/1/04	0.90
4503	PW028			MDNR	422711	R	5/11/04	0.88
4504	PW028			MDNR	445312	R	8/17/04	0.74
4505	PW028			MDNR	449565	R	11/17/04	0.76
4506	PW028			MDNR	449566	D	11/17/04	0.71
4507	PW028			MDNR		R	9/1/05	0.56
4508	PW028			MDNR	606133	R	6/1/06	0.58
4509	PW028			MDNR	610248	R	10/1/06	0.25 U
4510	PW028			MDNR		R	9/1/07	0.39
4511	PW028			EPA	4111-45	R	11/5/08	0.5 U
4512	PW028			EPA	4374-86	R	5/14/09	0.50 U
4513	PW028			EPA	4666-15	R	11/5/09	0.5 U
4514	PW028			EPA	4879-17	R	5/10/10	0.50 U
4515	PW028			USGS		D	12/8/10	0.18 J
4516	PW028			USGS		R	12/8/10	0.16 J
4517	PW029	1	Spring Bluff Rd.	MDNR	110435	R	5/3/01	1.0 U
4518	PW029			MDNR	PW029GWP0036	R	7/2/01	1 U
4519	PW029			MDNR	320977	R	4/29/03	0.5 U
4520	PW029			EPA	4111-31	R	11/5/08	0.5 U
4521	PW029			EPA	4374-69	R	5/14/09	0.50 U
4522	PW029			EPA	4666-83	R	11/5/09	0.5 U
4523	PW030	2	Spring Bluff Rd.	MDNR	PW030GWP0037	D	7/2/01	1 U
4524	PW030			MDNR	PW030GWP0037	R	7/2/01	1 U
4525	PW030			MDNR	PW030GWP0037	S	7/2/01	1 U
4526	PW030			MDNR	320978	R	4/29/03	0.5 U
4527	PW030			MDNR	502723	R	3/10/05	0.2 U
4528	PW030			MDNR	507076	R	5/26/05	0.2 U
4529	PW030			EPA	4111-28	R	11/5/08	0.5 U
4530	PW030			EPA	4374-78	R	5/14/09	0.50 U
4531	PW030			EPA	4666-64	R	11/5/09	0.5 U
4532	PW030			EPA	4879-76	R	5/10/10	0.50 U
4533	PW031	2	Spring Bluff Rd.	MDNR	PW031GWP0040	R	7/3/01	1 U
4534	PW031			MDNR	320983	D	4/29/03	0.5 U
4535	PW031			MDNR	320982	R	4/29/03	0.5 U
4536	PW031			EPA	4111-36	R	11/5/08	0.5 U
4537	PW031			EPA	4374-95	R	5/14/09	0.50 U
4538	PW031			EPA	4666-65	R	11/5/09	0.5 U
4539	PW031			EPA	4879-77 FD	D	5/10/10	0.50 U
4540	PW031			EPA	4879-77	R	5/10/10	0.50 U
4541	PW032	3	Spring Bluff Rd.	MDNR	PW032GWP0041	R	7/2/01	1 U
4542	PW032			MDNR	320981	R	4/29/03	0.5 U
4543	PW033	3	Spring Bluff Rd.	MDNR	PW033GWP0042	R	7/3/01	1 U
4544	PW033			MDNR	320980	R	4/29/03	0.5 U
4545	PW033			EPA	4111-12	R	11/5/08	0.5 U
4546	PW034	3	Spring Bluff Rd.	MDNR	PW034GWP0043	R	7/3/01	1 U
4547	PW034			MDNR	320979	R	4/29/03	0.5 U
4548	PW034			EPA	4111-11	R	11/5/08	0.5 U
4549	PW034			EPA	4666-81	R	11/5/09	0.5 U
4550	PW034A	3	Spring Bluff Rd.	MDNR	PW034GWP0043	R	7/3/01	1 U
4551	PW034A			MDNR	320979	R	4/29/03	0.00 U
4552	PW034A			EPA	4111-11	R	11/5/08	0.5 U
4553	PW034A			EPA	4666-81	R	11/5/09	0.5 U
4554	PW034B	3	Spring Bluff Rd.	MDNR	PW034GWP0043	R	7/3/01	1 U
4555	PW034B			MDNR	320979	R	4/29/03	0.00 U
4556	PW034B			EPA	4111-11	R	11/5/08	0.5 U
4557	PW034B			EPA	4666-81	R	11/5/09	0.5 U
4558	PW035	2	North & South Rd.	MDNR	7823	R	7/20/00	1.0 U
4559	PW035			MDNR	PW035GWP0044	R	7/3/01	1 U
4560	PW035			MDNR	320984	R	4/29/03	0.5 U
4561	PW035			EPA	4111-59	R	11/5/08	0.5 U
4562	PW035			EPA	4374-72	R	5/14/09	0.50 U
4563	PW035			EPA	4666-63	R	11/5/09	0.5 U
4564	PW035			EPA	4879-70	R	5/10/10	0.50 U
4565	PW036	2	North & South Rd.	MDNR	PW036GWP0045	R	7/3/01	1 U
4566	PW036			MDNR	320987	R	4/29/03	0.5 U
4567	PW036			EPA	4374-76 FD	D	5/14/09	0.50 U
4568	PW036			EPA	4374-76	R	5/14/09	0.50 U
4569	PW036			EPA	4879-60	R	5/10/10	0.50 U
4570	PW037	2	North & South Rd.	MDNR	PW037GWP0046	R	7/3/01	1 U
4571	PW037			MDNR	127055	S	7/3/01	1 U
4572	PW037			MDNR	320988	R	4/29/03	0.5 U
4573	PW037			EPA	4111-62	R	11/5/08	0.5 U
4574	PW037			EPA	4374-81	R	5/14/09	0.50 U
4575	PW037			EPA	4666-72	R	11/5/09	0.5 U
4576	PW037			EPA	4879-61	R	5/10/10	0.50 U
4577	PW038	2	North & South Rd.	MDNR	PW038GWP0047	R	7/3/01	1 U
4578	PW038			MDNR	320985	R	4/29/03	0.5 U
4579	PW038			EPA	4111-51	R	11/5/08	0.5 U
4580	PW038			EPA	4374-73	R	5/14/09	0.50 U
4581	PW038			EPA	4666-58	R	11/5/09	0.5 U
4582	PW038			EPA	4879-60	R	5/10/10	0.50 U
4583	PW039	2	North & South Rd.	MDNR	PW039GWP0048	R	7/3/01	1 U
4584	PW039			MDNR	320986	R	4/29/03	0.5 U
4585	PW039			EPA	4111-52	R	11/5/08	0.5 U
4586	PW039			EPA	4374-84	R	5/14/09	0.50 U
4587	PW039			EPA	4666-71 FD	D	11/5/09	0.5 U
4588	PW039			EPA	4666-71	R	11/5/09	0.5 U
4589	PW039			EPA	4879-73	R	5/10/10	0.50 U
4590	PW040	1	East & West Rd.	MDNR	PW040GWP0049	R	7/3/01	1 U
4591	PW040			MDNR	319089	R	4/29/03	0.5 U
4592	PW040			USGS		FGC	7/26/08	0.40
4593	PW040			EPA	4111-38	R	11/5/08	0.5 U
4594	PW040			EPA	4374-46	R	5/14/09	0.50 U
4595	PW041	OU2	Acid Mine Rd.	MDNR	97-8404	R	9/11/97	0.5 U
4596	PW041			MDNR	2132	R	6/29/00	1.0 U
4597	PW041			MDNR	PW041GWP0050	R	7/9/01	1 U
4598	PW041			MDNR	PW041GWP0050	S	7/9/01	1 U
4599	PW041			MDNR	PW041GWS0050	D	7/9/01	1 U
4600	PW041			MDNR	127060	R	9/9/01	1.0 U
4601	PW041			MDNR	319103	R	4/28/03	0.5 U
4602	PW041			MDNR		R	9/1/07	0.00 U
4603	PW042	OU2	Acid Mine Rd.	MDNR	97-8403	R	9/11/97	0.5 U
4604	PW042			MDNR	2133	R	6/29/00	1.0 U
4605	PW042			MDNR	PW042GWP0053	R	7/9/01	1 U
4606	PW042			MDNR	PW042GWP0053	S	7/9/01	1 U
4607	PW042			MDNR	319104	R	4/28/03	0.5 U
4608	PW042			MDNR		R	9/1/07	0.00 U
4609	PW043	OU2	Acid Mine Rd.	MDNR	PW043GWP0054	R	7/9/01	1 U
4610	PW043			MDNR	319107	R	4/28/03	0.5 U
4611	PW044	OU2	Acid Mine Rd.	MDNR	PW044GWP0055	R	7/9/01	1 U
4612	PW044			MDNR	319108	R	4/28/03	0.5 U
4613	PW045	OU2	Acid Mine Rd.	MDNR	PW045GWP0056	R	7/9/01	1 U
4614	PW045			MDNR	319109	R	4/28/03	0.5 U
4615	PW045			EPA	4879-41	R	5/10/10	0.50 U
4616	PW045			EPA	7381-20	R	3/13/17	0.50 U
4617	PW046	OU2	Acid Mine Rd.	MDNR	PW046GWP0057	R	7/9/01	1 U
4618	PW046			MDNR	319105	R	4/28/03	0.5 U
4619	PW046			EPA	4879-45	R	5/10/10	0.50 U
4620	PW047	OU2	Acid Mine Rd.	MDNR	PW047GWP0058	R	7/9/01	1 U
4621	PW047			MDNR	319128	R	4/28/03	0.5 U
4622	PW048	OU2	Acid Mine Rd.	MDNR	PW048GWP0059	R	7/9/01	1 U
4623	PW048			MDNR	319113	R	4/28/03	0.5 U
4624	PW048			EPA	7381-21	R	3/13/17	0.50 U
4625	PW049	OU2	Acid Mine Rd.	MDNR	PW049GWP0060	R	7/9/01	1 U
4626	PW049			MDNR	319115	R	4/28/03	0.5 U
4627	PW050	OU2	Acid Mine Rd.	MDNR	PW050GWP0061	D	7/9/01	1 U
4628	PW050			MDNR	PW050GWP0061	R	7/9/01	1 U
4629	PW050			MDNR	319114	R	4/28/03	0.5 U
4630	PW051	OU2	Acid Mine Rd.	MDNR	PW051GWP0064	R	7/9/01	1 U
4631	PW051			MDNR	319120	R	4/28/03	0.5 U
4632	PW052	OU2	Acid Mine Rd.	MDNR	PW052GWP0065	R	7/10/01	1 U
4633	PW052			MDNR	PW052GWP0065	S	7/10/01	1 U
4634	PW052			MDNR	319119	R	4/28/03	0.5 U
4635	PW053	OU2	Acid Mine Rd.	MDNR	PW053GWP0066	R	7/10/01	1 U
4636	PW053			MDNR	319122	R	4/28/03	0.5 U
4637	PW053			EPA	4879-42	R	5/10/10	0.50 U
4638	PW054	OU2	Sherwood Lane	MDNR	PW054GWP0067	R	7/10/01	1 U
4639	PW054			MDNR	319131	R	4/28/03	0.5 U
4640	PW055	OU2	Oak Ridge Rd.	MDNR	PW055GWP0068	R	7/10/01	1 U
4641	PW056	OU2	Acid Mine Rd.	MDOH	92-0272	R	10/22/92	0.40 U
4642	PW056			MDNR	PW056GWP0069	R	7/10/01	1 U
4643	PW056			MDNR		R	9/1/07	0.00 U
4644	PW057	3	Evergreen Dr.	MDNR	PW057GWP0070	R	7/10/01	1 U
4645	PW057			MDNR	320991	R	4/29/03	0.5 U
4646	PW057			EPA	4374-99	R	5/14/09	0.50 U
4647	PW058	OU2	Sherwood Lane	MDNR	PW058GWP0071	R	7/10/01	1 U
4648	PW058			MDNR	319132	R	4/28/03	0.5 U
4649	PW059	2	North & South Rd.	MDNR	PW059GWP0072	R	7/11/01	1 U
4650	PW059			MDNR	320990	R	4/29/03	0.5 U
4651	PW059			EPA	4111-59	R	11/5/08	0.5 U
4652	PW059			EPA	4374-82	R	5/14/09	0.50 U
4653	PW059			EPA	4666-62	R	11/5/09	0.5 U
4654	PW059			EPA	4879-88	R	5/10/10	0.50 U
4655	PW060	2	North & South Rd.	MDNR	PW060GWP0073	R	7/11/01	1 U
4656	PW060			MDNR	320989	R	4/29/03	0.5 U
4657	PW060			EPA	4374-101	R	5/14/09	0.50 U
4658	PW060			EPA	4666-61	R	11/5/09	0.5 U
4659	PW060			EPA	4879-74	R	5/10/10	0.50 U
4660	PW061	3	Hwy 185 North	MDNR	PW061GWP0074	R	7/11/01	1 U
4661	PW061			MDNR	319094	R	4/29/03	0.5 U
4662	PW061			EPA	4111-13	R	11/5/08	0.5 U
4663	PW062	3	Clonts Rd.	MDNR	PW062GWP0075	D	7/11/01	1 U
4664	PW062			MDNR	PW062GWP0075	R	7/11/01	1 U
4665	PW062			MDNR	PW062GWP0075	S	7/11/01	1 U
4666	PW062			MDNR	319093	R	4/29/03	0.5 U
4667	PW062			EPA	4111-16	R	11/5/08	0.5 U
4668	PW063	OU2	Lois Ln.	MDNR	4004	R	10/26/00	1 U
4669	PW063			MDNR	4003	D	10/26/00	1 U
4670	PW063			MDNR	PW063GWP0078	R	7/11/01	1 U
4671	PW063			MDNR	319111	R	4/28/03	0.5 U
4672	PW064	OU2	Oak Ridge Rd.	MDNR	PW064GWP0079	R	7/11/01	1 U
4673	PW064			MDNR	319116	R	4/28/03	0.5 U
4674	PW065	OU2	Oak Ridge Rd.	MDNR	PW065GWP0080	R	7/11/01	1 U
4675	PW065			MDNR	319117	R	4/28/03	0.5 U
4676	PW066	OU2	Oak Ridge Rd.	MDNR	PW066GWP0081	R	7/11/01	1 U
4677	PW066			MDNR	319118	R	4/28/03	0.5 U
4678	PW067	1	Highway AF	MDNR	97-8408	R	9/11/97	0.80
4679	PW067			MDNR	PW067GWP0082	R	7/12/01	2.30
4680	PW067			MDNR	142728	R	12/13/01	3.20
4681	PW067			MDNR	210520	D	4/11/02	3.40
4682	PW067			MDNR	210519	R	4/11/02	3.40
4683	PW067			MDNR	220694	R	6/12/02	3.00
4684	PW067			MDNR	228420	R	9/10/02	2.81
4685	PW067			MDNR	232504	R	12/10/02	2.90
4686	PW067			MDNR	301204	R	2/18/03	2.78
4687	PW067			MDNR	319142	R	4/29/03	2.86
4688	PW067			MDNR	331282	R	8/25/03	3.03
4689	PW067			MDNR	333509	R	12/2/03	2.99
4690	PW067			MDNR	411380	R	3/3/04	2.82
4691	PW067			MDNR	422718	R	5/11/04	3.16
4692	PW067			MDNR	445315	R	8/17/04	3.17
4693	PW067			MDNR	411875	R	11/17/04	2.93
4694	PW067			MDNR	504052	R	5/24/05	2.82
4695	PW067			MDNR		R	9/1/05	2.88
4696	PW067			MDNR	606160	R	6/1/06	3.83
4697	PW067			MDNR	610249	R	10/1/06	2.65
4698	PW067			MDNR		R	9/1/07	3.01
4699	PW067			EPA	4111-6 FD	D	11/5/08	1.8
4700	PW067			EPA	4111-6	R	11/5/08	1.6
4701	PW067			EPA	4374-28	R	5/14/09	1.5
4702	PW067			EPA	4666-31	R	11/5/09	2.7
4703	PW067			EPA	4879-25 FD	D	5/10/10	2.1
4704	PW067			EPA	4879-25	R	5/10/10	2.1
4705	PW067			USGS		R	12/8/10	2.9
4706	PW067			USGS		R	2/4/13	2.5
4707	PW067			EPA	7381-22	R	3/13/17	1.30
4708	PW067			EPA	7962-10	R	8/13/18	1.2
4709	PW068	2	Timberlane	MDNR	PW068GWP0083	R	7/12/01	1 U
4710	PW068			MDNR	319092	R	4/29/03	0.5 U
4711	PW068			EPA	4111-61 FD	D	11/5/08	0.5 U
4712	PW068			EPA	4111-61	R	11/5/08	0.5 U
4713	PW068			EPA	4666-74	R	11/5/09	0.5 U
4714	PW068			EPA	4879-65	R	5/10/10	0.50 U
4715	PW069	2	Timberlane	MDNR	PW069GWP0084	R	7/12/01	1 U
4716	PW069			MDNR	319091	R	4/29/03	0.5 U
4717	PW069			EPA	4111-60	R	11/5/08	0.5 U
4718	PW069			EPA	4374-89	R	5/14/09	0.50 U
4719	PW069			EPA	4666-75	R	11/5/09	0.5 U
4720	PW069			EPA	4879-64	R	5/10/10	0.50 U
4721	PW070	3	Hwy 185 North	MDNR	PW070GWP0085	D	7/12/01	1 U
4722	PW070			MDNR	PW070GWP0085	R	7/12/01	1 U
4723	PW070			MDNR	320992	R	4/29/03	0.5 U
4724	PW071	Outside OU1/O	Elm Spring Hills Dr.	MDNR	PW071GWP0088	R	7/12/01	1 U
4725	PW071			MDNR	320972	D	4/28/03	0.5 U
4726	PW071			MDNR	320971	R	4/28/03	0.5 U
4727	PW072	OU2	Elm Spring Hills Dr.	MDNR	2124	R	6/29/00	1.0 U
4728	PW072			MDNR	PW072GWP0089	R	7/12/01	1 U
4729	PW072			MDNR	320970	R	4/28/03	0.5 U
4730	PW072			EPA	7120-6	R	4/23/16	0.50 U
4731	PW073	OU2	Brike Rd.	MDNR	PW073GWP0090	R	7/12/01	1 U
4732	PW073			MDNR	320969	R	4/28/03	0.5 U
4733	PW074	OU2	Oak Pass Ln	MDNR	PW074GWP0091	R	7/12/01	1 U
4734	PW074			MDNR	319122	R	4/28/03	0.5 U
4735	PW075	OU2	Clonts Rd.	MDNR	PW075GWP0092	R	7/13/01	1 U
4736	PW075			MDNR	127099	S	7/13/01	1 U
4737	PW075			MDNR	331283	R	8/25/03	0.2 U
4738	PW075			MDNR	333532	R	12/4/03	0.2 U
4739	PW075			MDNR	422720	R	5/11/04	0.2 U
4740	PW075			EPA	4111-15	R	11/5/08	0.5 U
4741	PW075			EPA	4374-103	R	5/14/09	0.50 U
4742	PW075			EPA	4666-86	R	11/5/09	0.5 U
4743	PW076	OU2	E. Nottingham	MDNR	PW076GWP0093	R	7/13/01	1 U
4744	PW076			MDNR	319133	R	4/29/03	0.5 U
4745	PW077	OU2	E. Nottingham	MDNR	PW077GWP0094	R	7/13/01	1 U
4746	PW077			MDNR	319136	R	4/29/03	0.5 U
4747	PW078	OU2	E. Nottingham	MDNR	PW078GWP0095	R	7/13/01	1 U
4748	PW078			MDNR	319135	R	4/29/03	0.5 U
4749	PW079	OU2	E. Nottingham	MDNR	PW079GWP0096	R	7/13/01	1 U
4750	PW079			MDNR	319130	R	4/29/03	0.5 U
4751	PW080	OU2	Wildwood Ter.	MDNR	PW080GWP0097	R	7/16/01	1 U
4752	PW080			MDNR	319141	R	4/29/03	0.5 U
4753	PW081	OU2	Nottingham Circle	MDNR	PW081GWP0098	D	7/16/01	1 U
4754	PW081			MDNR	PW081GWP0098	R	7/16/01	1 U
4755	PW081			MDNR	319137	R	4/29/03	0.5 U
4756	PW082	OU2	Oak Grove Court	MDNR	PW082GWP0101	R	7/16/01	1 U
4757	PW082			MDNR	319121	R	4/28/03	0.5 U
4758	PW083	OU2	E. Springfield Loop	MDOH	92-0277	R	10/22/92	0.40
4759	PW083			MDNR	PW083GWP0102	R	7/16/01	1 U
4760	PW083			MDNR	320976	R	4/29/03	0.5 U
4761	PW084	OU2	Meadows Dr.	MDNR	PW084GWP0103	R	7/16/01	1 U
4762	PW084			MDNR	320964	R	4/28/03	0.5 U
4763	PW085	OU2	Timber Ridge Ln.	MDNR	PW085GWP0104	R	7/16/01	1 U
4764	PW085			MDNR	319124	R	4/28/03	0.5 U
4765	PW086	OU2	Little Spring Creek Rd	MDNR	2135	R	6/30/00	1.0 U
4766	PW086			MDNR	PW086GWP0105	R	7/16/01	1 U
4767	PW086			MDNR	319127	R	4/28/03	0.5 U
4768	PW087	OU2	Northwoods Dr.	MDNR	PW087GWP0106	R	7/16/01	1 U
4769	PW087			MDNR	320944	R	4/29/03	0.5 U
4770	PW088	OU2	Doris Merello Dr.	MDNR	PW088GWP0107	R	7/17/01	1 U
4771	PW088			MDNR	320967	R	4/28/03	0.5 U
4772	PW088			EPA	4111-73 FD	D	11/5/08	0.5 U
4773	PW088			EPA	4111-73	R	11/5/08	0.5 U
4774	PW089	OU2	Bell Rd.	MDNR	PW089GWP0108	R	7/17/01	1 U
4775	PW089			MDNR	319148	R	4/29/03	0.5 U
4776	PW089			EPA	4111-53	R	11/5/08	0.5 UJ
4777	PW089			EPA	4374-26	R	5/14/09	0.50 U
4778	PW089			EPA	4666-37	R	11/5/09	0.5 U
4779	PW089			EPA	4879-19	R	5/10/10	0.50 U
4780	PW090	OU2	Highway AF	MDNR	PW090GWP0109	R	7/17/01	1 U
4781	PW090			MDNR	319147	R	4/29/03	0.5 U
4782	PW090			EPA	4111-8	R	11/5/08	0.5 U
4783	PW090			EPA	4374-25	R	5/14/09	0.50 U
4784	PW090			EPA	4666-47	R	11/5/09	0.5 U
4785	PW090			EPA	4879-18	R	5/10/10	0.50 U
4786	PW091	OU2	Timber Ridge Loop	MDNR	PW091GWP0110	D	7/17/01	1 U
4787	PW091			MDNR	PW091GWP0110	R	7/17/01	1 U
4788	PW091			MDNR	319126	R	4/28/03	0.5 U
4789	PW092	OU2	South Service Rd. W	MDNR	2131	R	6/29/00	1.0 U
4790	PW092			MDNR	PW092GWP0113	R	7/17/01	1 U
4791	PW092			MDNR	300945	R	4/30/03	0.5 U
4792	PW092			EPA	4111-76	R	11/5/08	0.5 U
4793	PW093	OU2	Red Hawk Ln.	MDNR	4406	R	7/20/00	1.0 U
4794	PW093			MDNR	7818	D	7/20/00	1.0 U
4795	PW093			MDNR	PW093GWP0114	R	7/17/01	1 U
4796	PW093			MDNR	319125	R	4/28/03	0.5 U
4797	PW094	OU2	Emma Ln.	MDOH	92-0280	R	10/22/92	0.40
4798	PW094			MDNR	2130	R	6/29/00	1.0 U
4799	PW094			MDNR	PW094GWP0115	R	7/18/01	1.30
4800	PW094			MDNR	142721	R	12/12/01	1.0 U
4801	PW094			MDNR	210512	R	4/11/02	1.40
4802	PW094			MDNR	220679	R	6/11/02	1.0 U
4803	PW094			MDNR	228414	R	9/9/02	1 U
4804	PW094			MDNR	232510	R	12/10/02	0.88
4805	PW094			MDNR	301219	R	2/19/03	0.79
4806	PW094			MDNR	319062	R	4/28/03	0.83
4807	PW094			MDNR	331294	R	8/27/03	0.88
4808	PW094			MDNR	333528	R	12/3/03	1.26
4809	PW094			MDNR	411364	R	3/1/04	1.22
4810	PW094			MDNR	422737	R	5/12/04	1.22
4811	PW094			MDNR	445301	R	8/17/04	1.10
4812	PW094			MDNR	411882	R	11/17/04	1.22
4813	PW094			MDNR		D	9/1/05	1.18
4814	PW094			MDNR		R	9/1/05	1.08
4815	PW094			MDNR		R	3/1/06	1.16
4816	PW094			MDNR		R	10/1/06	1.14
4817	PW094			MDNR		R	9/1/07	1.18
4818	PW094			USGS		R	2/6/13	1.15
4819	PW094			EPA	7381-3	R	3/6/17	1.60
4820	PW095	OU2	Hidden Oaks Rd.	MDNR	PW095GWP0116	R	7/18/01	0.87 J
4821	PW095			MDNR	142732	R	12/13/01	1.0 U
4822	PW095			MDNR	210514	R	4/11/02	1.20
4823	PW095			MDNR	220692	R	6/12/02	1.0 U
4824	PW095			MDNR	228428	R	9/10/02	1.15
4825	PW095			MDNR	232517	R	12/11/02	1.02
4826	PW095			MDNR	300404	R	2/20/03	0.84
4827	PW095			MDNR	320954	R	4/28/03	0.76
4828	PW095			MDNR	331295	R	8/26/03	0.87
4829	PW095			MDNR	333514	R	12/2/03	0.94
4830	PW095			MDNR	411361	R	3/1/04	1.04
4831	PW095			MDNR	411360	D	3/1/04	0.88
4832	PW095			MDNR	422734	R	5/12/04	0.87
4833	PW095			MDNR	445289	R	8/16/04	0.93
4834	PW095			MDNR	411878	R	11/17/04	0.82
4835	PW095			MDNR	502713	R	3/9/05	0.82
4836	PW095			MDNR		R	9/1/05	0.88
4837	PW095			MDNR		R	3/1/06	0.97
4838	PW095			MDNR		R	10/1/06	0.86
4839	PW095			MDNR		R	9/1/07	0.89
4840	PW095			USGS		R	2/8/13	0.94
4841	PW096	OU2	P.O. Box 145	MDNR	2123	R	6/29/00	1.0 U
4842	PW096			MDNR	PW096GWP0117	R	7/18/01	1 U
4843	PW096			MDNR	319063	R	4/28/03	0.5 U
4844	PW097	OU2	Graeser Rd	MDNR	PW097GWP0123	R	7/24/01	1 U
4845	PW097			MDNR	319093	R	4/29/03	0.5 U
4846	PW097			EPA	4374-93	R	5/14/09	0.50 U
4847	PW098	OU2	Route 2, Box 106 C	MDOH	92-0279	R	10/22/92	0.40 U
4848	PW098		N. Service Rd. E.	MDNR	PW098GWP0140	R	7/26/01	1 U
4849	PW098			MDNR	319139	R	4/29/03	0.5 U
4850	PW098			EPA	4879-46 FD	D	5/10/10	0.50 U
4851	PW098			EPA	4879-46	R	5/10/10	0.50 U
4852	PW101	OU2	Spring Bluff Rd.	EPA	4111-90	R	11/5/08	0.5 U
4853	PW101			EPA	4374-59	R	5/14/09	0.50 U
4854	PW101			EPA	4666-43	R	11/5/09	0.5 U
4855	PW102	OU2	Spring Bluff Rd.	EPA	4111-26	R	11/5/08	0.5 U
4856	PW102			EPA	4374-62	R	5/14/09	0.50 U
4857	PW102			EPA	4666-45	R	11/5/09	0.5 U
4858	PW102			EPA	4879-32	R	5/10/10	0.50 U
4859	PW103	OU2	Nailbender Ln	EPA	4111-22	R	11/5/08	0.5 U
4860	PW104	OU2	Nailbender Ln	EPA	4111-84	R	11/5/08	0.5 U
4861	PW104			EPA	4374-64	R	5/14/09	0.50 U
4862	PW104			EPA	4666-49	R	11/5/09	0.5 U
4863	PW104			EPA	4879-35	R	5/10/10	0.50 U
4864	PW105	OU2	Nailbender Ln	EPA	4111-85	R	11/5/08	0.5 U
4865	PW105			EPA	4374-66	R	5/14/09	0.50 U
4866	PW105			EPA	4666-60	R	11/5/09	0.5 U
4867	PW105			EPA	4879-69	R	5/10/10	0.50 U
4868	PW106	1	East & West Rd.	EPA	4111-57	R	11/5/08	0.67
4869	PW106			EPA	4111-87 FD	D	11/5/08	0.66
4870	PW106			EPA	4374-87 FD	D	5/14/09	0.50 U
4871	PW106			EPA	4374-87	R	5/14/09	0.50 U
4872	PW106			EPA	4666-33	R	11/5/09	0.5 U
4873	PW106			EPA	4879-8	R	5/10/10	0.50 U
4874	PW106			USGS		R	12/8/10	0.16 J
4875	PW107	OU2	East & West Rd.	EPA	4111-63	R	11/5/08	0.5 U
4876	PW107			EPA	4374-47	R	5/14/09	0.50 U
4877	PW107			EPA	4666-46	R	11/5/09	0.5 U
4878	PW107			EPA	4879-10	R	5/10/10	0.50 U
4879	PW108	OU2	East & West Rd.	EPA	4111-64	R	11/5/08	0.5 U
4880	PW108			EPA	4374-45	R	5/14/09	0.50 U
4881	PW108			EPA	4666-18	R	11/5/09	0.5 U
4882	PW108			EPA	4879-9	R	5/10/10	0.50 U
4883	PW109	OU2	East & West Rd.	EPA	4111-65	R	11/5/08	0.5 U
4884	PW109			EPA	4374-38	R	5/14/09	0.50 U
4885	PW109			EPA	4666-17	R	11/5/09	0.5 U
4886	PW109			EPA	4879-11	R	5/10/10	0.50 U
4887	PW109			USGS		R	12/8/10	0.18 J
4888	PW110	OU2	East & West Rd.	EPA	4111-66	R	11/5/08	0.5 U
4889	PW110			EPA	4374-84	R	5/14/09	0.50 U
4890	PW110			EPA	4666-19	R	11/5/09	0.5 U
4891	PW110			EPA	4879-12 FD	D	5/10/10	0.50 U
4892	PW110			EPA	4879-12	R	5/10/10	0.50 U
4893	PW112	OU2	East & West Rd.	EPA	4111-67	R	11/5/08	0.5 U
4894	PW112			EPA	4374-85	R	5/14/09	0.50 U
4895	PW112			EPA	4666-24	R	11/5/09	0.5 U
4896	PW113	OU2	East & West Rd.	No Data				
4897	PW114	OU2	Highway AF	No Data				
4898	PW115	OU2	Spring Bluff Rd.	No Data				
4899	PW116	OU2	Spring Bluff Rd.	EPA	4374-82	R	5/14/09	0.50 U
4900	PW116			EPA	4666-55	R	11/5/09	0.5 U
4901	PW116			EPA	4879-71	R	5/10/10	0.50 U
4902	PW116			USGS		R	12/8/10	0.16 J
4903	PW117	OU2	North & South Rd.	EPA	4374-83	R	5/14/09	0.50 U
4904	PW117			EPA	4666-56	R	11/5/09	0.5 U
4905	PW117			EPA	4879-72	R	5/10/10	0.50 U
4906	PW118	OU2	E. Springfield Rd.	MDOH	92-0266	R	10/22/92	0.40 U

Location	DNRID	OTHERID	Zone	Feature	Subfeature	Owner (Last Name)	Owner (First Name)	No.	Street	City	Zip	Telephone	Notes	Comments	TM Zone 15 Northi	ITM Zone 15 Eastir	Latitude	Longitude	Ground Surface Elev. (ft amsl)	TOC Elevation (ft amsl)	Total Depth (ft bgs)	Elev. of Base of Well (ft amsl)	Open Interval (ft bgs)	Open Interval Elev. (ft amsl)	x						
COS02	GWS001	COS #02	3	PS		City of Sullivan		305	North Park	Sullivan	63080		Tom Harmon City Engineer - 248 E. Springfield		4230692.819	660421.556	38.20991409	-91.16765816	956	955	850	106	345-850	106-611	x	106	345	611			
COS03		COS#03	3	PS		City of Sullivan		248	East Springfield	Sullivan	63080		Tom Harmon City Engineer		4231394.595	661411.424	38.21605863	-91.15619769	993	990	905	88	361-905	88-632	x	88	361	632			
COS04		COS#04	3	PS		City of Sullivan		248	East Springfield	Sullivan	63080		Tom Harmon City Engineer		4230092.48201	659404.08800	38.20468703	-91.17940903	972		810	162	440-810	162-532	x	162	440	532			
COS05		COS #05	3	PS		City of Sullivan		40	Edgewood Dr.	Sullivan	63080		Tom Harmon City Engineer -248 E. Springfield		4232272.75801	658972.53699	38.22440	-91.1834737	974	970	655	319	287-655	319-687	x	319	287	687			
COS06		COS #06	3	PS		City of Sullivan		1010	Mattox Drive	Sullivan	63080		Tom Harmon City Engineer - 248 E. Springfield		4229037.64300	659992.01901	38.19508074	-91.17293483	978	972	850	128	462-850	128-516	x	128	462	516			
COS07		COS #07	3	PS		City of Sullivan		800	Watson Rd.	Sullivan	63080		Tom Harmon City Engineer - 248 E. Springfield		4230162.87801	662415.13901	38.2047829	-91.145020	943	946	655	288	252-665	288-691	x	288	252	691			
COS08		COS #08	3	PS		City of Sullivan		248	East Springfield	Sullivan	63080		Tom Harmon City Engineer - 248 E. Springfield		4229648.88201	659734.31699	38.20063254	-91.17573892	964	960	965	-5	532-965	-5-428	x	-1	532	432			
COS09	GWS008	COS #09	3	PS		City of Sullivan		730	Highway 185 South	Sullivan	63080		Tom Harmon City Engineer -248 E. Springfield		4231990.10799	662664.73501	38.22120	-91.14175157	900	905	775	125	314-775	125-586	x	125	314	586			
COS10	GWS002	COS #10	3	PS		City of Sullivan				Sullivan	63080		Tom Harmon City Engineer -248 E. Springfield		4232244.25999	663124.96099	38.22340	-91.13643819	940	938	1840	-900	400-1840	-900-540	x	-900	400	540			
COS11		COS #11	2	PS		City of Sullivan				Sullivan	63080		Tom Harmon City Engineer -248 E. Springfield		4232160.72201	660244.40800	38.22316845	-91.16934923	916	918	890	26	403-890	26-513	x	26	403	513			
GWS003	GWS003	Voss well	OU2	DW											4233737.07174	663427.30202	38.236794	-91.132644	900		360	540	107-360	540-793	x	540	107	793			
GWS009	GWS009	olla Spring Spring's St	OU2	SP		Turilli	Les Sr.	xit 230	I-44	Stanton	63079						38.242091	-91.09709													
GWS010	GWS010	Jolla Spring Standing	OU2	SP		Turilli	Les Sr.	xit 230	I-44	Stanton	63079				4234308.58876	666975.42621	38.242112	-91.09698													
GWS011	SW011	Kratz Spring	Outside OU1/OU2	SP					Lacled Ave	St. Louis	63103		Kratz Spring - St.L.U Frost Campus-Biol. Dept.				38.32078946	-91.15789006													
GWS012	GWS012	Elm Spring	Outside OU1/OU2	SP					S. Hwy. 185	Sullivan	63080		Elm Spring - Meramec State Park				38.21611905	-91.12562177													
GWS014	SW009	Falling Spring	Outside OU1/OU2	SP					S. Hwy. 185	Sullivan	63080		Falling Spring - Meramec State Park				38.21052463	-91.10758312													
GWS015	SW004	Chickadee Spring	Outside OU1/OU2	SP					S. Hwy. 185	Sullivan	63080		Chickadee Spring - Meramec State Park				38.20231516	-91.12060487													
GWS016	GWS016	Stone's 7 Spring	3	SP					Lostview Dr.	Sullivan	63080		Stone's Seven Spring (PH024 well)				38.19562698	-91.15640292													
GWS017	GWS017	Cress Spring	3	SP					S. Hwy. 185	Sullivan	63080		Cress Spring				38.19863	-91.1535													
GWS018	GWS018	Shooting Star Spring	Outside OU1/OU2	SP					S. Hwy. 185	Sullivan	63080		Shooting Star Spring - Meramec State Park				38.20659419	-91.12866036													
GWS019	SW001	Mudd Spring	Outside OU1/OU2	SP					Country Ln.	Sullivan	63080						38.20558022	-91.13209413													
GWS020		Mudd Spring	Outside OU1/OU2	SP													38.20558022	-91.13209413													
GWS021	GWS021		OU2	SP													38.227739	-91.084486													
GWS022	SW005	Camper Spring	Outside OU1/OU2	SP		Wilcox	Brian	2800	S. Hwy. 185	Sullivan	63080		Camper Spring - Meramec State Park				38.2118804	-91.09167328													
GWS023	PH032	Hotel Well	OU2	DW		Turilli	Les Sr.	xit 230	I-44	Stanton	63079			hotel well (same as PH	4234736.41699	667084.81594	38.24512459	-91.0906361													
GWS033	GWS033		OU2	DW					E. Springfield Rd.	Sullivan	63079																				
GWS035	GWS035	Valley Floor Spring	OU2	SP													38.20734621	-91.13095593													
GWS036	SW003	Pond Spring	Outside OU1/OU2	SP													38.20259971	-91.123106													
GWS039			Outside OU1/OU2												Unknown Location																
JM-01			1	DW					Highway AF	Sullivan	63080				4233648.3788	660035.4378	38.236609	-91.171392													
JM-02			1	DW					Highway AF	Sullivan	63080				4233714.4418	660007.8649	38.237191	-91.17173													
JM-03			1	DW					East & West Rd.	Sullivan	63080				4233866.8435	660416.3718	38.238496	-91.166994													
JM-04			1	DW					East & West Rd.	Sullivan	63080				4233909.6877	660897.0860	38.238795	-91.161488													
JM-05			OU2	DW					East & West Rd.	Sullivan	63080				4233995.7275	661315.6469	38.239435	-91.156699													
JM-06			1	DW					East & West Rd.	Sullivan	63080				4233816.2183	660662.5364	38.238002	-91.164179													
JM-07			1	DW					East & West Rd.	Sullivan	63080				4233938.4582	660108.5063	38.239216	-91.170501													
JM-08			1	DW					East & West Rd.	Sullivan	63080				4233974.8784	660825.7458	38.239397	-91.162265													
JM-09			1	DW					East & West Rd.	Sullivan	63080				4233958.3957	660554.6483	38.239317	-91.16542													
JM-10			1	DW					East & West Rd.	Sullivan	63080				4233950.5940	660160.8000	38.239281	-91.169904													
JM-11			1	DW					East & West Rd.	Sullivan	63080				4233963.9428	660274.3588	38.239397	-91.168646													
MW-1	Landfill		OU2	MW											4233436.2542	663175.4716	38.23409919	-91.13558033	856	859.1	501	355	102.5-501	355-753.5	x	355	102	754			
MW-2	Flying J		2	MW											4232575.9891	661002.0253	38.22683701	-91.16073891	934	936.9	631	303	146.5-631	303-787.5	x	303	146	788			
MW-3	VFW		3	MW											4232237.489	661506.629	38.22343782	-91.15060734	942	941.8	581	361	130-581	361-812	x	361	130	812.0			
MW-4	Garage		3	MW											4232237.489	661506.629	38.223634	-91.154911	944.7	948.83	225	719.7	160-225	719.7-784.7	x	719.7	160	784.7			
MW-5	Ditch Witch		3	MW											4232480.119	661842.772	38.225821	-91.151051	952.9	955.46	240	712.9	178-240	712.9-774.9	x	712.9	178	774.9			
MW-6	Old machine shop well		3	MW											4232202.4627	662190.691217	38.223196	-91.147116			525		335-525		x	-525	335	-335			
PH001	PH001		3	DW					Tobias Ln.	Sullivan	63080				4234319.39801	657258.74899	38.24314093	-91.2029635													
PH002	PH002		OU2	DW					N. Service Rd. E.	Sullivan	63080			Sinkhole well	4234518.35307	662640.19643	38.24336512	-91.14096033													
PH003	PH003		OU2	DW					Northwoods Dr.	Sullivan	63080				4233845.84499	662203.25398	38.23799666	-91.14659658													
PH004	PH004		OU2	DW					E. Springfield Rd.	Sullivan	63080				4234048.10300	662731.56599	38.23972309	-91.14051638													
PH005	PH005		3	DW					Doris Merello Dr.	Sullivan	63080				4232110.68559	662170.78026	38.22237252	-91.14736413													
PH006	PH006		1	DW					East & West Rd.	Sullivan	63080				4233950.44399	660769.42899	38.23919641	-91.16294855	910		380	530			x						
PH007	PH007		OU2	DW					Sandy Ln.	Sullivan	63080				4232817.33298	662352.52899	38.22870508	-91.14512715													
PH008	PH008		OU2	DW					Sandy Ln.	Sullivan	63080				4232610.61100	662354.95699	38.22684253	-91.14514673													
PH009	PH009		OU2	DW					Sandy Ln.	Sullivan	63080			on OGV distribution sy	4232909.35401	662450.32301	38.22951633	-91.14398933													
PH010	PH010		OU2	DW					S. Hwy. 185	Sullivan	63080				4231692.93375	662786.09981	38.21849835	-91.14043396													
PH011	PH011		1	DW					Highway AF	Sullivan	63080				4234150.68899	660046.22000	38.24112924	-91.17116329													
PH012	PH012		3	DW					Gauzy Ln.	Sullivan	63080				4230462.32300	655703.11900	38.20866644	-91.22157855													
PH013	PH013		OU2	DW					Emma Ln.	Sullivan	63080		near Sullivan LF		4233835.97699	662872.61299	38.23778677	-91.13895419													
PH014	PH014		PST	PST					E. Springfield Rd.	Sullivan	63080		dist. Pt. in OGV system	dist. Pt. in OGV system																	
PH015	PH015		1	DW					Highway AF	Sullivan	63080				4234123.40300	659870.53401	38.24091471	-91.17317605													
PH016	PH016		OU2	DW					E. Springfield Rd.	Sullivan	63080				4234138.55900	662772.31901	38.24053052	-91.14003017													
PH017	PH017		OU2	DW					Hidden Oaks Rd.	Sullivan	63080				4233616.47100	662752.74400	38.23583121	-91.14037357													
PH018	PH018		PST	PST					Johanna	Sullivan	63080		dist. Pt. in OGV system																		
OGV01	PH019A	OGV01	3	PS		Oak Grove Village		260	James St.	Sullivan	63080		OGV01, Mayor Ken Hayes		4232486.33913	662008.36746	38.22578561	-91.14913287	964		805	159	365-805	159-599	x	159	365	599			
OGV02-I	PH019B	OGV02-I	3	PS		Oak Grove Village		260	James St.	Sullivan	63080		OGV02, Mayor Ken Hayes	Influent	4232460.53833	662018.51066	38.22555137	-91.14902294	964		900	64	460-900	64-504	x	64	460	504			
OGV02-E	PH019C		3	PS		Oak Grove Village		260	James St.	Sullivan	63080		OGV02, Mayor Ken Hayes	Effluent	4232460.53833	662018.51066	38.22555137	-91.14902294													
PH020	PH020	Jolla Spring Flowing F	OU2	SP		Turilli	Les, Sr.	xit 230	I-44	Stanton	63079			Flowing pool	4234308.58876	666975.42621	38.24129125	-91.09198627													
PH021	PH021		OU2	DW					Dinky Rd.	Sullivan	63080				4235937.37299	662913.11200	38.25670828	-91.13800866													
PH022	PH022		OU2	DW					Anderson Ln.	Sullivan	63080				4238469.92899	664452.84099	38.27924009	-91.11983107													
PH023	PH023		3	DW					Ridge Rd.	Sullivan	63080				4236939.72800	659890.65001	38.26628035	-91.17231078													
PH024	PH024		PST	PST					Lostview Dr.	Sullivan	63080																				
PH025			OU2	TDW					E. Springfield Rd.	Sullivan	63080			Post Treatment			38.24175525	-91.13981033													
PH026			OU2	TDW					E. Springfield Rd.	Sullivan	63080			Post Treatment			38.24131263	-91.14015194													
PH027	PH027		OU2	DW					N. Service Rd. E.	Sullivan	63080				4233616.67100	662141.33200	38.23594348	-91.14735619													
PH030	PH030	Campground Well	OU2	DW		Turilli	Les Sr.	xit 230	I-44	Stanton	63079			Campground well	4234716.26169	667221.49569	38.24491762	-91.08907974													
PH031	PH031	Resturant well	OU2	DW		Turilli	Les Sr.	xit 230	I-44	Stanton	63079			Resturant well	4234278.62483	666986.59546	38.24101927	-91.09186576													
PH031A		Restroom well	OU2	DW		Turilli	Les Sr.	xit 230	I-44	Stanton	63079			Restroom well			38.24101927	-91.09186576													
PH032	PH032	Hotel Well	OU2	DW		Turilli	Les Sr.	xit 230	I-44	Stanton	63079				4234736.41699	667084.81594	38.24512459	-91.0906361													
PH033	PH033		OU2	DW					E. Springfield Rd.	Sullivan	63080				4234011.93865	662754.16403	38.23939324	-91.14026659													
PH034	PH034		3	DW					S. Hwy. 185		63080				4232012.74898	661936.43002	38.22153253	-91.1500624													
PH035	PH035		Outside OU1/OU2	DW					Lindeman Ln.	Sullivan	63080				4231693.38201	662786.02301	38.2185024	-91.14043473													
PH036	PH036		Outside OU1/OU2	DW					Sleepy Hollow Rd.	Sullivan	63080				4228606.93301	668317.68500	38.18968338	-91.07800817													
PH037	PH037		OU2	DW					E. Nottingham Circle	Sullivan	63080				4236669.67801	663544.06499	38.26319003	-91.13063174													
PH038	PH038		1	DW					Highway AF	Sullivan	63080				4233443.92099	660301.64301	38.23471723	-91.16840573													
PH039	PH039		1	DW					Highway AF	Sullivan	63080				4233482.36300	659948.79600	38.23512634	-91.17242677													
PH040	PH040		1	DW					Highway AF	Sullivan	63080				4233422.18499	659914.33200	38.23459039	-91.17283394													
PH041	PH041		1	DW					East & West Rd.	Sullivan	63080				4233948.70201	659962.40899	38.23932468	-91.17216611													
PH042	PH042		OU2	DW					E. Springfield Rd.	Sullivan	63080				4234196.09519	662836.59866	38.24103715	-91.1392828													
PH043			PST	PST						Sullivan	63080				No Data																
PH044	PH044		Unknown	DW					Sherwood Forest	Sullivan	63080				Unknown Location																
PH048	PH048		OU2	DW					Acid Mine Rd.	Sullivan	63080				Unknown Location																
PH049	PH049		OU2	DW					Acid Mine Rd.	Sullivan	63080				Unknown Location																
PH050	PH050		OU2	DW					Ronnie Dr.	Sullivan	63080				4233393.65311	662066.14778	38.234233	-91.147959													
PH051	PH051		OU2	DW					Wildwood Dr.	Sullivan	63080				4233450.67985	661922.70640	38.234233	-91.14989													
PH052	PH052		OU2	DW					Timber Oak Dr.	Sullivan	63080				4237350.93824	661038.21509	38.269929	-91.1591													
PH053	PH053		1	DW					Highway AF	Sullivan	63080				4233781.29383	659923.13651	38.237733	-91.172767													
PH054	PH054		2	DW					Highway AF	Sullivan	63080				4234729.80189	660001.42107	38.246484	-91.171875													
PH055	PH055		Outside OU1/OU2	DW					Elm Spring Hills Dr.	Sullivan	63080				4231688.10529	663397.19725	38.218245	-91.13355													
PH056	PH056		3	DW					Chickadee Lane	Sullivan	63080				4229514.81858	658000.03124	38.199453	-91.195346													
PH057	PH057		OU2	DW					E. Springfield Rd.	Sullivan	63080				4233069.54715	662100.65906	38.231023	-91.147955													
PH058	PH058		1	DW					Highway AF	Sullivan	63080				4233538.07415	659790.97165	38.235683	-91.174261													
PH059	PH059		Outside OU1/OU2	DW					Beckett Rd.	Sullivan	63080				4224306.45769	657053.86780	38.152932	-91.207608													
PH060	PH060		3	DW					Watson Rd.	Sullivan	63080				4230282.40001	662848.86912	38.205756	-91.140086													
PH061	PH061		OU2	DW					Dinky Rd.	Sullivan	63080				4235945.89164	662671.91906	38.256749	-91.140977													
PH062	AF-P	LOC111	1	DW					Highway AF		No pump in well, on city water per homeowner				4233202.37999	659770.74800	38.232833	-91.174401													
PH063		LOC105	3	DW					Elmont Road	Sullivan	63080		TRW well		4230708.175	658412.2527	38.210376	-91.190685													
PH064		LOC157	3	DW					Highway WW	Sullivan	63080		TRW well		4229403.954	657629.3494	38.19886	-91.200057													
PH065		LOC244	3	DW					Pump Hollow Road	Sullivan	63080		TRW well		4229877.367	661720.5388	38.202227	-91.153126													
PH066		LOC245	Outside OU1/OU2	DW					Crawford Circle	Sullivan	63080		TRW well				38.201691	-91.138813													
PH067		LOC246	3	SP					Hughes Ford Road	Sullivan	63080				4229129.89892	661427.59574	38.195822	-91.156395													
PH068		WH1	3	DW					Old white house next to	Sullivan	63080		Old white house next to OGV-1		4232511.45178	661990.11994	38.225988	-91.14935													
PH069			3	DW					Olive Road	Sullivan	63080				Unknown Location																
PH070			1	DW					Spring Bluff Rd.	Sullivan	63080				4233400.63294	659263.47534	38.234507	-91.180264													
PH071			1	DW					Spring Bluff Rd.	Sullivan	63080				4233275.44085	659358.93578	38.233377	-91.17924													
PH072			1	DW					Spring Bluff Rd.	Sullivan	63080				4233338.68774	659298.46074	38.233942	-91.179916													
PH073			1	DW					Spring Bluff Rd.	Sullivan	63080				4233105.37296	659400.02454	38.231802	-91.178783													
PH074			1	DW					Nailbender Ln	Sullivan	63080				4233698.57852	659284.70645	38.237176	-91.179959													
PH075			2	DW					North & South Rd.	Sullivan	63080				4233514.71927	658991.80357	38.235585	-91.183402													
PH076			1	DW					Spring Bluff Rd.	Sullivan	63080				4232941.84477	659529.89617	38.230331	-91.177279													
PH077			3	DW					Tyler	St. Louis	63139		MDOH well on Spring bluff Rd		4233108.29668	659310.10588	38.231871	-91.179829													
PH079	PH079	La Jolla Spring	OU2	SP		Turilli	Les. Sr.	xit 230	I-44	Stanton	63079			1990 USGS Upstream	4234578.05343	666049.34797	38.243917	-91.102651													
PH080			OU2	SE		City of Sullivan								1990 USGS Leachate L-1			38.2382	-91.136521													
PH081			OU2	SE		City of Sullivan								1990 USGS Leachate L-9			38.237733	-91.132807													
PH082	PH082	La Jolla Spring	OU2	SP		Turilli	Les, Sr.	xit 230	I-44	Stanton	63079		Same as SW-LJ-02?	USGS 1990 downstrea	4234361.24910	666742.85389	38.241809	-91.09463													
PH084			OU2	SE										1990 USGS Leachate	4233618.06252	663303.83133	38.235746	-91.13408													
PW001	PW001		Outside OU1/OU2	DW					Glaser Rd	Sullivan	63080				4231867.48399	663273.23101	38.21998239	-91.13483185	882		206	676	147-206	676-735	x	676	147	735	Phase II RI		
PW002	PW002		Outside OU1/OU2	DW					Glaser Rd	Sullivan	63080				4232034.47100	663182.24599	38.22150308	-91.13583232	923		300	623			x	623		#VALUE!			
PW003	PW003		OU2	DW					Glaser Rd	Sullivan	63080				4232544.54799	663143.66199	38.22610474	-91.13615561	911		390	521	300-390	521-611	x	521	300	611			
PW004	PW004		Outside OU1/OU2	DW					Glaser Rd	Sullivan	63080				4232340.99999	663384.22199	38.22422756	-91.13345554	935		265	670	100-265	670-835	x	670	100	835			
PW005	PW005		Outside OU1/OU2	DW					Glaser Rd	Sullivan	63080				4232302.27401	663630.90301	38.22383389	-91.1306477	938		441	497	168-441	497-770	x	497	168	770			
PW006	PW006		OU2	DW					Glaser Rd	Sullivan	63080				4232483.31500	663506.06800	38.22548736	-91.13203142	948		285	663	185-285	663-763	x	663	185	763			
PW007	PW007		Outside OU1/OU2	DW					Glaser Rd	Sullivan	63080				4232183.69001	663319.56899	38.22282229	-91.13422999	923		295	628	250-295	628673	x	628	250	673			
PW008	PW008		OU2	DW					Glaser Rd	Sullivan	63080				4233119.93801	663374.57501	38.2312458	-91.13338632	901		286	615	158-286	615-743	x	615	158	743			
PW009	PW009		Outside OU1/OU2	DW					Glaser Rd	Sullivan	63080				4231798.46300	663182.41901	38.21937714	-91.13588461	918						x	918		#VALUE!			
PW010	PW010		OU2	DW					Glaser Rd	Sullivan	63080				4234204.22601	664387.41200	38.24082815	-91.12156869	898		330	568	120-330	568-778	x	568	120	778			
PW011	PW011		OU2	DW					Glaser Rd	Sullivan	63080				4233110.69801	664176.31901	38.23101656	-91.12423277	906		330				x	576		#VALUE!			
PW012	PW012	KOA Well	OU2	DW					E. Springfield Rd.	Sullivan	63080				4234002.39929	662674.16528	38.23932179	-91.14118245	941						x	941		#VALUE!			
PW013	PW013		OU2	DW					E. Springfield Rd.	Sullivan	63080		Pre(PW013) & Post(PH026) Samples		4234225.13590	662759.91728	38.24131263	-91.14015194	931		260				x	671		#VALUE!			
PW014	PW014		OU2	DW					E. Springfield Rd.	Sullivan	63080				4234274.85497	662788.82765	38.24175525	-91.13981033	926		320	606	232-320	606-694	x	606	232	694			
PW015	PW015		OU2	DW					E. Springfield Rd.	Sullivan	63080				4234431.84406	662983.07981	38.24313418	-91.1375556	894		274				x	620		#VALUE!			
PW016	PW016		OU2	DW					E. Springfield Rd.	Sullivan	63080				4234567.05270	663008.06176	38.24434757	-91.13723917	894		385	509	208-385	509-686	x	509	208	686			
PW017	PW017		OU2	DW					E. Springfield Rd.	Sullivan	63080				4234882.71305	663167.41501	38.24716204	-91.13534641	856		280				x	576		#VALUE!			
PW018	PW018		OU2	DW					Hidden Oaks Dr.	Sullivan	63080				4233624.39823	662711.75299	38.23591004	-91.14083989	940		360				x	580		#VALUE!			
PW019	PW019		OU2	DW					Hidden Oaks Dr.	Sullivan	63080				4233727.83708	662732.81271	38.23683798	-91.14057564	945		390				x	555		#VALUE!			
PW020	PW020		OU2	DW					E. Nottingham	Sullivan	63080				4236626.33801	663828.97399	38.26274772	-91.12738676	876						x	876		#VALUE!			
PW021	PW021		2	DW					Highway AF	Sullivan	63080				4234869.33599	659966.24701	38.247617	-91.17191453	887		325				x	562		#VALUE!			
PW022	PW022		2	DW					Highway AF	Sullivan	63080				4234970.18601	659957.80800	38.24852695	-91.17198817	886						x	886		#VALUE!			
PW023	PW023		1	DW					Highway AF	Sullivan	63080				4233471.47001	659789.73901	38.2350565	-91.17424576	913						x	913		#VALUE!			
PW024	PW024		OU2	DW					E. Springfield Rd.	Sullivan	63080				4233396.67977	662212.78659	38.23394895	-91.14659045	884		280				x	604		#VALUE!			
PW025	PW025		1	DW					Highway AF	Sullivan	63080				4234382.13299	660027.36000	38.24321743	-91.17132646	912		360				x	552		#VALUE!			
PW026	PW026		3	DW					Highway AF	Sullivan	63080				4236200.11001	659855.65299	38.25962418	-91.17287757	882		460				x	422		#VALUE!			
PW027	PW027		1	DW					East & West Rd.	Sullivan	63080				4233914.68099	660012.62000	38.23900928	-91.17160031	936		350				x	586		#VALUE!			
PW028	PW028		1	DW					East & West Rd.	Sullivan	63080				4233889.07100	660067.52601	38.23876881	-91.170979	937						x	937		#VALUE!			
PW029	PW029		1	DW					Spring Bluff Rd.	Sullivan	63080				4233215.67299	659283.04601	38.23284219	-91.18008996	903						x	903		#VALUE!			
PW030	PW030		2	DW					Spring Bluff Rd.	Sullivan	63080				4233763.55699	658787.82800	38.23786511	-91.18562285	884		550				x	334		#VALUE!			
PW031	PW031		2	DW					Spring Bluff Rd.	Sullivan	63080				4234407.29599	658592.40601	38.24369841	-91.1877108	889		350	539	273-350	539-616	x	539	273	616			
PW032	PW032		3	DW					Spring Bluff Rd.	Sullivan	63080				4235023.64000	658134.87100	38.24933106	-91.1927993	854						x	854		#VALUE!			
PW033	PW033		3	DW					Spring Bluff Rd.	Sullivan	63080				4235650.38000	656993.78601	38.25517685	-91.20569509	911		300				x	611		#VALUE!			
PW034	PW034		3	DW					Spring Bluff Rd.	Sullivan	63080				4235229.66876	657005.52518	38.251385	-91.2056542	899		300				x	599		#VALUE!			
PW034A	PW034		3	DW					Spring Bluff Rd.	Sullivan	63080				4235229.66876	657005.52518	38.251385	-91.2056542								0		#VALUE!			
PW034B	PW034		3	DW					Spring Bluff Rd.	Sullivan	63080				4235229.66876	657005.52518	38.251385	-91.2056542								0		#VALUE!			
PW035	PW035		2	DW					North & South Rd.	Sullivan	63080				4233330.74201	659029.77600	38.23392355	-91.18295659	905						x	905		#VALUE!			
PW036	PW036		2	DW					North & South Rd.	Sullivan	63080				4233043.63699	658959.12701	38.2313498	-91.18382778	921		450	471	200-450	471-721	x	471	200	721			
PW037	PW037		2	DW					North & South Rd.	Sullivan	63080				4233149.53999	658942.21001	38.23230677	-91.18399724	927						x	927		#VALUE!			
PW038	PW038		2	DW					North & South Rd.	Sullivan	63080				4233148.66300	659020.73600	38.23228499	-91.18310065	924						x	924		#VALUE!			
PW039	PW039		2	DW					North & South Rd.	Sullivan	63080				4233076.05100	659030.01699	38.23162926	-91.18301094	920		500				x	420		#VALUE!			
PW040	PW040		1	DW					East & West Rd.	Sullivan	63080				4234034.33699	660074.33401	38.24007615	-91.17086845	944				360-??		x	944	360	584			
PW041	PW041		OU2	DW					Acid Mine Rd.	Sullivan	63080				4233630.96601	661477.82899	38.23619165	-91.15493055	913						x	913		#VALUE!			
PW042	PW042		OU2	DW					Acid Mine Rd.	Sullivan	63080				4233713.37199	661479.90301	38.23693358	-91.1548881	904		320				x	584		#VALUE!			
PW043	PW043		OU2	DW					Acid Mine Rd.	Sullivan	63080				4234622.64499	661461.10000	38.24512754	-91.15489578	868		285				x	583		#VALUE!			
PW044	PW044		OU2	DW					Acid Mine Rd.	Sullivan	63080				4234687.26899	661741.39600	38.24565927	-91.15167947	857						x	857		#VALUE!			
PW045	PW045		OU2	DW					Acid Mine Rd.	Sullivan	63080				4234728.65299	661452.83200	38.24608393	-91.15496607	858		230				x	628		#VALUE!			
PW046	PW046		OU2	DW					Acid Mine Rd.	Sullivan	63080				4233997.67500	661459.13802	38.23949826	-91.15506052	894						x	894		#VALUE!			
PW047	PW047		OU2	DW					Acid Mine Rd.	Sullivan	63080				4235613.99600	662051.69299	38.25395115	-91.14792332	886		420	466	300-420	466-586	x	466	300	586			
PW048	PW048		OU2	DW					Acid Mine Rd.	Sullivan	63080				4236195.46000	662154.84899	38.25917024	-91.14661184	903						x	903		#VALUE!			
PW049	PW049		OU2	DW					Acid Mine Rd.	Sullivan	63080				4236682.37500	662160.42598	38.26355525	-91.14643665	909		150				x	759		#VALUE!			
PW050	PW050		OU2	DW					Acid Mine Rd.	Sullivan	63080				4236336.08201	662195.22701	38.26042964	-91.14611835	921						x	921		#VALUE!			
PW051	PW051		OU2	DW					Acid Mine Rd.	Sullivan	63080				4237597.39901	662444.06301	38.2717463	-91.14298621	885		400	485	315-400	485-570	x	485	315	570			
PW052	PW052		OU2	DW					Acid Mine Rd.	Sullivan	63080				4237664.17501	662494.85798	38.27233861	-91.14239049	884						x	884		#VALUE!			
PW053	PW053		OU2	DW					Acid Mine Rd.	Sullivan	63080				4233559.89699	661489.81901	38.23554932	-91.1548098	927		445	482	80-445	482-847	x	482	80	847			
PW054	PW054		OU2	DW					Sherwood Lane	Sullivan	63080				4236427.51299	663659.46599	38.26098767	-91.12936927	909		391	518	360-391	518-549	x	518	360	549			
PW055	PW055		OU2	DW					Oak Ridge Rd.	Sullivan	63080				4236856.37801	662700.89101	38.26502489	-91.14022193	864		252	612			x	612		#VALUE!			
PW056	PW056		OU2	DW					Acid Mine Rd.	Sullivan	63080				4233384.61599	661463.00701	38.23397522	-91.15515591	909		238	671	75-238	671-834	x	671	75	834			
PW057	PW057		3	DW					Evergreen Dr.	Sullivan	63080				4232606.78498	656038.54799	38.22792607	-91.2172776	983						x	983		#VALUE!			
PW058	PW058		OU2	DW					Sherwood Lane	Sullivan	63080				4236395.00099	663568.74999	38.26071133	-91.13041315	904		420	484	191-420	484-713	x	484	191	713			
PW059	PW059		2	DW					North & South Rd.	Sullivan	63080				4232978.38700	659061.63801	38.23074391	-91.18267172	914		300				x	614		#VALUE!			
PW060	PW060		2	DW					North & South Rd.	Sullivan	63080				4232942.92201	659024.35401	38.23043103	-91.18310546	919		260				x	659		#VALUE!			
PW061	PW061		3	DW					Hwy 185 North	Sullivan	63080				4235424.15900	656644.05900	38.25320006	-91.20974038	950		385				x	565		#VALUE!			
PW062	PW062		3	DW					Clonts Rd.	Sullivan	63080				4237385.42000	657696.45600	38.27068308	-91.19728151	790						x	790		#VALUE!			
PW063	PW063		OU2	DW					Lois Ln.	Sullivan	63080				4235609.33801	662498.18400	38.25382856	-91.14282395	888						x	888		#VALUE!			
PW064	PW064		OU2	DW					Oak Ridge Rd.	Sullivan	63080				4237029.82000	662517.73398	38.26662037	-91.14227471	907						x	907		#VALUE!			
PW065	PW065		OU2	DW					Oak Ridge Rd.	Sullivan	63080				4237025.69200	662641.96099	38.2665607	-91.14085632	894		350				x	544		#VALUE!			
PW066	PW066		OU2	DW					Oak Ridge Rd.	Sullivan	63080				4236986.63699	662774.43299	38.26618491	-91.13935176	865						x	865		#VALUE!			
PW067	PW067		1	DW					Highway AF	Sullivan	63080				4234057.08399	659548.29299	38.24037456	-91.17687146	929		412	517	300-412	517-629	x	517	300	629			
PW068	PW068		2	DW					Timberlane	Sullivan	63080				4232791.02300	658650.76000	38.2291287	-91.18740586	941						x	941		#VALUE!			
PW069	PW069		2	DW					Timberlane	Sullivan	63080				4232531.14098	658544.23501	38.22680646	-91.18868043	928		264	664	147-264	664-781	x	664	147	781			
PW070	PW070		3	DW					Hwy 185 North	Sullivan	63080				4232594.91001	656655.06099	38.22771193	-91.2102398	1006						x	1006		#VALUE!			
PW071	PW071		Outside OU1/OU2	DW					Elm Spring Hills Dr.	Sullivan	63080				4231748.98201	663422.77699	38.2188878	-91.13315161	900		310				x	590		#VALUE!			
PW072	PW072		Outside OU1/OU2	DW					Elm Spring Hills Dr.	Sullivan	63080				4231746.03500	663463.56800	38.21885385	-91.13268655	894						x	894		#VALUE!			
PW073	PW073		ou2	DW					Brike Rd.	Sullivan	63080				4232811.71500	663241.18999	38.22849362	-91.13498047	911		380				x	531		#VALUE!			
PW074	PW074		OU2	DW					Oak Pass Ln	Sullivan	63080				4237911.19901	663227.82999	38.2744308	-91.13395843	823		160				x	663		#VALUE!			
PW075	PW075		3	DW					Clonts Rd.	Sullivan	63080				4235929.18000	657576.52800	38.25758628	-91.19897587	844		326	518	140-326	518-704	x	518	140	704			
PW076	PW076		OU2	DW					E. Nottingham	Sullivan	63080		Sherwood Forest		4236538.72899	663823.03200	38.26195965	-91.12747491	888		410				x	478		#VALUE!			
PW077	PW077		OU2	DW					E. Nottingham	Sullivan	63080		Sherwood Forest		4236462.34700	663759.92701	38.26128314	-91.12821351	892		400				x	492		#VALUE!			
PW078	PW078		OU2	DW					E. Nottingham	Sullivan	63080		Sherwood Forest		4236581.53299	663748.17901	38.26235887	-91.12832017	881		185				x	696		#VALUE!			
PW079	PW079		OU2	DW					E. Nottingham	Sullivan	63080				4236282.54499	663787.94400	38.25965843	-91.12793501	903		485	418	410-485	418-493	x	418	410	493			
PW080	PW080		OU2	DW					Wildwood Ter.	Sullivan	63080				4233610.41001	661937.89802	38.23592374	-91.14968095	929						x	929		#VALUE!			
PW081	PW081		OU2	DW					Nottingham Circle	Sullivan	63080				4236137.70000	663644.44301	38.25837986	-91.12960785	895						x	895		#VALUE!			
PW082	PW082		OU2	DW					Oak Grove Court	Sullivan	63080				4237433.01001	664236.78599	38.26993947	-91.12254056	837		471				x	366		#VALUE!			
PW083	PW083		OU2	DW					E. Springfield Loop	Stanton	63079				4236358.27801	666630.40000	38.25981789	-91.09544491	821		300				x	521		#VALUE!			
PW084	PW084		OU2	DW					Meadows Dr.	Stanton	63079				4237433.30701	666484.60599	38.26952825	-91.09685773	833		320	513	280-320	513-553	x	513	280	553			
PW085	PW085		OU2	DW					Timber Ridge Ln.	Sullivan	63080				4238702.97401	661556.40800	38.28186521	-91.15287637	829		330	499	190-330	499-639	x	499	190	639			
PW086	PW086		Outside OU1/OU2	DW					Little Spring Creek Rd	Sullivan	63080				4243547.54199	658868.43101	38.32598429	-91.1825055	850						x	850		#VALUE!			
PW087	PW087		OU2	DW					Northwoods Dr.	Sullivan	63080				4233960.74300	662125.58998	38.23904565	-91.14745731	885		247	638	160-247	638-725	x	638	160	725			
PW088	PW088		3	DW					Doris Merello Dr.	Sullivan	63080				4232111.06601	662170.44800	38.222376	-91.14736784	936						x	936		#VALUE!			
PW089	PW089		1	DW					Bell Rd.	Sullivan	63080				4234453.63599	660216.74000	38.24382779	-91.16914722	910		260				x	650		#VALUE!			
PW090	PW090		1	DW					Highway AF	Sullivan	63080				4234535.79999	659992.78301	38.24460781	-91.17168671	892						x	892		#VALUE!			
PW091	PW091		OU2	DW					Timber Ridge Loop	Sullivan	63080				4238361.48499	660653.18602	38.27895124	-91.1632758	880						x	880		#VALUE!			
PW092	PW092		3	DW					South Service Rd. W	Bourbon	65441				4228563.28101	658643.73600	38.1910462	-91.18843061	992		150				x	842		#VALUE!			
PW093	PW093		OU2	DW					Red Hawk Ln.	Sullivan	63080				4238328.74499	660939.92099	38.27860497	-91.1600066	873		300				x	573		#VALUE!			
PW094	PW094		OU2	DW					Emma Ln.	Sullivan	63080				4233907.50566	662747.33664	38.23845377	-91.14036853	947		460				x	487		#VALUE!			
PW095	PW095		OU2	DW					Hidden Oaks Rd.	Sullivan	63080				4233563.35635	662873.30983	38.23533094	-91.13900884	910		346	564	160-346	564-160	x	564	160	750			
PW096	PW096		Outside OU1/OU2	DW					P.O. Box 145	Sullivan	63080				4228983.97161	662549.37994	38.19413926	-91.14375678	764		83				x	681		#VALUE!			
PW097	PW097		3	DW					Graeser Rd	Sullivan	63080				4236664.03100	659400.00701	38.2638841	-91.17797868	868		275				x	593		#VALUE!			
PW098	PW098		OU2	DW					N. Service Rd. E.	Sullivan	63080				4234157.92300	662368.45299	38.24077798	-91.1446384	904						x	904		#VALUE!			
PW101			1	DW					Spring Bluff Rd.	Sullivan	63080				4233065.6992	659331.4707	38.234192	-91.179506	910		380				x	530		#VALUE!			
PW102			1	DW					Spring Bluff Rd.	Sullivan	63080				4233331.96817	659209.68300	38.233924	-91.180957													
PW103			1	DW					Nailbender Ln	Sullivan	63080				4233625.0061	659063.3228	38.236567	-91.182515													
PW104			1	DW					Nailbender Ln	Sullivan	63080				4233721.9132	659203.4627	38.237471	-91.180858													
PW105			1	DW					Nailbender Ln	Sullivan	63080				4233652.9259	659287.5214	38.23682	-91.179984													
PW106			1	DW					East & West Rd.	Sullivan	63080				4233971.0815	660007.2946	38.239529	-91.171704													
PW107			1	DW					East & West Rd.	Sullivan	63080				4234065.9594	660058.2875	38.240299	-91.170999													
PW108			1	DW					East & West Rd.	Sullivan	63080				4234108.2565	660058.0590	38.24073	-91.171077													
PW109			1	DW					East & West Rd.	Sullivan	63080				4233852.9282	660179.4946	38.238451	-91.169744													
PW110			1	DW					East & West Rd.	Sullivan	63080				4233938.1862	660330.6273	38.239129	-91.16798			420		355-?								
PW112			1	DW					East & West Rd.	Sullivan	63080				4233953.6163	660893.7359	38.239205	-91.161578													
PW113			1	DW					East & West Rd.	Sullivan	63080		Declined sampling on 11/5/08		4233947.2929	661041.5561	38.239169	-91.159875													
PW114			1	DW					Highway AF	Sullivan	63080		Declined sampling on 11/5/08																		
PW115			1	DW					Spring Bluff Rd.	Sullivan	63080		Could not contact resident to get consent																		
PW116			2	DW					Spring Bluff Rd.	Sullivan	63080				4232538.9559	659401.9989	38.226749	-91.178957													
PW117			2	DW					North & South Rd.	Sullivan	63080				4232296.7790	659143.4554	38.224624	-91.181976													
PW118		USGS03	OU2	DW					E. Springfield Rd.						4233155.64027	662090.36221	38.229448	-91.149288													
PW119			1	DW					East & West Rd.	Sullivan	63080				4233972.0050	660629.2484	38.239436	-91.164452													
PW120			1	DW					East & West Rd.	Sullivan	63080				4233906.8138	660955.2349	38.23879	-91.160845													
PW121			1	DW					Highway AF	Sullivan	63080		Declined sampling on 11/5/09																		
PW122			1	DW					Bell Rd.	Sullivan	63080				4234400.0000	660717.0000	38.243255	-91.163445													
PW123			1	DW					Bell Rd.	Sullivan	63080		Could not contact--Day sleeper		No Data																
PW124			1	DW					Bell Rd.	Sullivan	63080				4234275.0000	660357.0000	38.242194	-91.167586													
PW201			2	DW					Spring Bluff Rd.	Sullivan	63080				4233775.6366	658930.7481	38.23794	-91.183987													
PW202			2	DW					Spring Bluff Rd.	Sullivan	63080				4234909.3140	658205.1470	38.248349	-91.192086													
PW203			2	DW					Spring Bluff Rd.	Sullivan	63080				4234939.1770	658262.3830	38.248602	-91.191257													
PW204			2	DW					North & South Rd.	Sullivan	63080				4233323.3803	658931.4113	38.233892	-91.184171													
PW205			2	DW					North & South Rd.	Sullivan	63080				4232902.0947	659061.8872	38.230097	-91.182745													
PW206			2	DW					North & South Rd.	Sullivan	63080				4232841.7212	659092.4828	38.229555	-91.182423													
PW207			2	DW					Edgewood Dr.	Sullivan	63080				4232994.0842	658950.9960	38.231001	-91.183941													
PW208			2	DW					Edgewood Dr.	Sullivan	63080				4232954.8170	658933.4027	38.230531	-91.184171													
PW209			2	DW					West Bacon Ridge Rd.	Sullivan	63080				4235281.1301	659761.2513	38.25142	-91.174094													
PW210			2	DW					West Bacon Ridge Rd.	Sullivan	63080				4235233.9420	659266.5129	38.251059	-91.1798													
PW211			2	DW					West Bacon Ridge Rd.	Sullivan	63080				4235243.8936	659131.1373	38.251167	-91.181318													
PW212			2	DW					West Bacon Ridge Rd.	Sullivan	63080				4235117.4011	659446.9786	38.249866	-91.177729													
PW213			2	DW					Edgewood Dr.	Sullivan	63080		Could not contact resident to get consent		No Data																
PW214			2	DW					Edgewood Dr.	Sullivan	63080		Could not contact resident to get consent		No Data																
PW215			2	DW					Edgewood Dr.	Sullivan	63080		Could not contact resident to get consent		No Data																
PW216			2	DW					Edgewood Dr.	Sullivan	63080		Could not contact resident to get consent		No Data																
PW217			2	DW					Edgewood Dr.	Sullivan	63080		Declined sampling on 11/5/08		No Data																
PW218			2	DW					North & South Rd.	Sullivan	63080		Could not contact resident to get consent		No Data																
PW219			2	DW					North & South Rd.	Sullivan	63080				4233469.9919	658964.2288	38.235249	-91.183701													
PW220			2	DW					North & South Rd.	Sullivan	63080		Declined sampling on 11/5/08		No Data																
PW221			2	DW					North & South Rd.	Sullivan	63080				4233378.4488	658919.0738	38.234417	-91.18425												38.23442	-91.1843
PW222			2	DW					North & South Rd.	Sullivan	63080		Could not contact resident to get consent		No Data																
PW223			2	DW					East Bacon Ridge Rd.	Sullivan	63080		Could not contact resident to get consent		No Data																
PW224			2	DW					East Bacon Ridge Rd.	Sullivan	63080		Could not contact resident to get consent		No Data																
PW225			2	DW					East Bacon Ridge Rd.	Sullivan	63080		Could not contact resident to get consent		No Data																
PW226			2	DW					Timberlane	Sullivan	63080		Could not contact resident to get consent		No Data																
PW227			2	DW					Timberlane	Sullivan	63080		Could not contact resident to get consent		No Data																
PW228			2	DW					Timberlane	Sullivan	63080		Could not contact resident to get consent		No Data																
PW229			2	DW					Timberlane	Sullivan	63080		Could not contact resident to get consent		No Data																
PW301			3	DW					Spring Bluff Rd.	Sullivan	63080				4235471.8112	657569.1854	38.25351	-91.199349													
PW302			3	DW					West Bacon Ridge Rd.	Sullivan	63080				4235421.9997	659403.8266	38.252766	-91.178188													
PW303			3	DW					Brewer Rd.	Sullivan	63080				4230748.0564	656227.0184	38.211458	-91.215457													
PW304			3	DW					Erhardt Rd	Sullivan	63080				4229593.2215	656960.7239	38.200414	-91.207403													
PW305			3	DW					Hwy 185 North	Sullivan	63080				4232695.5623	656860.1348	38.228579	-91.208035													
PW306			3	DW					Hwy 185 North	Sullivan	63080				4235026.3558	656655.4072	38.249666	-91.209456													
PW307			OU2	DW					E. Springfield Rd.	Sullivan	63080				Unknown Location																
PW401			OU2	DW					Acid Mine Rd.	Sullivan	63080				4234316.0000	661432.0000	38.2424	-91.1553													
PW402			OU2	DW					Acid Mine Rd.	Sullivan	63080				4234157.0000	661417.0000	38.2409	-91.1555													
PW403			OU2	DW					Wildwood Ter.	Sullivan	63080		Shares Well		4233498.0000	662017.0000	38.2349	-91.1488													
PW404			OU2	DW					Wildwood Ter.	Sullivan	63080				4233527.0000	661865.0000	38.2352	-91.1505													
PW405			OU2	DW					Wildwood Ter.	Sullivan	63080				4233808.0000	661888.0000	38.2377	-91.1502													
PW406			OU2	DW					N. Service Rd. E.	Sullivan	63080				4233902.0000	662388.0000	38.2385	-91.1445													
PW407			OU2	DW					Northwoods Dr.	Sullivan	63080				4233936.0000	661998.0000	38.2388	-91.1489													
PW408			OU2	DW					Golden Arrow Trail	Sullivan	63080				4234752.0000	662780.0000	38.2461	-91.1398													
PW409			OU2	DW					Acid Mine Rd.	Sullivan	63080				4233502.0000	661273.0000	38.2351	-91.1573													
PW410			OU2	DW					Golden Arrow Trail	Sullivan	63080				No Data																
PW411			OU2	DW					Northwoods Dr.	Sullivan	63080		Declined sampling on 5/10/10		No Data																

Location	DNRID	OTHERID	Zone	Feature	Subfeatur	Owner (Last Name)	Owner (First Name)	No.	Street	City	Zip	Telephone	Notes	Comments
PW412			Unknown	DW					PO Box 780	Bourbon	65441			
PW413			Unknown	DW					PO Box 791	Sullivan	63080			
PW414			3	DW					Route 1, Hwy WW	Sullivan	63080			
PW415			3	DW					South Service Rd. W	Sullivan	63080			
PW416			Outside OU1/OU2	DW					Watson Rd.	Sullivan	63080			
PW417			Outside OU1/OU2	DW					Watson Rd.	Sullivan	63080			
PW418		Miramigua Well	Unknown	DW									Miramigua Well	
PW000			Unknown											
MSPW1		Meramec State Park We	OU2	DW									Meramec State Park Well #1	
MSPW1		Meramec State Park We	OU2	DW									Meramec State Park Well #4	
MSPW2		Meramec State Park We	OU2	DW									Meramec State Park Well #2	
MSPW3		Meramec State Park We	OU2	DW									Meramec State Park Well #3	
USGS-02			OU2	DW									Rock House well	
USGS-04			OU2											
SW002			3	SW										
SW006		Lost River Fall	OU2	SP					Hwy. H	Leasburg	65535		Onondaga Cave - Lost River Fall	
SW007			OU2	SP					Hwy. H	Leasburg	65535		Onondaga Cave - Stream in Ages Rm	
SW008			OU2	SP										
SW010			Outside OU1/OU2	SP						Sullivan	63080			
SW-01		Meramec River	OU2	SW									Meramec River	Upgradient of La Jolla
SW-02		Meramec River	OU2	SW									Meramec River	Entrance Point of La J
SW-03		Meramec River	OU2	SW									Meramec River	10 ft downgradient of L
SW-04		Meramec River	OU2	SW									Meramec River	40 yds downgradient c
SW-05		Meramec River	OU2	SW									Meramec River	100 yds downgradient
SW-05		Meramec River	OU2	SW									Meramec River	100 yds downgradient
SW-06		Meramec River	OU2	SW									Meramec River	150 yds downgradient
		Cane Hollow	OU2	SW									WP 39	
		Cane Hollow	OU2	SW									Approx 75 feet downstream of WP 39	
		Copper Hollow Creek	OU2	SW									Approx 30 feet upstream of Tin Cup Spring	
SW-CH01	GWS013	Copper Hollow Sprinc	OU2	SP		Wilcox	Brian	2800	S. Hwy. 185	Sullivan	63080		Copper Hollow Spring - Meramec State Park	
SW-TC01	GWS034	Tin Cup Spring	OU2	SP										Tin Cup Spring
SW-FC01		Fisher Cave	OU2	SP									Fisher Cave Entrance	
SW-FC02		Fisher Cave	OU2	SP									Weeping Willow	
SW-FC03		Fisher Cave	OU2	SP									Grand Canyon	
SW-LJ01	PH083	La Jolla Spring	OU2	SP		Turilli	Les, Sr.	xit 230	I-44	Stanton	63079		LaJolla at 1st bridge at start of trail	
SW-LJ02		La Jolla Spring	OU2	SP		Turilli	Les, Sr.	xit 230	I-44	Stanton	63079		Tributary from Atomic Shelter Passage	
SW-LJ03	PH078	Jolla Spring -End of T	OU2	SP		Turilli	Les, Sr.	xit 230	I-44	Stanton	63079		main cave stream at upstream End of T	1991 USGS EoT Sam
SW-LJ04		La Jolla Spring	OU2	SP		Turilli	Les, Sr.	xit 230	I-44	Stanton	63079		Approx. half way up tourest trail	
SW-WC1		Winsel Creek	OU1	SW										
SW-WC2		Winsel Creek	OU1	SW										
SW-WC3		Winsel Creek	OU1	SW										
SW-WC3		Winsel Creek	OU1	SW										
SW-WC4		Winsel Creek	OU1	SW										
		Winsel Creek	OU1	SW									Surface grab from tributary to Winsel Creek downstream of filled in lagoon	
		Winsel Creek	OU1	SW									Surface grab from tributary to Winsel Creek upstream of filled in lagoon	
MW-101			OU2	MW		TRW								
MW-102A			OU2	MW		TRW								
MW-102B			OU2	MW		TRW								
MW-103			OU2	MW		TRW								
MW-104			OU2	MW		TRW								
MW-105			OU2	MW		TRW								
MW-107			OU2	MW		TRW								
MW-108			OU2	MW		TRW								
TRW-MW-1			Excluded from OU1	MW	S	TRW								
TRW-MW-2			Excluded from OU1	MW	S	TRW								
TRW-MW-24D			Excluded from OU1	MW	D	TRW								
TRW-MW-3			Excluded from OU1	MW	S	TRW								
TRW-MW-4			Excluded from OU1	MW	S	TRW								
OBG-01D			Excluded from OU1	MW	D	TRW								
OBG-01DD			Excluded from OU1	MW	DD	TRW								
OBG-01S			Excluded from OU1	MW	S	TRW								
OBG-02S			Excluded from OU1	MW	S	TRW								
OBG-03S			Excluded from OU1	MW	S	TRW								
OBG-04D			Excluded from OU1	MW	D	TRW								
OBG-04S			Excluded from OU1	MW	S	TRW								
OBG-05S			Excluded from OU1	MW	S	TRW								
OBG-06S			Excluded from OU1	MW	S	TRW								
OBG-07S			Excluded from OU1	MW	S	TRW								
OBG-08D			Excluded from OU1	MW	D	TRW								
OBG-09S			Excluded from OU1	MW	S	TRW								
OBG-10S			Excluded from OU1	MW	S	TRW								
OBG-11D			Excluded from OU1	MW	D	TRW								
OBG-11S			Excluded from OU1	MW	S	TRW								
OBG-12D			Excluded from OU1	MW	D	TRW								
OBG-12S			Excluded from OU1	MW	S	TRW								
OBG-13D			Excluded from OU1	MW	D	TRW								
OBG-13S			Excluded from OU1	MW	S	TRW								
OBG-14D			Excluded from OU1	MW	D	TRW								
OBG-14DD			Excluded from OU1	MW	DD	TRW								
OBG-14S			Excluded from OU1	MW	S	TRW								
OBG-15S			Excluded from OU1	MW	S	TRW								
OBG-16S			Excluded from OU1	MW	S	TRW								
OBG-17D			Excluded from OU1	MW	D	TRW								
OBG-17S			Excluded from OU1	MW	S	TRW								
OBG-18D			Excluded from OU1	MW	D	TRW								
OBG-18DD			Excluded from OU1	MW	DD	TRW								
OBG-18S			Excluded from OU1	MW	S	TRW								
OBG-19D			Excluded from OU1	MW	D	TRW								
OBG-19S			Excluded from OU1	MW	S	TRW								
OBG-20DD			Excluded from OU1	MW	DD	TRW								
OBG-20S			Excluded from OU1	MW	S	TRW								
OBG-21D			Excluded from OU1	MW	D	TRW								
OBG-21S			Excluded from OU1	MW	S	TRW								
OBG-22S			Excluded from OU1	MW	S	TRW								
OBG-23S			Excluded from OU1	MW	S	TRW								
PH093			OU2	DW					Highway W	Stanton	63079			
PH090			OU2	DW					Highway W	Stanton	63079			
PH091			OU2	DW					Highway W	Stanton	63079			
PH092			OU2	DW					Highway W	Stanton	63079			
PH095			OU2	DW					Oak Pass Lane	Stanton	63079			
PH096			OU2	DW						Stanton	63079			
PH098			OU2	DW						Stanton	63079			
PH099			OU2	DW						Stanton	63079			
PH100			OU2	DW					Springfield Rd	Stanton	63079			
PH102			OU2	DW						Stanton	63079			
PH103			OU2	DW						Stanton	63079			

Location	TM Zone 15 Northi	TM Zone 15 Eastir	Latitude	Longitude	Ground Surface Elev. (ft amsl)	TOC Elevation (ft amsl)	Total Depth (ft bgs)	Elev. of Base of Well (ft amsl)	Open Interval (ft bgs)	Open Interval Elev. (ft amsl)	x				
PW412	Unknown Location														
PW413	Unknown Location														
PW414	Unknown Location														
PW415	Unknown Location														
PW416	Unknown Location														
PW417	Unknown Location														
PW418	Unknown Location														
PW000	4233923.47299	665003.795683	38.23818631	-91.11459421											
MSPW1	Unknown Location														
MSPW1	Unknown Location														
MSPW2	Unknown Location														
MSPW3	Unknown Location														
USGS-02	4233198.0758	662082.94969	38.232132	-91.14781			175		120-175		x				
USGS-04	4233065.43356	662107.610732													
SW002			38.192998	-91.187191											
SW006			38.22392	-91.083665											
SW007			38.236369	-91.096251											
SW008			38.232054	-91.12293											
SW010			38.19413926	-91.14375678											
SW-01	Unknown Location														
SW-02	Unknown Location														
SW-03	Unknown Location														
SW-04	Unknown Location														
SW-05	Unknown Location														
SW-05	Unknown Location														
SW-06	Unknown Location														
			38.233277	-91.09274											
			38.233493	-91.09274											
			38.241087	-91.10661											
SW-CH01			38.238805	-91.0972											
SW-TC01	4234255.40927	665704.89349	38.241054	-91.10652											
SW-FC01			38.227353	-91.08434											
SW-FC02	Unknown Location														
SW-FC03	Unknown Location														
SW-LJ01	4234365.62579	666706.40005	38.241855	-91.095045											
SW-LJ02															
SW-LJ03	4234433.79714	666539.11570	38.242091	-91.09709											
SW-LJ04			38.242636	-91.09599											
SW-WC1															
SW-WC2			38.23406	-91.13295											
SW-WC3			38.23715	-91.12888											
SW-WC3			38.23715	-91.12888											
SW-WC4															
MW-101			38.235017	-91.136832	884.27	887.08	182	702.08	152-182	702.3-732.3	x	705.08	152	735.08	landfill Rpts
MW-102A					893.03	895.5	277	618.03	257-277	616-636	x	618.5	257	638.5	
MW-102B					893.03	896.01	206	683.03	176-206	687-717	x	690.01	176	720.01	
MW-103			38.237693	-91.132085	875.63	878.46	205	670.46	175-205	670.6-700.6	x	673.46	175	703.46	
MW-104			38.238077	-91.135963	895.89	898.95	199	696.95	169-199	696.9-726.9	x	699.95	169	729.95	
MW-105			38.234906	-91.13355	878.89	881.69	174	704.69	144-174	704.9-734.9	x	707.69	144	737.69	
MW-107															
MW-108	4233670.02762	663180.948965													
TRW-MW-1			38.206636	-91.167406	952.9	953.55	152.71	800.84	132.06-152.06	800.84-820.84	x	152.06	132.0	820.9	
TRW-MW-2			38.206126	-91.168176	947.5	947.02	146.35	800.67	126.83-146.83	800.67-820.67	x	146.83	126.8	820.7	
TRW-MW-24D			38.206656	-91.167771		952.7	352	600.7	322-352	600.7-630.7	x	600.7	322	630.7	Annual Rpt and Instal Rpt
TRW-MW-3			38.205774	-91.167868	952.5	952.06	151.8	800.26	132.24-152.24	800.26-820.26	x	152.24	132.2	820.3	
TRW-MW-4			38.206614	-91.168225	948	947.4	147.01	800.39	127.61-147.61	800.39-820.39	x	147.61	127.6	820.4	
OBG-01D			38.20672	-91.165629	949.76	949.43	325.19	624.24	305.52-325.19	624.24-644.24	x	624.57	305	644.76	
OBG-01DD			38.206834	-91.165624	950.18	949.83	541.43	408.4	521.43-541.43	408.4-428.4	x	408.75	521	429.18	
OBG-01S			38.206716	-91.165579	949.8	949.64	140.1	809.54	120.1-140.1	809.54-829.54	x	809.7	120	829.8	
OBG-02S			38.205475	-91.167533	954.4	954.25	140.31	814.09	120.31-140.31	813.94-833.94	x	814.09	120	834.4	
OBG-03S			38.204646	-91.168888	941.3	940.86	132.29	809.01	112.29-132.29	808.57-828.57	x	809.01	112	829.3	
OBG-04D			38.204863	-91.169089	940.01	939.67	324	615.67	304-324	615.67-635.67	x	324.34	304	636.01	
OBG-04S			38.204849	-91.169145	939.4	939.14	138.83	800.31	119.09-139.09	800.31-820.31	x	139.09	119	820.4	
OBG-05S			38.205041	-91.168526	942.4	942.15	139.79	802.36	120.04-140.04	802.36-822.36	x	140.04	120	822.4	
OBG-06S			38.205586	-91.1679	950.5	950.38	140.97	809.41	121.09-141.09	809.41-829.41	x	141.09	121	829.5	
OBG-07S			38.206594	-91.16709	952.4	952.31	140.63	811.68	120.72-140.72	811.68-831.68	x	140.72	120	832.4	
OBG-08D			38.206024	-91.167749	952.6	952.4	322.58	629.82	302.78-322.78	629.82-649.82	x	322.78	302.78	649.82	
OBG-09S			38.206734	-91.168503	944.05	943.87	139.24	804.63	119.42-139.24	804.63-824.63	x	139.42	119.42	824.63	
OBG-10S			38.208564	-91.168736	942.99	942.77	148	794.77	128.22-148.22	794.77-814.77	x	148.22	128.22	814.77	
OBG-11D			38.209112	-91.168347	947.87	947.58	315.92	631.66	295.21-315.92	631.66-651.66	x	316.21	295.21	652.66	
OBG-11S			38.209094	-91.168414	948.18	947.88	147.13	800.75	127.43-147.13	800.75-820.75	x	147.43	127.43	820.75	
OBG-12D			38.208445	-91.162737	970.58	970.06	321.75	648.31	302.27-322.27	648.31-668.31	x	322.27	302.27	668.31	
OBG-12S			38.208384	-91.162748	970.55	970.26	124.95	845.31	105.24-125.24	845.31-865.31	x	125.24	105.24	865.31	
OBG-13D			38.205374	-91.165938	956.25	955.98	321.21	634.77	301.48-321.48	634.77-654.77	x	321.48	301.48	654.77	
OBG-13S			38.205397	-91.165894	956.37	956.1	134.54	821.56	114.81-134.81	821.56-841.56	x	134.81	114.81	841.56	
OBG-14D			38.20294	-91.17148	948.3	948.16	323.2	624.96	303.34-323.34	624.96-644.96	x	323.34	303.34	644.96	
OBG-14DD			38.202883	-91.171452	948.56	948.33	546.37	401.96	526.6-546.6	401.96-421.96	x	546.6	526.6	421.96	
OBG-14S			38.202997	-91.171481	948.6	948.34	121.58	826.76	101.84-121.84	826.76-846.76	x	121.84	101.84	846.76	
OBG-15S			38.20608	-91.169394	937.36	936.96	131.24	805.72	111.64-131.64	805.72-825.72	x	131.64	111.64	825.72	
OBG-16S			38.205532	-91.168968	940.37	940.06	139.33	800.73	119.64-139.64	800.73-820.73	x	139.64	119.64	820.73	
OBG-17D			38.207359	-91.172684	950.13	949.74	321.89	627.85	302.28-322.28	627.85-647.85	x	322.28	302.28	647.85	
OBG-17S			38.207425	-91.172668	949.51	949.15	118.35	830.80	98.71-118.71	830.80-850.80	x	118.71	98.71	850.8	
OBG-18D			38.212777	-91.161384	971.98	971.61	321.55	650.06	301.92-321.92	650.06-670.06	x	321.92	301.92	670.06	
OBG-18DD			38.212774	-91.161463	972.06	971.88	549.76	422.12	529.94-549.94	422.12-442.12	x	549.94	529.94	442.12	
OBG-18S			38.212797	-91.161405	971.93	971.6	134.29	837.31	114.62-134.62	837.31-857.31	x	134.62	114.62	857.31	
OBG-19D			38.203886	-91.163582	968.75	968.42	324.41	644.01	304.74-324.74	644.01-664.01	x	324.74	304.74	664.01	
OBG-19S			38.203857	-91.163574	969.02	968.76	159.05	809.71	139.31-159.31	809.71-829.71	x	159.31	139.31	829.71	
OBG-20DD			38.211563	-91.16846	962.27	962.02	549.99	412.03	530.24-550.24	412.03-432.03	x	550.24	530.24	432.03	
OBG-20S			38.211601	-91.168428	962.51	962.15	152.49	809.66	132.85-152.85	809.66-829.66	x	152.85	132.85	829.66	
OBG-21D			38.203542	-91.16771	954.96	954.46	325.31	629.15	305.81-325.81	629.05-649.15	x	325.81	305.81	649.15	
OBG-21S			38.203546	-91.167809	955.19	954.68	161.15	793.53	141.66-161.66	793.53-813.53	x	161.66	141.66	813.53	
OBG-22S			38.191135	-91.161195	891.98	891.62	65.26	826.36	45.62-65.62	826.36-846.36	x	65.62	45.62	846.36	
OBG-23S			38.198504	-91.164725		953.56	150.5	803.06			x	-803.06		#VALUE!	Annual Rpt
PH093			38 15' 34.68"	-91 04' 51.01"											
PH090			38 16' 08.53"	-91 05' 24.93"											
PH091			38 15' 46.15"	-91 05' 11.82"											
PH092			38 16' 21.55"	-91 05' 53.67"											
PH095			38 16' 39.34"	-91 08' 09.02"											
PH096			38 15' 35.63"	-91 06' 18.64"											
PH098			38 15' 15.74"	-91 05' 45.00"											
PH099			38 15' 12.52"	-91 05' 38.88"											
PH100			38.2757996	-91.10395473											
PH102			38 15' 15.720"	-91 05' 28.663"											
PH103			38 15' 07.23"	-91 05' 45.33"											

Notes:

Location

DNRID - MDNR Identification
OTHERID - other identification name used

Zone

OU1 - Operable Unit 1
OU2 - Operable Unit 2
Excluded from OU1 - that area excluded from OU1, near former TRW/Ramsey Site
Outside OU1/OU2 - outside the boundaries of OU1 & OU2
1 - OU1 Zone 1
2 - OU1 Zone 2
3 - OU1 Zone 3
PST - public supply tap

Feature

DW - private domestic/drinking water well
MW - monitoring well
PS - public supply well
PST - public supply tap
SE - seep
SP - spring
SW - surface water
TDW - treated domestic/drinking water well

Subfeature

BH - bore hole
D - intermediate depth well
DD - deep well
S - shallow well

Document Number

SFI - Superfund Index number
RCRA - RCRA Index number
MDNR - MDNR file, document date

Type

R - regular sample
D - duplicate sample
S - split sample
P - packer test sample
FGC - field gas chromatograph sample

Verified 1

Benham - verified by Benham for Phase II Report
USGS - verified by USGS for inclusion in database

Verified 2

HGL - HGL verified the laboratory analytical data sheet for this sample

USGS - USGS data verified for inclusion in database

Validated

EPA - validated by EPA Region 7 Laboratory

a - assumed to be false positive because of interference E - estimated Results in µg/kg.

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
SB-01	Closed Sullivan "South" Sewage Lagoon	Phase II	7.6-8.0	429789	R	24-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-01	Closed Sullivan "South" Sewage Lagoon	Phase II	9.5-10.0	429787	R	24-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-01	Closed Sullivan "South" Sewage Lagoon	Phase II	12.5-13.0	429788	R	24-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-02	Closed Sullivan "South" Sewage Lagoon	Phase II	11.5-12.0	429790	R	24-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-02	Closed Sullivan "South" Sewage Lagoon	Phase II	11.5-12.0	429791	D	24-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-03	Closed Sullivan "South" Sewage Lagoon	Phase II	11.5-12.0	429792	R	24-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-04	Closed Sullivan "South" Sewage Lagoon	Phase II	0.33-0.83	429793	R	24-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-04	Closed Sullivan "South" Sewage Lagoon	Phase II	1.5-2.0	429794	R	24-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-05	Closed Sullivan "South" Sewage Lagoon	Phase II	0.66-1.16	429795	R	24-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-06	Closed Sullivan "South" Sewage Lagoon	Phase II	12.5-13.0	429796	R	24-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-07	Peterson Property Northernmost Pond	Phase II	4.5-5.0	429797	R	25-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-07	Peterson Property Northernmost Pond	Phase II	14.5-15.0	429798	R	25-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-08	Peterson Property Northernmost Pond	Phase II	4.5-5.0	429799	R	25-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-08	Peterson Property Northernmost Pond	Phase II	7.0-7.5	429800	R	25-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-09	Closed Sullivan "North" Sewage Lagoon	Phase II	10.5-11.0	429801	R	25-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-10	Closed Sullivan "North" Sewage Lagoon	Phase II	2.0-2.5	429802	R	25-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-11	Closed Sullivan "North" Sewage Lagoon	Phase II	4.0-5.0	429803	R	25-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-11	Closed Sullivan "North" Sewage Lagoon	Phase II	4.0-5.0	429804	D	25-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-11	Closed Sullivan "North" Sewage Lagoon	Phase II	4.5-15.0	429805	R	25-Jun-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-12	MO Dept. of Conservation Property/background	Phase II	3.0-4.0	429812	R	25-Aug-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-13	Closed Oak Grove Village Sewage Lagoon	Phase II	0.0-1.0	429813	R	25-Aug-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-13	Closed Oak Grove Village Sewage Lagoon	Phase II	7.0-8.0	429815	R	25-Aug-04		5.00 U	5.00 U	5.00 U	5.00 U		5.00 U	20.0 U	5.00 U	100 U		
SB-13	Closed Oak Grove Village Sewage Lagoon	Phase II	7.0-8.0	429814	D	25-Aug-04		5.00 U	5.00 U	5.00 U	5.00 U		5.00 U	20.0 U	5.00 U	100 U		
SB-13	Closed Oak Grove Village Sewage Lagoon	Phase II	15.0-16.0	429816	R	25-Aug-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-14	Closed Oak Grove Village Sewage Lagoon	Phase II	0.0-1.0	429817	R	25-Aug-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-14	Closed Oak Grove Village Sewage Lagoon	Phase II	14.5-15.0	429818	R	25-Aug-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-15	Sohn Property	Phase II	1.0-2.0	429825	R	25-Aug-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-15	Sohn Property	Phase II	7.0-8.0	429826	R	25-Aug-04		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-01*	Drum Investigation (NW Corner of Drum Pile)	Phase II	2.5-3.0	502641	R	30-Mar-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-02*	Drum Investigation (SW Corner of Drum Pile)	Phase II	4.0-4.5	502642	R	30-Mar-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-03*	Drum Investigation (NE Corner of Drum Pile)	Phase II	1.0-2.0	502643	R	30-Mar-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
Dup (SB-03*)	Drum Investigation (NE Corner of Drum Pile)	Phase II	1.0-2.0	502644	R	30-Mar-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-04*	Drum Investigation (Center of Drum Pile)	Phase II	0.5-1.5	502645	R	30-Mar-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-05*	Drum Investigation (South Center of Drum Pile)	Phase II	0.5-1.5	502646	R	30-Mar-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-06*	Drum Investigation (South Center of Drum Pile)	Phase II	4.0-4.5	502647	R	30-Mar-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
North of Pad	Blanton Oil Company	Post Phase II		600071	R	23-Mar-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
North of Pad - QAQC	Blanton Oil Company	Post Phase II		600072	R	23-Mar-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
North of Pad	Blanton Oil Company	Post Phase II		600075	R	23-Mar-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
25 ft. North of G4-1	Blanton Oil Company	Post Phase II		600078	R	23-Mar-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
25 ft. North of Slab	Blanton Oil Company	Post Phase II		600080	R	23-Mar-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SW Side of Back	Blanton Oil Company	Post Phase II		600081	R	23-Mar-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
Back of Building	Blanton Oil Company	Post Phase II		600083	R	23-Mar-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
Back of Building	Blanton Oil Company	Post Phase II		600084	R	23-Mar-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
Loading Dock	Blanton Oil Company	Post Phase II		600086	R	23-Mar-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
Loading Dock	Blanton Oil Company	Post Phase II		600087	R	23-Mar-06		12.5 U	12.5 U	12.5 U	12.5 U		12.5 U	62.5 U	12.5 U	250 U		
Loading Dock at 6 ft.	Blanton Oil Company	Post Phase II		600088	R	23-Mar-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
BH1-1	Hwy 185 Garage	Post Phase II	0-4	604001	R	13-Apr-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
BH1-2	Hwy 185 Garage	Post Phase II	5	604002	R	13-Apr-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
BH2-1	Hwy 185 Garage	Post Phase II	0-4	604003	R	13-Apr-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
BH2-2	Hwy 185 Garage	Post Phase II	4-7	604004	R	13-Apr-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
BH3-1	Hwy 185 Garage	Post Phase II	0-4	604005	R	13-Apr-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
BH3-2	Hwy 185 Garage	Post Phase II	4-8	604006	R	13-Apr-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
BH3-3	Hwy 185 Garage	Post Phase II	8-12	604007	R	13-Apr-06		5.00 U	5.00 U	5.00 U	5.00 U		5.00 U	25.0 U	5.00 U	100 U		
BH4-1	Hwy 185 Garage	Post Phase II	0-4	604008	R	13-Apr-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
BH5-1	Hwy 185 Garage	Post Phase II	0-4	604009	R	13-Apr-06		5.00 U	5.00 U	5.00 U	5.00 U		5.00 U	25.0 U	5.00 U	100 U		
BH5-2	Hwy 185 Garage	Post Phase II	4-5	604010	R	13-Apr-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
BH6-1	Hwy 185 Garage	Post Phase II	0-4	604011	R	13-Apr-06		5.00 U	5.00 U	5.00 U	5.00 U		5.00 U	25.0 U	5.00 U	100 U		
BH6-2	Hwy 185 Garage	Post Phase II	4-7	604012	R	13-Apr-06		5.00 U	5.00 U	5.00 U	5.00 U		5.00 U	25.0 U	5.00 U	100 U		
BH4-2	Hwy 185 Garage	Post Phase II	7-8	604013	R	13-Apr-06		5.00 U	5.00 U	5.00 U	5.00 U		5.00 U	25.0 U	5.00 U	100 U		
SB-01	Ditch Witch	Post Phase II	12	603023	R	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-02	Ditch Witch	Post Phase II	16-17	603024	R	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-17	Ditch Witch	Post Phase II	14-15.5	603025	R	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-03	Ditch Witch	Post Phase II	8.5-9.5	603026	R	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-03	Ditch Witch	Post Phase II	8-5-9.5	603027	D	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-04	Ditch Witch	Post Phase II	10-11	603028	R	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-06	Ditch Witch	Post Phase II	5-6	603029	R	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-16	Ditch Witch	Post Phase II	10	603030	R	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-15	Ditch Witch	Post Phase II	13-14	603031	R	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-05	Ditch Witch	Post Phase II	3-4	603032	R	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-07	Ditch Witch	Post Phase II	7-8	603033	R	14-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-13	Ditch Witch	Post Phase II	11-12	603034	R	15-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-08	Ditch Witch	Post Phase II	5-6	603035	R	15-Aug-06		2.50 U	2.50 U									
SB-14	Ditch Witch	Post Phase II	7-8	603036	R	15-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-09	Ditch Witch	Post Phase II	2-3	603037	R	15-Aug-06		**199**	**118**	25.0 U	25.0 U		25.0 U	125 U	25.0 U	500 U		
SB-10	Ditch Witch	Post Phase II	6-7	603038	R	15-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-11	Ditch Witch	Post Phase II	7-8	603039	R	15-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-12	Ditch Witch	Post Phase II	7-8	603040	R	15-Aug-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-18	Ditch Witch	Post Phase II	4-5	608009	R	26-Sep-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-19	Ditch Witch	Post Phase II	4-5	608010	R	26-Sep-06		**153**	**16.9**	**105**	**3.05 E**		2.50 U	12.5 U	2.50 U	50.0 U		
SB-20	Ditch Witch	Post Phase II	4-5	608011	R	26-Sep-06		**4.86 E**	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-21	Ditch Witch	Post Phase II	4-5	608012	R	26-Sep-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WC-1	Winsel Creek	Post Phase II	8-10	608013	R	26-Sep-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WC-2	Winsel Creek	Post Phase II	8-10	608014	R	26-Sep-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WC-3	Winsel Creek	Post Phase II	17-18.5	608015	R	26-Sep-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SED-1	Winsel Creek	RFA			R	12-Mar-92		1 U	1 U			1 U	1 U	1 U	14 U	1 U		
SED-2	Winsel Creek	RFA			R	12-Mar-92		1 U	1 U			1 U	1 U	1 U	15 U	1 U		
SED-3	Winsel Creek	RFA			R	12-Mar-92		1 U	1 U			1 U	1 U	1 U	14 U	1 U		
WAL-1	Wal-Mart	Post Phase II	8-9	608036	R	7-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-2	Wal-Mart	Post Phase II	21-22	608037	R	7-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-2	Wal-Mart	Post Phase II	21-22	608038	D	7-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-4	Wal-Mart	Post Phase II	11-12	608039	R	7-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-3	Wal-Mart	Post Phase II	3-4	608040	R	7-Nov-06		2.50 U	**29.9**	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	**108**		
WAL-5	Wal-Mart	Post Phase II	7-8	608041	R	7-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-6	Wal-Mart	Post Phase II	13-14	608042	R	7-Nov-06		2.50 U	**4.16 E**	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-7	Wal-Mart	Post Phase II	11-12	608043	R	7-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-15	Wal-Mart	Post Phase II	12-13	608044	R	7-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-10	Wal-Mart	Post Phase II	6-7	608045	R	7-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-11	Wal-Mart	Post Phase II	3-4	608046	R	7-Nov-06		12.5 U	12.5 U	12.5 U	12.5 U		12.5 U	62.5 U	12.5 U	250 U		
WAL-12	Wal-Mart	Post Phase II	18-19	608047	R	8-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-13	Wal-Mart	Post Phase II	6-7	608048	R	8-Nov-06		2.50 U	**2.64 E**	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
WAL-14	Wal-Mart	Post Phase II	4-5	608049	R	8-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-17	Wal-Mart	Post Phase II	13-14	608050	R	8-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-16	Wal-Mart	Post Phase II	10-11	608051	R	8-Nov-06		2.50 U	**23.6**	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
WAL-8	Wal-Mart	Post Phase II	14-15	610347	R	8-Nov-06		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	12.5 U	2.50 U	50.0 U		
SB-28	Closed Sullivan Landfill	MMLI	8-9	503875	MIP	19-Jul-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	2.50 U		
SB-28	Closed Sullivan Landfill	MMLI	7-8	503876	MIP	19-Jul-05		2.50 U	2.50 U	**4.62**	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-34	Closed Sullivan Landfill	MMLI	7-8	503877	MIP	20-Jul-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-18	Closed Sullivan Landfill	MMLI	7-8	502809	MIP	18-Jul-05		5.00 U	5.00 U	5.00 U	5.00 U		5.00 U	20.0 U	5.00 U	100 U		
SB-19	Closed Sullivan Landfill	MMLI	8	502807	MIP	18-Jul-05		12.5 U	12.5 U	12.5 U	12.5 U		12.5 U	50.0 U	12.5 U	250 U		
SB-19	Closed Sullivan Landfill	MMLI	8	502808	MIP	18-Jul-05		5.00 U	5.00 U	5.00 U	5.00 U		5.00 U	20.0 U	5.00 U	100 U		
SB-21	Closed Sullivan Landfill	MMLI	12-13	504039	MIP	18-Jul-05		25.0 U	25.0 U	25.0 U	25.0 U		25.0 U	100 U	25.0 U	500 U		
SB-22	Closed Sullivan Landfill	MMLI	12-13	503871	MIP	18-Jul-05		**8.43**	**36.1**	2.50 U	2.50 U		2.50 U	**21.1**	2.50 U	50.0 U		
SB-23	Closed Sullivan Landfill	MMLI	12-14	503877	MIP	18-Jul-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	**3.22**	**187**		
SB-1	Closed Sullivan Landfill	MMLI	4	502798	MIP	6-Jul-05		12.5 U	12.5 U	12.5 U	12.5 U		12.5 U	50.0 U	12.5 U	250 U		
SB-2	Closed Sullivan Landfill	MMLI	5	502799	MIP	6-Jul-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-2	Closed Sullivan Landfill	MMLI	10	502800	MIP	6-Jul-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-3	Closed Sullivan Landfill	MMLI	4-5	502801	MIP	6-Jul-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-9	Closed Sullivan Landfill	MMLI	8	502802	MIP	6-Jul-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-9	Closed Sullivan Landfill	MMLI	9	502803	MIP	6-Jul-05		12.5 U	12.5 U	12.5 U	12.5 U		12.5 U	50.0 U	12.5 U	250 U		
SB-15	Closed Sullivan Landfill	MMLI	7-8	502804	MIP	7-Jul-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
SB-16	Closed Sullivan Landfill	MMLI	7	502805	MIP	7-Jul-05		12.5 U	12.5 U	12.5 U	12.5 U		12.5 U	50.0 U	12.5 U	250 U		
SB-16	Closed Sullivan Landfill	MMLI	28	502806	MIP	7-Jul-05		2.50 U	2.50 U	2.50 U	2.50 U		2.50 U	10.0 U	2.50 U	50.0 U		
B-1	Former TRW/Ramsey Facility	RFA	7-9		R	4-Dec-91		1 U	1 U			1 U	1 U	1 U	11 U	**3**		
B-1	Former TRW/Ramsey Facility	RFA	19-21		R	4-Dec-91		1 U	1 U			1 U	1 U	1 U	11 U	**3**		
B-2	Former TRW/Ramsey Facility	RFA	11-13		R	4-Dec-91		1 U	1 U			1 U	1 U	1 U	11 U	**4**		
B-2	Former TRW/Ramsey Facility	RFA	19-21		R	4-Dec-91		1 U	1 U			1 U	1 U	1 U	11 U	**4**		
B-3	Former TRW/Ramsey Facility	RFA	11-15		R	4-Dec-91		1 U	1 U			1 U	1 U	1 U	12 U	**4**		
B-3	Former TRW/Ramsey Facility	RFA	17-21		R	4-Dec-91		1 U	1 U			1 U	1 U	1 U	13 U	**9**		
B-4	Former TRW/Ramsey Facility	RFA	13-15		R	5-Dec-91		1 U	1 U			1 U	1 U	1 U	12 U	**11**		
B-4	Former TRW/Ramsey Facility	RFA	15-17		R	5-Dec-91		1 U	1 U			1 U	1 U	1 U	12 U	**1**		
B-5	Former TRW/Ramsey Facility	RFA	3-5		R	5-Dec-91		1 U	1 U			1 U	1 U	1 U	12 U	1 U		
B-5	Former TRW/Ramsey Facility	RFA	5-7		R	5-Dec-91		1 U	1 U			1 U	1 U	1 U	12 U	**2**		
B-6	Former TRW/Ramsey Facility	RFA	7-9		R	5-Dec-91		1 U	1 U			1 U	1 U	1 U	11 U	**1**		
B-7	Former TRW/Ramsey Facility	RFA	3-5		R	5-Dec-91		1 U	1 U			1 U	1 U	1 U	11 U	**1**		
B-7	Former TRW/Ramsey Facility	RFA	7-9		R	5-Dec-91		1 U	1 U			1 U	1 U	1 U	11 U	1 U		
B-8	Former TRW/Ramsey Facility	RFA	9-11		R	5-Dec-91		1 U	1 U			1 U	1 U	1 U	12 U			
B-8	Former TRW/Ramsey Facility	RFA	11-13		R	5-Dec-91		1 U	1 U			1 U	1 U	1 U	12 U	**4**		
B-9	Former TRW/Ramsey Facility	RFA	5-7		R	6-Dec-91		1 U	1 U			1 U	1 U	1 U	11 U	1 U		
B-9	Former TRW/Ramsey Facility	RFA	5-7		R	6-Dec-91		1 U	1 U			1 U	1 U	1 U	11 U	1 U		
B-10	Former TRW/Ramsey Facility	RFA	1-3		R	6-Dec-91		**1800**	110 U			110 U	110 U	110 U	1100 U	110 U		
B-10	Former TRW/Ramsey Facility	RFA	3-5		R	6-Dec-91		**14**	1 U			**1**	1 U	1 U	11 U	1 U		
B-11	Former TRW/Ramsey Facility	RFA	7-9		R	6-Dec-91		**2**	1 U			1 U	1 U	1 U	11 U	1 U		
B-11	Former TRW/Ramsey Facility	RFA	11-13		R	6-Dec-91		1 U	1 U			1 U	1 U	1 U	11 U	1 U		
LB-1	Former TRW/Ramsey Facility	RFI	5-7		R	1-May-93		12 U										
LB-1	Former TRW/Ramsey Facility	RFI	11-13		R	1-May-93		**27**										
LB-2	Former TRW/Ramsey Facility	RFI	5-9		R	1-May-93		12 U										
LB-2	Former TRW/Ramsey Facility	RFI	12-14		R	1-May-93		12 U										
LB-3	Former TRW/Ramsey Facility	RFI	5-6		R	1-May-93		12 U										
LB-4	Former TRW/Ramsey Facility	RFI	5-7		R	1-May-93		13 U										
LB-4	Former TRW/Ramsey Facility	RFI	11-13		R	1-May-93		12 U										
LB-5	Former TRW/Ramsey Facility	RFI	7-9		R	1-May-93		**38**										

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
SB-2	Former TRW/Ramsey Facility	RFI	5-7		R	1-May-93		12 U										
SB-2	Former TRW/Ramsey Facility	RFI	12-14		R	1-May-93		12 U										
SB-3	Former TRW/Ramsey Facility	RFI	7-8.5		R	1-May-93		13 U										
SB-4	Former TRW/Ramsey Facility	RFI	5-7		R	1-May-93		**280**										
SB-4	Former TRW/Ramsey Facility	RFI	7-9		R	1-May-93		**12 J**										
SB-5	Former TRW/Ramsey Facility	RFI	5-7		R	1-May-93		**1 J**										
SB-5	Former TRW/Ramsey Facility	RFI	9-10		R	1-May-93		11 U										
EBN	Former TRW/Ramsey Facility	RFI	3-5		R	1-May-93		**13**										
EBN	Former TRW/Ramsey Facility	RFI	5-7		R	1-May-93		**23 J**										
EBC	Former TRW/Ramsey Facility	RFI	6.2-7.7		R	1-May-93		**7 J**										
EBS	Former TRW/Ramsey Facility	RFI	5-7		R	1-May-93		**220**										
WBN	Former TRW/Ramsey Facility	RFI	1-3		R	1-May-93		**8 J**										
WBS	Former TRW/Ramsey Facility	RFI	1-3		R	1-May-93		**5 J**										
SBN	Former TRW/Ramsey Facility	RFI	7-7.7		R	1-May-93		11 U										
SBS	Former TRW/Ramsey Facility	RFI	5-7		R	1-May-93		11 U										
FPBBN	Former TRW/Ramsey Facility	RFI	27-28.5		R	1-May-93		11 U										
FPBBS	Former TRW/Ramsey Facility	RFI	21-23		R	1-May-93		11 U										
FPBBS	Former TRW/Ramsey Facility	RFI	23-25		R	1-May-93		**4 J**										
Deep SB-1	Former TRW/Ramsey Facility	RFI	4-6		R	1-May-93		5.0 U										
Deep SB-2	Former TRW/Ramsey Facility	RFI	6-8		R	1-May-93		5.0 U										
Deep SB-3	Former TRW/Ramsey Facility	RFI	14-16		R	1-May-93		5.0 U										
Deep SB-4	Former TRW/Ramsey Facility	RFI	18-20		R	1-May-93		5.0 U										
Deep SB-5	Former TRW/Ramsey Facility	RFI	32-34		R	1-May-93		5.0 U										
Deep SB-6	Former TRW/Ramsey Facility	RFI	34-36		R	1-May-93		**14**										
Deep SB-7	Former TRW/Ramsey Facility	RFI	44-46		R	1-May-93		**15**										
Deep SB-8	Former TRW/Ramsey Facility	RFI	54-56		R	1-May-93		**25**										
Deep SB-9	Former TRW/Ramsey Facility	RFI	60-62		R	1-May-93		**162**										
Deep SB-10	Former TRW/Ramsey Facility	RFI	70-72		R	1-May-93		**132**										
Deep SB-11	Former TRW/Ramsey Facility	RFI	78-80		R	1-May-93		**48**										
Deep SB-12	Former TRW/Ramsey Facility	RFI	88-90		R	1-May-93		**59**										
Deep SB-13	Former TRW/Ramsey Facility	RFI	94-96		R	1-May-93		**11**										
Deep SB-14	Former TRW/Ramsey Facility	RFI	100-102		R	1-May-93		**31 J**										
Deep SB-15	Former TRW/Ramsey Facility	RFI	102-104		R	1-May-93		**317**										
Deep SB-16	Former TRW/Ramsey Facility	RFI	110-112		R	1-May-93		**20**										
SE005SEP0133	Winsel Creek	Phase II	Sed	SE005SEP01	R	1-Jun-01		6.3 U	6.3 U	6.3 U	6.3 U							
SE005SEP0141	Winsel Creek	Phase II	Sed	SE005SEP01	R	1-Jun-01		6 U	6 U	6 U	6 U							
SE005SEP0129	Winsel Creek	Phase II	Sed	SE005SEP01	R	1-Jun-01		6.2 U	6.2 U	6.2 U	6.2 U							
SE005SEP0121	Winsel Creek	Phase II	Sed	SE005SEP01	R	1-Jun-01		5.8 U	5.8 U	5.8 U	5.8 U							
SE005SEP0138	Winsel Creek	Phase II	Sed	SE005SEP01	R	1-Jun-01		6 U	6 U	6 U	6 U							
SD-01	Meramec River	Phase II	Sed	331594	R	28-Aug-03		1 U	1 U	1 U	1 U		1 U	1 U	1 U	50 U		
SD-02	Meramec River	Phase II	Sed	331596	R	28-Aug-03		1 U	1 U	1 U	1 U		1 U	1 U	1 U	50 U		
SD-05	Meramec River	Phase II	Sed	333551	R	28-Aug-03		1 U	1 U	1 U	1 U		1 U	1 U	1 U	50 U		
SD-05	Meramec River	Phase II	Sed	333552	D	28-Aug-03		1 U	1 U	1 U	1 U		1 U	1 U	1 U	50 U		
SD-06	Meramec River	Phase II	Sed	333554	R	28-Aug-03		1 U	1 U	1 U	1 U		1 U	1 U	1 U	50 U		
185 gar,hole2,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole2,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole2,sample 2	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole2,sample 2	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole3,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole3,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	**4.3**	1 U								
185 gar,hole3,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	**4.7**	1 U								

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
185 gar,hole3,sample 2	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	**5**								
185 gar,hole3,sample 2	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole3,sample 3	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole3,sample 3	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole4,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole4,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole4,sample 2	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole4,sample 2	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole5,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole5,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	**3.8**	1 U								
185 gar,hole5,sample 2	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole5,sample 2	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole6,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole6,sample 1	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole6,sample 2	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
185 gar,hole6,sample 2	Hwy 185 Garage	Post Phase II			FGC	13-Apr-06		1 U	1 U	1 U								
Hole #1	Blanton Oil Company	Post Phase II	2		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #1	Blanton Oil Company	Post Phase II	2		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #1	Blanton Oil Company	Post Phase II	4		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #1	Blanton Oil Company	Post Phase II	6		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #1	Blanton Oil Company	Post Phase II	8		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #1	Blanton Oil Company	Post Phase II	10		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #1	Blanton Oil Company	Post Phase II	12		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #1	Blanton Oil Company	Post Phase II	16		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #2	Blanton Oil Company	Post Phase II	6		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #2	Blanton Oil Company	Post Phase II	6		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #2	Blanton Oil Company	Post Phase II	6		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #2	Blanton Oil Company	Post Phase II	6		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #2	Blanton Oil Company	Post Phase II	10		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #2	Blanton Oil Company	Post Phase II	12		FGC	23-Mar-06		1 U	1 U	**83 a**								
Hole #3	Blanton Oil Company	Post Phase II	12		FGC	23-Mar-06		**219 a**	1 U	**36 a**								
Hole #4	Blanton Oil Company	Post Phase II	2		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #4	Blanton Oil Company	Post Phase II	6		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #4	Blanton Oil Company	Post Phase II	6		FGC	23-Mar-06		1 U	1 U	1 U								
Hole #4	Blanton Oil Company	Post Phase II	10		FGC	23-Mar-06		**89.4 a**	1 U	**1.8 a**								
Hole #4	Blanton Oil Company	Post Phase II	14		FGC	23-Mar-06		**77.9 a**	1 U	**59 a**								
Hole #5	Blanton Oil Company	Post Phase II	3.8		FGC	23-Mar-06		**1 a**	1 U	**276 a**								
Hole #5	Blanton Oil Company	Post Phase II	3.8		FGC	23-Mar-06		1 U	1 U	**32.8 a**								
Hole #5	Blanton Oil Company	Post Phase II	6		FGC	23-Mar-06		1 U	1 U	**272 a**								
Hole #5	Blanton Oil Company	Post Phase II	6		FGC	23-Mar-06		1 U	1 U	**14.1 a**								
MW5	Ditch Witch	Post Phase II	15		FGC	25-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	20		FGC	25-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	25		FGC	25-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	30		FGC	25-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	35		FGC	26-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	45		FGC	26-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	50		FGC	26-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	55		FGC	26-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	60		FGC	28-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	65		FGC	28-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	70		FGC	28-Jul-06		10 U	10 U	1 U								

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
MW5	Ditch Witch	Post Phase II	75		FGC	28-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	85		FGC	28-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	95		FGC	31-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	105		FGC	31-Jul-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	115		FGC	1-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	125		FGC	1-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	135		FGC	2-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	140		FGC	2-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	145		FGC	3-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	150		FGC	3-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	155		FGC	3-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	165		FGC	4-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	170		FGC	4-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	175		FGC	7-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	180		FGC	7-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	185		FGC	7-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	185		FGC	7-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	190		FGC	7-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	195		FGC	7-Aug-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	210		FGC	1-Sep-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	220		FGC	1-Sep-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	230		FGC	5-Sep-06		10 U	10 U	1 U								
MW5	Ditch Witch	Post Phase II	240		FGC	5-Sep-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	10		FGC	2-Jun-06		10 U	10 U	**96 a**								
MW4	Hwy 185 Garage	Post Phase II	15		FGC	2-Jun-06		10 U	10 U	**18.2 a**								
MW4	Hwy 185 Garage	Post Phase II	20		FGC	2-Jun-06		10 U	10 U	**88.9 a**								
MW4	Hwy 185 Garage	Post Phase II	25		FGC	2-Jun-06		10 U	10 U	**166 a**								
MW4	Hwy 185 Garage	Post Phase II	35		FGC	2-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	40		FGC	2-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	40		FGC	2-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	70		FGC	7-Jun-06		10 U	10 U	**19.8 a**								
MW4	Hwy 185 Garage	Post Phase II	85		FGC	7-Jun-06		10 U	10 U	**24.4 a**								
MW4	Hwy 185 Garage	Post Phase II	100		FGC	8-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	90		FGC	8-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	120		FGC	13-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	130		FGC	13-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	135		FGC	14-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	140		FGC	14-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	145		FGC	14-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	150		FGC	15-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	155		FGC	15-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	160		FGC	15-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	165		FGC	15-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	170		FGC	16-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	180		FGC	20-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	190		FGC	20-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	200		FGC	20-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	210		FGC	21-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	215		FGC	21-Jun-06		10 U	10 U	1 U								
MW4	Hwy 185 Garage	Post Phase II	225		FGC	21-Jun-06		10 U	10 U	1 U								
OGV-A1-BH01	Area 1 - Machine Shop	Post RA/USGS	4.0		FGC	Jul-10	944	<20	<20									

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
OGV-A1-BH01	Area 1 - Machine Shop	Post RA/USGS	7.0		FGC	Jul-10	1040	<20	<20									
OGV-A1-BH02	Area 1 - Machine Shop	Post RA/USGS	4.0		FGC	Jul-10	1052	<20	<20									
OGV-A1-BH02	Area 1 - Machine Shop	Post RA/USGS	7.0		FGC	Jul-10	1055	<20	<20									
OGV-A1-BH03	Area 1 - Machine Shop	Post RA/USGS	4.0		FGC	Jul-10	1111	<20	<20									
OGV-A1·BH04	Area 1 - Machine Shop	Post RA/USGS	4.0		FGC	Jul-10	1128	<20	<20									
OGV-A1·BH04	Area 1 - Machine Shop	Post RA/USGS	5.7-6.0		R	Jul-10	1137	<5.0	<5.0	<2.5	<2.5		<5.0				<5.0	<5.0
OGV-A1-BH05	Area 1 - Machine Shop	Post RA/USGS	2.7-3.2		R	Jul-10	1150	<6.4	<64	<3.2	<3.2		<6.4				<6.4	<6.4
OGV-A1-BH05	Area 1 - Machine Shop	Post RA/USGS	3.2		FGC	Jul-10	1223	<20	<20									
OGV-A1-BH06	Area 1 - Machine Shop	Post RA/USGS	3.0		FGC	Jul-10	1237	<20	<20									
OGV-A1-BH07	Area 1 - Machine Shop	Post RA/USGS	2.0		FGC	Jul-10	1228	<20	<20									
OGV-A1-BH07	Area 1 - Machine Shop	Post RA/USGS	2.2-2.6		R	Jul-10	1234	<5.4	<54	<2.7	<2.7		<5.4				<5.4	<5.4
OGV-A1-BH08	Area 1 - Machine Shop	Post RA/USGS	2.0		FGC	Jul-10	1242	<20	<20									
OGV-A1-BH08	Area 1 - Machine Shop	Post RA/USGS	2.6-3		R	Jul-10	1246	<5.1	<5.1	<2.5	<2.5		<5.1				<5.1	<5.1
OGV-A1-BH09	Area 1 - Machine Shop	Post RA/USGS	4.2-4.7		R	Jul-10	1312	<5.1	<5.1	<2.5	<2.5		<5.1				<5.1	<5.1
OGV-A1-BH09	Area 1 - Machine Shop	Post RA/USGS	4.7		FGC	Jul-10	1310	<20	<20									
OGV-A1-BH10	Area 1 - Machine Shop	Post RA/USGS	5.0		FGC	Jul-10	1335	<20	<20									
OGV-A1-BH10	Area 1 - Machine Shop	Post RA/USGS	6.4-6.8		R	Jul-10	1340	<4.9	<4.9	<2.5	<2.5		<4.9				<4.9	<4.9
OGV-A1-BH10	Area 1 - Machine Shop	Post RA/USGS	6.4-6.8		D	Jul-10	1341	<4.8	<4.8	<2.4	<2.4		<4.8				<4.8	<4.8
OGV-A1-BH11	Area 1 - Machine Shop	Post RA/USGS	4.0		FGC	Jul-10	853	<20	<20									
OGV-A1-BH12	Area 1 - Machine Shop	Post RA/USGS	2.0		FGC	Jul-10	910	<20	<20									
OGV-A2-BH01	Area 2 - Probable soil borrow area	Post RA/USGS	2.0		FGC	Jul-10	1325	<20	<20									
OGV-A2-BH01	Area 2 - Probable soil borrow area	Post RA/USGS	3.3		FGC	Jul-10	1327	<20	<20									
OGV-A2-BH02	Area 2 - Probable soil borrow area	Post RA/USGS	1.5		FGC	Jul-10	1415	<20	<20									
OGV-A2-BH03	Area 2 - Probable soil borrow area	Post RA/USGS	2.0		FGC	Jul-10	1437	<20	<20									
OGV-A2-BH03	Area 2 - Probable soil borrow area	Post RA/USGS	3.8		FGC	Jul-10	1436	<20	<20									
OGV-A2-BH04	Area 2 - Probable soil borrow area	Post RA/USGS	3.5		FGC	Jul-10	1440	<20	<20									
OGV-A2-BH04	Area 2 - Probable soil borrow area	Post RA/USGS	3.2-3.7		R	Jul-10	1445	<04.7	<04.7	<2.3	<2.3		<04.7				<04.7	<04.7
OGV-A2-BH05	Area 2 - Probable soil borrow area	Post RA/USGS	2.0		FGC	Jul-10	1505	<20	<20									
OGV-A2-BH05	Area 2 - Probable soil borrow area	Post RA/USGS	2.4-2.8		R	Jul-10	1510	<05.7	<05.7	<2.8	<2.8		<05.7				<05.7	<05.7
OGV-A2-BH06	Area 2 - Probable soil borrow area	Post RA/USGS	3.6-4		R	Jul-10	1025	<4.7	<4.7	<2.4	<2.4		<4.7				<4.7	<4.7
OGV-A2-BH06	Area 2 - Probable soil borrow area	Post RA/USGS	4.0		FGC	Jul-10	1016	<20	<20									
OGV-A2-BH07	Area 2 - Probable soil borrow area	Post RA/USGS	2.0		FGC	Jul-10	1346	<20	<20									
OGV-A2-BH07	Area 2 - Probable soil borrow area	Post RA/USGS	3.2		FGC	Jul-10	1340	<20	<20									
OGV-A2-BH08	Area 2 - Probable soil borrow area	Post RA/USGS	2.5		FGC	Jul-10	1405	<20	<20									
OGV-A2-BH09	Area 2 - Probable soil borrow area	Post RA/USGS	2.0		FGC	Jul-10	1450	<20	<20									
OGV-A2-BH09	Area 2 - Probable soil borrow area	Post RA/USGS	4.0		FGC	Jul-10	1453	<20	<20									
OGV-A2-BH09	Area 2 - Probable soil borrow area	Post RA/USGS	4.5		FGC	Jul-10	1455	<20	<20									
OGV-A2-BH10	Area 2 - Probable soil borrow area	Post RA/USGS	1.8 -2		R	Jul-10	1206	<5.4	<5,4	<2.7	<2.7		<5.4				<5.4	<5.4
OGV-A2-BH10	Area 2 - Probable soil borrow area	Post RA/USGS	2.0		FGC	Jul-10	1205	<20	<20									
OGV-A2-BH11	Area 2 - Probable soil borrow area	Post RA/USGS	4.0		FGC	Jul-10	930	<20	<20									
OGV-A2-BH11	Area 2 - Probable soil borrow area	Post RA/USGS	4 .4-4.8		R	Jul-10	940	<4.8	<4.8	<2.4	<2.4		<4.8				<4.8	<4.8
OGV-A2-BH11	Area 2 - Probable soil borrow area	Post RA/USGS	4 .4-4.8		D	Jul-10	941	<4.8	<4.8	<2.4	<2.4		<4.8				<4.8	<4.8
OGV-A2-BH12	Area 2 - Probable soil borrow area	Post RA/USGS	3.6-4		R	Jul-10	1002	<5.7	<5.7	<2.9	<2.9		<5.7				<5.7	<5.7
OGV-A2-BH12	Area 2 - Probable soil borrow area	Post RA/USGS	4.0		FGC	Jul-10	1000	<20	<20									
OGV-A3-T01	Area 3 - Old household dump	Post RA/USGS	2.0		FGC	Oct-10	1350	<20	<20									
OGV-A3-T01	Area 3 - Old household dump	Post RA/USGS	4.0		FGC	Oct-10	1355	<20	<20									
OGV-A3-T02	Area 3 - Old household dump	Post RA/USGS	2.0		FGC	Oct-10	1328	<20	<20									
OGV-A3-T02	Area 3 - Old household dump	Post RA/USGS	4.0		FGC	Oct-10	1330	0.4 E	<20									
OGV-A3-T02	Area 3 - Old household dump	Post RA/USGS	4.0		R	Oct-10	1330	<4.8	<4.8	<2.4	<2.4		<4.8				<4.8	<4.8
OGV-A3-T03	Area 3 - Old household dump	Post RA/USGS	2.4		FGC	Oct-10	1415	<20	<20									
OGV-A3-T03	Area 3 - Old household dump	Post RA/USGS	2.4		R	Oct-10	1415	<5.4	<5.4	<2.7	<2.7		<5.4				<5.4	<5.4

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
OGV-A3-T04	Area 3 - Old household dump	Post RA/USGS	2.0		FGC	Oct-10	1440	<20	<20									
OGV-A3-T05	Area 3 - Old household dump	Post RA/USGS	2.8		FGC	Oct-10	1517	<20	<20									
OGV-A3-T06	Area 3 - Old household dump	Post RA/USGS	2.0		FGC	Oct-10	1455	<20	<20									
OGV-A3-T06	Area 3 - Old household dump	Post RA/USGS	3.8		FGC	Oct-10	1600	<20	<20									
OGV-A3-T06	Area 3 - Old household dump	Post RA/USGS	3.8		R	Oct-10	1600	<5.0	<5.0	<2.5	<2.5		<5.0				<5.0	<5.0
OGV-A3-T06	Area 3 - Old household dump	Post RA/USGS	3.8		D	Oct-10	1601	<4.8	<4.8	<2.4	<2.4		<4.8				<4.8	<4.8
OGV-A5-T01	Area 5 - Old household dump	Post RA/USGS	2.0		FGC	Oct-10	1018	<20	<20									
OGV-A5-T01	Area 5 - Old household dump	Post RA/USGS	3.5		FGC	Oct-10	1015	<20	<20									
OGV-A5-T02	Area 5 - Old household dump	Post RA/USGS	2.5		FGC	Oct-10	1050	<20	<20									
OGV-A5-T02	Area 5 - Old household dump	Post RA/USGS	2.5		R	Oct-10	1050	<5	<5	<2.5	<2.5		<5				<5	<5
OGV-A5-T03	Area 5 - Old household dump	Post RA/USGS	2.0		FGC	Oct-10	1109	<20	<20									
OGV-A5-T03	Area 5 - Old household dump	Post RA/USGS	3.5		FGC	Oct-10	1114	<20	<20									
OGV-A5-T04	Area 5 - Old household dump	Post RA/USGS	3.0		FGC	Oct-10	1142	<20	<20									
OGV-A5-T04	Area 5 - Old household dump	Post RA/USGS	3.0		R	Oct-10	1142	<5.2	<5 2	<2.6	<2.6		<5.2				<5.2	<5.2
OGV-A5-T05	Area 5 - Old household dump	Post RA/USGS	2.0		FGC	Oct-10	1159	0.4 E	<20									
OGV-A5-T05	Area 5 - Old household dump	Post RA/USGS	4.0		FGC	Oct-10	1200	<20	<20									
OGV-A5-T05	Area 5 - Old household dump	Post RA/USGS	4.0		FGC	Oct-10	1200	<20	<20									
OGV-A5-T05	Area 5 - Old household dump	Post RA/USGS	4.0		R	Oct-10	1200	<5.5	<5.5	<2.8	<2.8		<5.5				<5.5	<5.5
OGV-A5-T06	Area 5 - Old household dump	Post RA/USGS	3.5		FGC	Oct-10	1225	<20	<20									
OGV-A8-BH01	Area 8 - Train Derailment Area	Post RA/USGS	2.2		FGC	Jun-11	1206	<20	<20									
OGV-A8-BH01	Area 8 - Train Derailment Area	Post RA/USGS	3.9		FGC	Jun-11	1204	<20	<20									
OGV-A8-BH01	Area 8 - Train Derailment Area	Post RA/USGS	4.5		FGC	Jun-11	1212	<20	<20									
OGV-A8-BH01	Area 8 - Train Derailment Area	Post RA/USGS	7.0		FGC	Jun-11	1210	<20	<20									
OGV-A8-BH02	Area 8 - Train Derailment Area	Post RA/USGS	3.0		FGC	Jun-11	1314	<20	<20									
OGV-A8-BH02	Area 8 - Train Derailment Area	Post RA/USGS	3.7		FGC	Jun-11	1306	<20	<20									
OGV-A8-BH02	Area 8 - Train Derailment Area	Post RA/USGS	6.8-7.2		R	Jun-11	1321	<5.5	<55	<2.7	<2.7		<5 .5				<5.5	<5.5
OGV-A8-BH02	Area 8 - Train Derailment Area	Post RA/USGS	7.0		FGC	Jun-11	1317	<20	<20									
OGV-A8-BH02	Area 8 - Train Derailment Area	Post RA/USGS	9.0		FGC	Jun-11	1325	<20	<20									
OGV-AB-BH03	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Jun-11	1341	<20	<20									
OGV-AB-BH03	Area 8 - Train Derailment Area	Post RA/USGS	7.3		FGC	Jun-11	1352	<20	<20									
OGV-AB-BH03	Area 8 - Train Derailment Area	Post RA/USGS	9.3		FGC	Jun-11	1406	<20	<20									
OGV-AB-BH04	Area 8 - Train Derailment Area	Post RA/USGS	3.8		FGC	Jun-11	1520	<20	<20									
OGV-AB-BH04	Area 8 - Train Derailment Area	Post RA/USGS	6.8-7		R	Jun-11	1525	<5.4	<5.4	<2.7	<2.7		<5.4				<5.4	<5.4
OGV-AB-BH04	Area 8 - Train Derailment Area	Post RA/USGS	6.8-7		D	Jun-11	1526	<5.5	<5.5	<2.8	<2.8		<5.5				<5.5	<5.5
OGV-AB-BH04	Area 8 - Train Derailment Area	Post RA/USGS	7.2		FGC	Jun-11	1527	<20	<20									
OGV-AB-BH04	Area 8 - Train Derailment Area	Post RA/USGS	9.5		FGC	Jun-11	1541	<20	<20									
OGV-AB-BH04	Area 8 - Train Derailment Area	Post RA/USGS	10.5		FGC	Jun-11	1539	<20	<20									
OGV-AB-BH05	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Jun-11	900	<20	<20									
OGV-AB-BH05	Area 8 - Train Derailment Area	Post RA/USGS	3.9		FGC	Jun-11	856	<20	<20									
OGV-AB-BH05	Area 8 - Train Derailment Area	Post RA/USGS	7.0		FGC	Jun-11	904	<20	<20									
OGV-AB-BH05	Area 8 - Train Derailment Area	Post RA/USGS	10.0		FGC	Jun-11	908	<20	<20									
OGV-AB-BH06	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Jun-11	810	<20	<20									
OGV-AB-BH06	Area 8 - Train Derailment Area	Post RA/USGS	3.8		FGC	Jun-11	805	<20	<20									
OGV-AB-BH06	Area 8 - Train Derailment Area	Post RA/USGS	6.8		FGC	Jun-11	815	<20	<20									
OGV-AB-BH06	Area 8 - Train Derailment Area	Post RA/USGS	8.6		FGC	Jun-11	820	<20	<20									
OGV-AB-BH06	Area 8 - Train Derailment Area	Post RA/USGS	9.8		FGC	Jun-11	822	<20	<20									
OGV-AB-BH06	Area 8 - Train Derailment Area	Post RA/USGS	12.4		FGC	Jun-11	838	<20	<20									
OGV-AB-BH07	Area 8 - Train Derailment Area	Post RA/USGS	2.7		FGC	Jun-11	934	<20	<20									
OGV-AB-BH07	Area 8 - Train Derailment Area	Post RA/USGS	3.9		FGC	Jun-11	930	<20	<20									
OGV-AB-BH07	Area 8 - Train Derailment Area	Post RA/USGS	6.8		FGC	Jun-11	940	166.4	<20									
OGV-AB-BH07	Area 8 - Train Derailment Area	Post RA/USGS	8.1-8.7		R	Jun-11	958	<5.4	<5.4	<2.7	<2.7		<5.4				<5.4	<5.4

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
OGV-AB-BH07	Area 8 - Train Derailment Area	Post RA/USGS	8.2		FGC	Jun-11	951	<20	<20									
OGV-AB-BH07	Area 8 - Train Derailment Area	Post RA/USGS	9.7		FGC	Jun-11	947	245.2	<20									
OGV-AB-BH07	Area 8 - Train Derailment Area	Post RA/USGS	11.1		FGC	Jun-11	956	<20	<20									
OGV-AB-BH07	Area 8 - Train Derailment Area	Post RA/USGS	12-12.7		R	Jun-11	1015	<5.4	<5.4	<2.7	<2.7		<5.4				<5.4	<5.4
OGV-AB-BH07	Area 8 - Train Derailment Area	Post RA/USGS	13.0		FGC	Jun-11	1003	<20	<20									
OGV-AB-BH08	Area 8 - Train Derailment Area	Post RA/USGS	1.2		FGC	Jun-11	1022	<20	<20									
OGV-AB-BH08	Area 8 - Train Derailment Area	Post RA/USGS	3.9		FGC	Jun-11	1019	<20	<20									
OGV-AB-BH08	Area 8 - Train Derailment Area	Post RA/USGS	9.4		FGC	Jun-11	1029	<20	<20									
OGV-AB-BH09	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Jun-11	1122	<20	<20									
OGV-AB-BH09	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Jun-11	1120	<20	<20									
OGV-AB-BH09	Area 8 - Train Derailment Area	Post RA/USGS	6.8		FGC	Jun-11	1124	<20	<20									
OGV-AB-BH10	Area 8 - Train Derailment Area	Post RA/USGS	2.4		FGC	Jun-11	1150	<20	<20									
OGV-AB-BH10	Area 8 - Train Derailment Area	Post RA/USGS	3.5		FGC	Jun-11	1146	<20	<20									
OGV-AB-BH10	Area 8 - Train Derailment Area	Post RA/USGS	7.0		FGC	Jun-11	1151	<20	<20									
OGV-AB-BH10	Area 8 - Train Derailment Area	Post RA/USGS	11.5		FGC	Jun-11	1230	<20	<20									
OGV-A8-BH11	Area 8 - Train Derailment Area	Post RA/USGS	3.5		FGC	Jun-11	1353	<20	<20									
OGV-A8-BH11	Area 8 - Train Derailment Area	Post RA/USGS	5.0		FGC	Jun-11	1400	<20	<20									
OGV-A8-BH11	Area 8 - Train Derailment Area	Post RA/USGS	11.0		FGC	Jun-11	1410	<20	<20									
OGV-AB-BH12	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Jun-11	1243	<20	<20									
OGV-AB-BH12	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Jun-11	1238	<20	<20									
OGV-A8-BH13	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Jun-11	1048	<20	<20									
OGV-A8-BH13	Area 8 - Train Derailment Area	Post RA/USGS	7.0		FGC	Jun-11	1059	<20	<20									
OGV-A8-BH13	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Jun-11	1112	<20	<20									
OGV-A8-BH13B	Area 8 - Train Derailment Area	Post RA/USGS	3.9		FGC	Jun-11	1315	<20	<20									
OGV-A8-BH13B	Area 8 - Train Derailment Area	Post RA/USGS	5.8		FGC	Jun-11	'1326	<20	<20									
OGV-A8-BH13B	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Jun-11	1334	<20	<20									
OGV-A8-BH13B	Area 8 - Train Derailment Area	Post RA/USGS	9.0		FGC	Jun-11	1324	<20	<20									
OGV-A8-BH14	Area 8 - Train Derailment Area	Post RA/USGS	3.9		FGC	Jun-11	1120	<20	<20									
OGV-A8-BH14	Area 8 - Train Derailment Area	Post RA/USGS	5.8		FGC	Jun-11	1127	<20	<20									
OGV-A8-BH14	Area 8 - Train Derailment Area	Post RA/USGS	7.4		FGC	Jun-11	1135	<20	<20									
OGV-A8-BH14	Area 8 - Train Derailment Area	Post RA/USGS	10.0		FGC	Jun-11	1145	<20	<20									
OGV-A8-BH14	Area 8 - Train Derailment Area	Post RA/USGS	10.7		FGC	Jun-11	1154	<20	<20									
OGV-A8-BH15	Area 8 - Train Derailment Area	Post RA/USGS	3.7		FGC	Jun-11	1503	<20	<20									
OGV-A8-BH15	Area 8 - Train Derailment Area	Post RA/USGS	5.2		FGC	Jun-11	1512	<20	<20									
OGV-A8-BH16	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Jun-11	1429	<20	<20									
OGV-A8-BH16	Area 8 - Train Derailment Area	Post RA/USGS	6.8		FGC	Jun-11	1450	<20	<20									
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1435	<67										
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1432	<67										
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	7.0		FGC	Dec-11	1446	<67										
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	7.5-8		R	Dec-11	1431	<5.3	1.1 J	<2.7	<2.7		<5.3				<5.3	<5.3
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1429	33.7E	-									
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	9.0		FGC	Dec-11	1449	<20	-									
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	9-9.5		R	Dec-11	1451	<5.1	.62 J	<2.6	<2.6		<5.1				<5.1	<5.1
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	10.0		FGC	Dec-11	1454	<20	-									
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	10.5-11		R	Dec-11	1447	<5.5	.74 J	<2.8	<2.8		<5.5				<5.5	<5.5
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	11.0		FGC	Dec-11	1446	26.6E	-									
OGV-A8-BH17	Area 8 - Train Derailment Area	Post RA/USGS	12.0		FGC	Dec-11	1443	<20										
OGV-A8-BH18	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1526	<40										
OGV-A8-BH18	Area 8 - Train Derailment Area	Post RA/USGS	7.0		FGC	Dec-11	1524	<40										
OGV-A8-BH18	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1522	<67										
OGV-A8-BH18	Area 8 - Train Derailment Area	Post RA/USGS	9.0		FGC	Dec-11	1537	<67										

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
OGV-A8-BH18	Area 8 - Train Derailment Area	Post RA/USGS	10.5		FGC	Dec-11	1535	<67										
OGV-A8-BH18	Area 8 - Train Derailment Area	Post RA/USGS	11.6-12		R	Dec-11	1534	<4.9	<4 9	<2.5	<2.5		<4.9				<4.9	<4.9
OGV-A8-BH18	Area 8 - Train Derailment Area	Post RA/USGS	12.0		FGC	Dec-11	1530	<67	-									
OGV-A8-A01	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1200	<40										
OGV-A8-A01	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1159	<40										
OGV-A8-A01	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1207	<40										
OGV-A8-A01	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1203	<40										
OGV-A8-A02	Area 8 - Train Derailment Area	Post RA/USGS	2 .0		FGC	Dec-11	1217	<40										
OGV-A8-A02	Area 8 - Train Derailment Area	Post RA/USGS	3.5-4		R	Dec-11	1216	<5.4	1.4 J	<2.7	<2.7		<5.4				<5.4	<5.4
OGV-A8-A02	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1214	17.2E	-									
OGV-A8-A03	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1224	<40										
OGV-A8-A03	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1223	<40										
OGV-A8-A03	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1230	<40										
OGV-A8-A03	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1225	<40										
OGV-A8-A04	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1242	<40										
OGV-A8-A04	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1241	<40										
OGV-A8-A05	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1257	<40										
OGV-A8-A05	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1249	<40										
OGV-A8-A05	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1256	<40										
OGV-A8-A05	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1252	<40										
OGV-A8-A06	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1305	<40										
OGV-A8-A06	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1301	<40										
OGV-A8-A07	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1315	<40										
OGV-A8-A07	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1314	<40										
OGV-A8-A07	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1321	<40										
OGV-A8-A07	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1320	<40										
OGV-A8-A08	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1322	<40										
OGV-A8-A08	Area 8 - Train Derailment Area	Post RA/USGS	3.5-4		R	Dec-11	1328	<5.4	<5.4	<5.4	<5.4		<5.4				<5.4	<5.4
OGV-A8-A08	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1328	<40	-									
OGV-A8-B01	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1041	<40										
OGV-A8-B01	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1039	<40										
OGV-A8-B01	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1044	<40										
OGV-A8-B01	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1040	<40										
OGV-A8-B02	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1011	<67										
OGV-A8-B02	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1010	<67										
OGV-A8-B02	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1014	<67										
OGV-A8-B02	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1013	<67										
OGV-A8-B02	Area 8 - Train Derailment Area	Post RA/USGS	10.0		FGC	Dec-11	1023	<40										
OGV-A8-B02	Area 8 - Train Derailment Area	Post RA/USGS	12.0		FGC	Dec-11	1022	<40										
OGV-A8-B03	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	952	<67										
OGV-A8-B03	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	950	<67										
OGV-A8-B03	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	956	<67	-									
OGV-A8-B03	Area 8 - Train Derailment Area	Post RA/USGS	6-6.5		R	Dec-11	957	<5.6	.86 J	<2.8	<2.8		<5.6				<5.6	<5.6
OGV-A8-B03	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	953	<67										
OGV-A8-B04	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	934	<67										
OGV-A8-B04	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	932	<67										
OGV-A8-B04	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	940	<67										
OGV-A8-B04	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	935	<67										
OGV-AB-B05	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1510	<40										
OGV-AB-B05	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1509	<40										
OGV-AB-B05	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1516	13.2 E										

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
OGV-AB-B05	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1512	<40										
OGV-A8-B06	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1459	<40										
OGV-A8-B06	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1458	12.0 E										
OGV-A8-B06	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1456	<40										
OGV-A8-B06	Area 8 - Train Derailment Area	Post RA/USGS	7.5		FGC	Dec-11	1454	<40										
OGV-A8-B07	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1405	<40										
OGV-A8-B07	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1403	<40										
OGV-A8-B07	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1440	<40										
OGV-A8-B07	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1438	<40										
OGV-A8-B08	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1348	<40										
OGV-A8-B08	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1346	<40										
OGV-A8-B08	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1353	<40	-									
OGV-A8-B08	Area 8 - Train Derailment Area	Post RA/USGS	6-6.5		R	Dec-11	1354	<5.2	1.3 J	<2.6	<2.6		<5.2				<5.2	<5.2
OGV-A8-B08	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1350	<40										
OGV-A8-C01	Area 8 - Train Derailment Area	Post RA/USGS	1.5		FGC	Dec-11	1111	<67										
OGV-A8-C01	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1109	<67	:...									
OGV-A8-C01	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1125	<67										
OGV-A8-C01	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1121	<67										
OGV·A8-C02	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1055	<67	-									
OGV·A8-C02	Area 8 - Train Derailment Area	Post RA/USGS	2-2.5		R	Dec-11	1057	<6.2	5.6 J	<3.1	<3.1		<6.2				<6.2	<6.2
OGV·A8-C02	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1050	39.2E										
OGV·A8-C02	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1102	<67										
OGV·A8-C02	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1100	<67										
OGV-A8-C03	Area 8 - Train Derailment Area	Post RA/USGS	1.0		FGC	Dec-11	1032	49.9 E										
OGV-A8-C03	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1031	<67										
OGV-A8-C03	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1030	<67										
OGV-A8-C03	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1043	44.7E										
OGV-A8-C03	Area 8 - Train Derailment Area	Post RA/USGS	6-6.5		R	Dec-11	1045	<5.4	<5.4	<2.7	<2.7		<5.4				<5.4	<5.4
OGV-A8-C03	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1040	43.2E										
OGV-A8-C04	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1140	<67										
OGV-A8-C04	Area 8 - Train Derailment Area	Post RA/USGS	2-2.5		R	Dec-11	1137	<6.2	9.4	<3.1	<3.1		<6.2				<6.2	<6.2
OGV-A8-C04	Area 8 - Train Derailment Area	Post RA/USGS	2.7		FGC	Dec-11	1139	<67										
OGV-A8-C04	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1135	<67										
OGV-A8-C04	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1145	49 .3 E										
OGV-A8-C04	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1142	<67										
OGV-A8-C05	Area 8 - Train Derailment Area	Post RA/USGS	1.8		FGC	Dec-11	1157	<SO										
OGV-A8-C05	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1155	<67										
OGV-A8-C05	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1209	<40										
OGV-A8-C05	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1205	<40										
OGV-A8-C06	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1217	<40										
OGV-A8-C06	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1215	<40										
OGV-A8-C06	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1227	<40										
OGV-A8-C06	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1223	<40										
OGV-A8-C07	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1237	<40										
OGV-A8-C07	Area 8 - Train Derailment Area	Post RA/USGS	4.0		FGC	Dec-11	1215	<40										
OGV-A8-C07	Area 8 - Train Derailment Area	Post RA/USGS	6.0		FGC	Dec-11	1248	<40										
OGV-A8-C07	Area 8 - Train Derailment Area	Post RA/USGS	8.0		FGC	Dec-11	1244	<40										
OGV-A8-D01	Area 8 - Train Derailment Area	Post RA/USGS	1.0		FGC	Dec-11	1217	<40										
OGV-A8-D01	Area 8 - Train Derailment Area	Post RA/USGS	3.0		FGC	Dec-11	1208	<40										
OGV·A8-D04	Area 8 - Train Derailment Area	Post RA/USGS	1.0		FGC	Dec-11	1242	<40										
OGV·A8-D04	Area 8 - Train Derailment Area	Post RA/USGS	3.0		FGC	Dec-11	1321	<40										

Sample Location:	Source Area	Investigation	Sample Depth, feet	Lab ID:	Sample Type	Sample Date:	Sample Time	TCE	PCE	cis-1,2-DCE	trans-1.2-DCE	Total 1,2-DCE	Vinyl Chloride	CFC 11	CFC 12	Methylene Chloride	Benzene	Toluene
OGV-A8-D08	Area 8 - Train Derailment Area	Post RA/USGS	2.0		FGC	Dec-11	1405	<40										
1	Background	ESI	1.0-1.5		R	Jul-94		6 U	6 U	6 U	NA		19 U					
2	Background	ESI	3.0-3.5		R	Jul-94		8 U	8 U	8 U	NA		24 U					
1S	Blanton Oil Company	ESI	4.0-4.5		R	Jul-94		8 U	8 U	8 U			24 U					
2S	Blanton Oil Company	ESI	5.5-6.0		R	Jul-94		9 U	9 U	9 U			26 U					
4S	Blanton Oil Company	ESI	1.5-2.0		R	Jul-94		9 U	9 U	9 U			28 U					
4S	Blanton Oil Company	ESI	4.0-4.52		R	Jul-94		11 U	11 U	11 U			34 U					
4S	Blanton Oil Company	ESI	4.0-4.52		R	Jul-94		11 U	11 U	11 U			34 U					
5S	Hwy 185 Garage	ESI	1.5-2.0		R	Jul-94		11 U	11 U	11 U			33 U					
6S	Hwy 185 Garage	ESI	1.5-2.0		R	Jul-94		8 U	8 U	8 U			25 U					
7S	Hwy 185 Garage	ESI	1.0-1.5		R	Jul-94		7 U	7 U	7 U			20 U					
9S	Hwy 185 Garage	ESI	1.0-1.5		R	Jul-94		**28**	**16**	**8**			24 U					
9S	Hwy 185 Garage	ESI	2.0-4.0		R	Jul-94		14 U	**80**	**33**			44 U					

APPENDIX E

SELECT TABLES AND FIGURES FROM THE EXPANDED SITE INSPECTION REPORT AND THE PHASE I RI

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EXPANDED SITE INSPECTION REPORT

Figure 1 Site Location Map
Figure 3 ESA Study Area
Figure 4 Soil Sample Locations
Figure 8 TCE Concentrations from Series of Groundwater Samples Collected from the Oak Grove Village Municipal Well by MDNR
Table 3 Results of Headspace Analysis
Table 4 Water Matrix Sample Summary
Table 5 Soil Matrix Sample Summary
Table 6 EPA Soil Analytical Results

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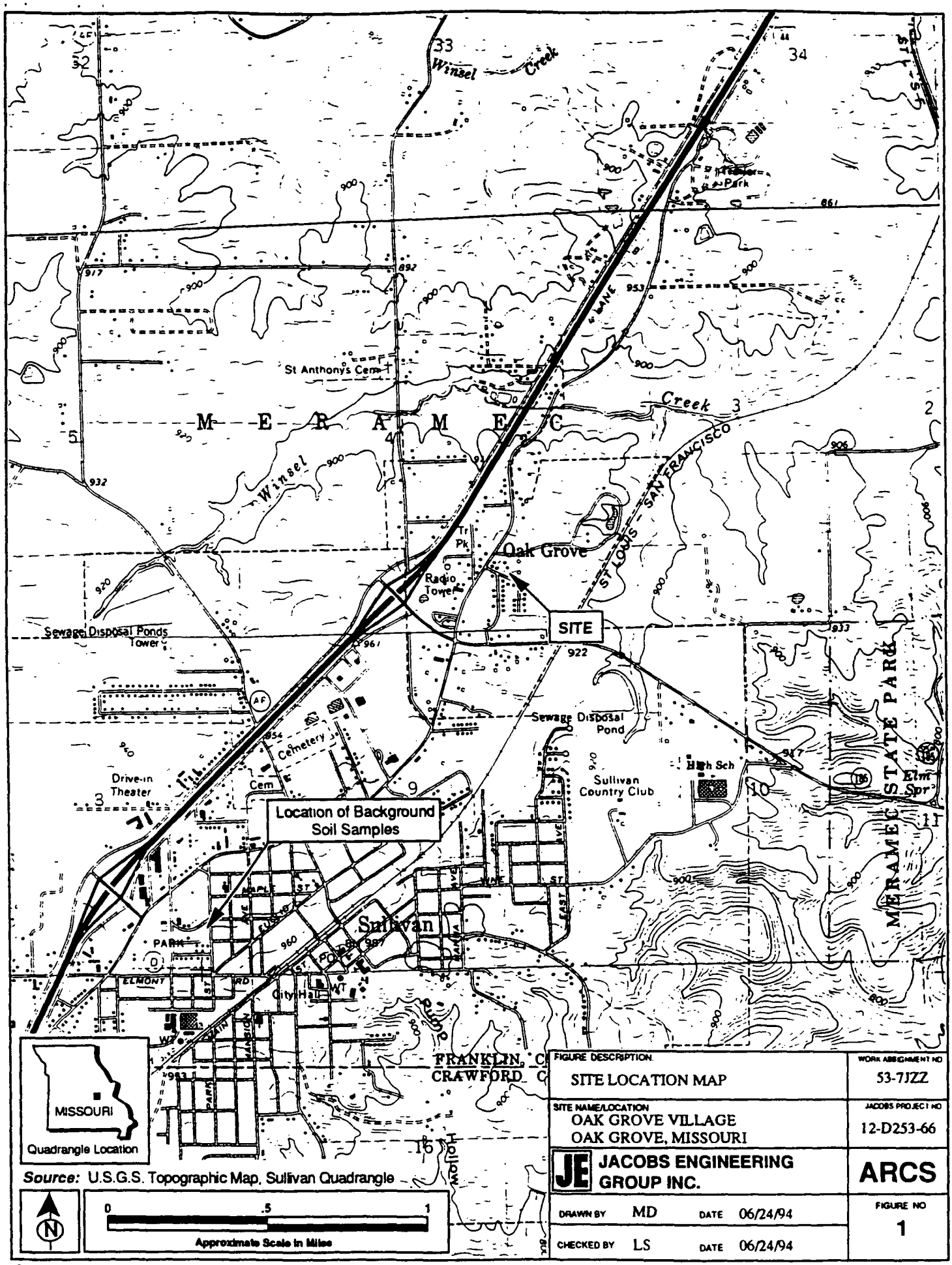
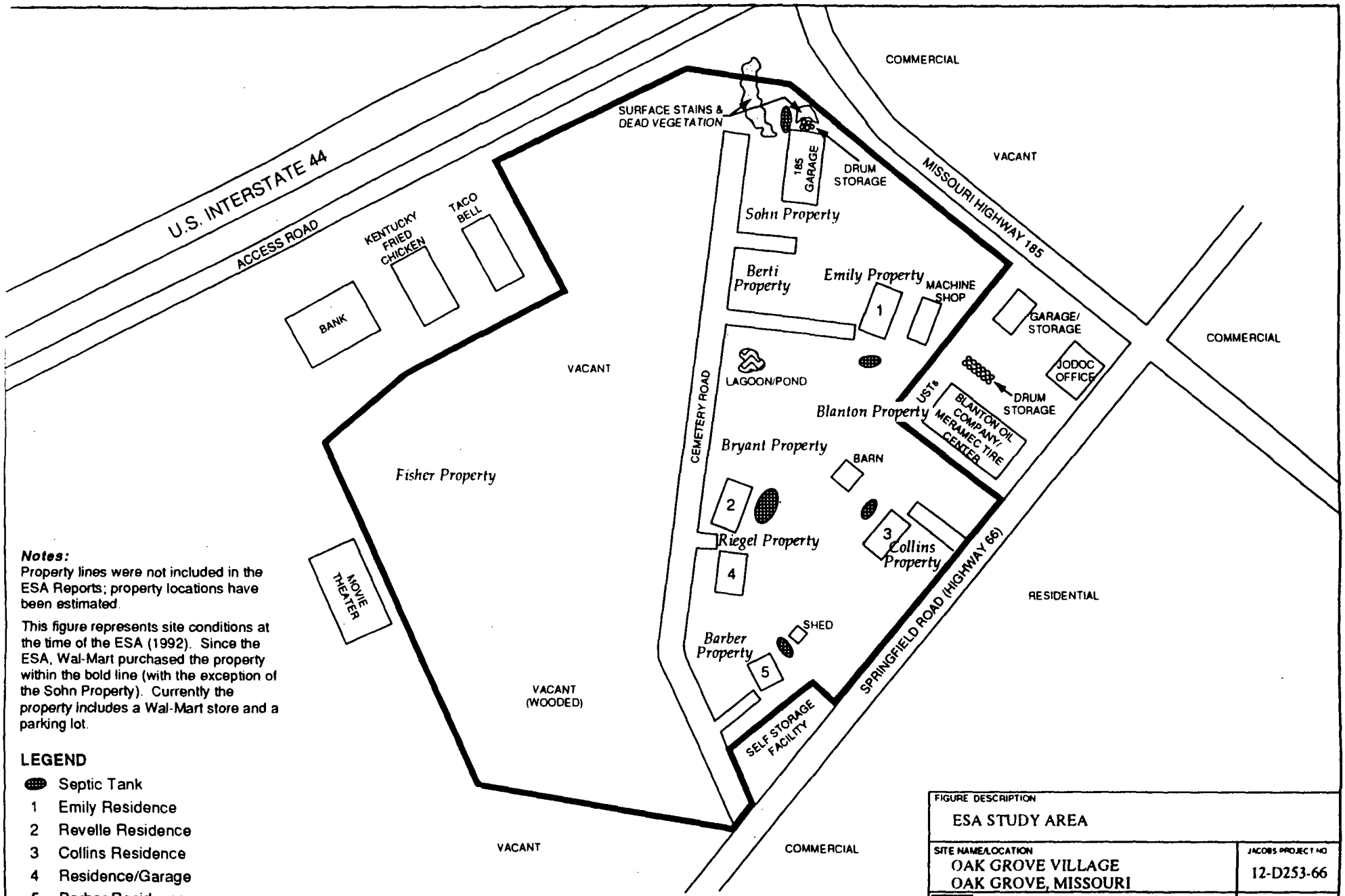


FIGURE DESCRIPTION: SITE LOCATION MAP	WORK ASSIGNMENT NO 53-7JZZ
SITE NAME/LOCATION: OAK GROVE VILLAGE, OAK GROVE, MISSOURI	JACOBS PROJECT NO 12-D253-66
JACOBS ENGINEERING GROUP INC.	ARCS
DRAWN BY MD DATE 06/24/94	FIGURE NO 1
CHECKED BY LS DATE 06/24/94	

D253-66-003



Notes:
Property lines were not included in the ESA Reports; property locations have been estimated.

This figure represents site conditions at the time of the ESA (1992). Since the ESA, Wal-Mart purchased the property within the bold line (with the exception of the Sohn Property). Currently the property includes a Wal-Mart store and a parking lot.

LEGEND

- Septic Tank
- 1 Emily Residence
- 2 Revelle Residence
- 3 Collins Residence
- 4 Residence/Garage
- 5 Barber Residence

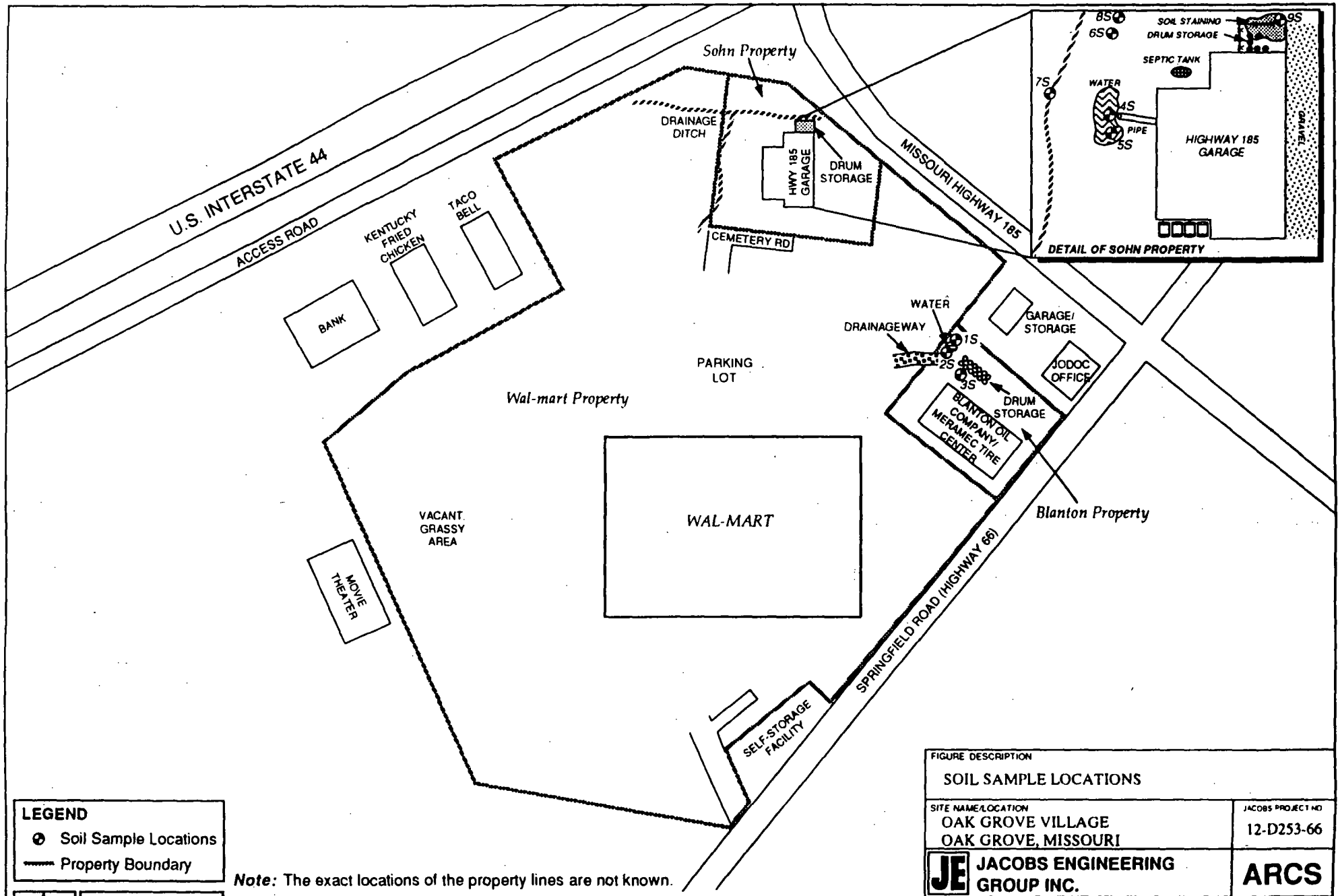
N

NOT TO SCALE

Source: Phase I and Phase II Environmental Site Assessment, Interstate 44 and Highway 185, Sullivan/Oak Grove, Missouri, Huntingdon Engineering & Environmental, Inc., 1991and 1992.

FIGURE DESCRIPTION: ESA STUDY AREA	
SITE NAME/LOCATION: OAK GROVE VILLAGE, OAK GROVE, MISSOURI	JACOBS PROJECT NO: 12-D253-66
JACOBS ENGINEERING GROUP INC.	ARCS
DRAWN BY: MD/AH DATE: 08/24/94	FIGURE NO: 3
CHECKED BY: LS DATE: 08/24/94	

D253-66-001



LEGEND

- Soil Sample Locations
- Property Boundary

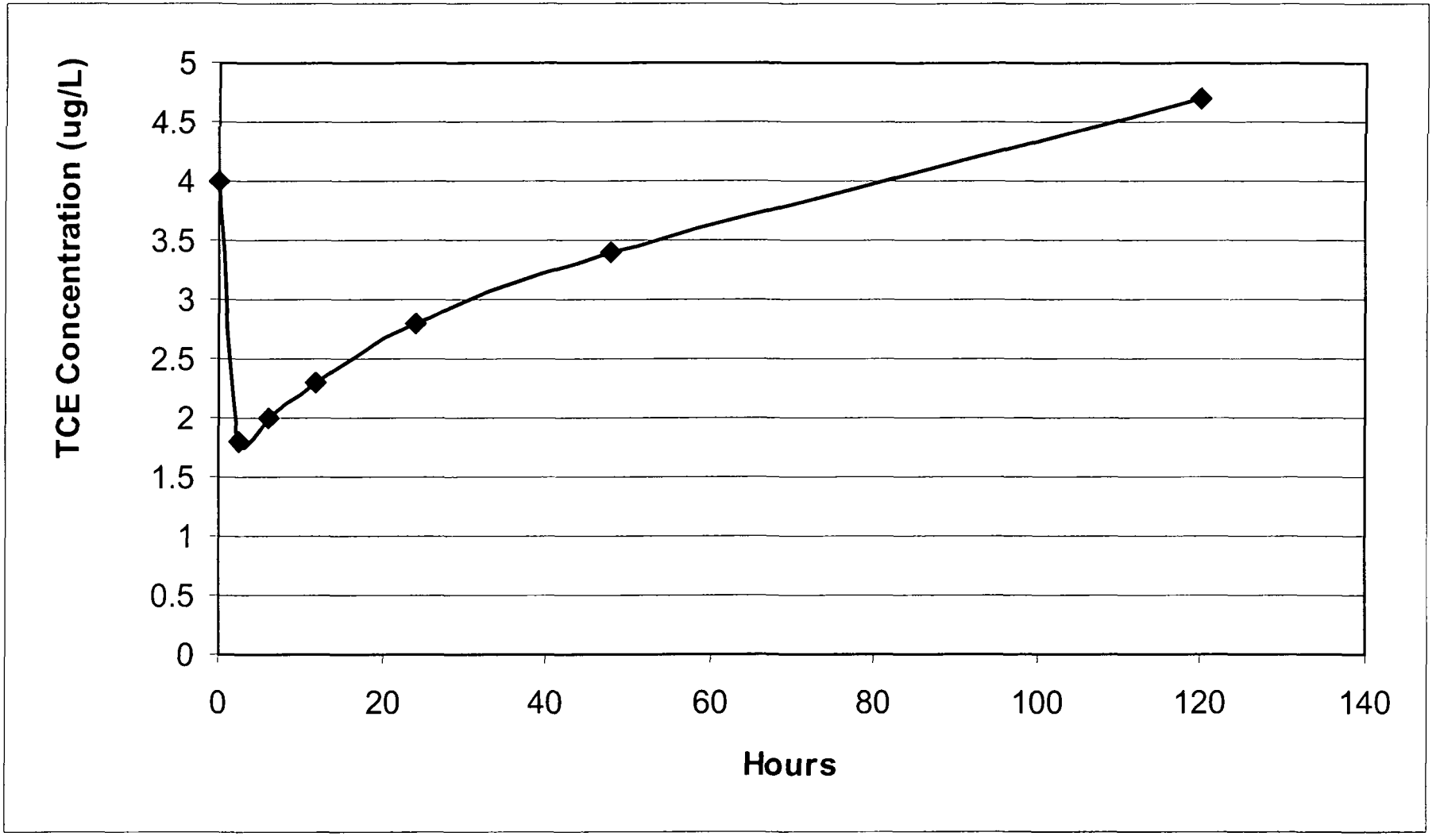
NOT TO SCALE

Note: The exact locations of the property lines are not known.

Source: Phase I and Phase II Environmental Site Assessment, Interstate 44 and Highway 185, Sullivan/Oak Grove, Missouri, Huntingdon Engineering & Environmental, Inc., 1991 and 1992.

FIGURE DESCRIPTION: SOIL SAMPLE LOCATIONS	
SITE NAME/LOCATION: OAK GROVE VILLAGE, OAK GROVE, MISSOURI	JACOBS PROJECT NO: 12-D253-66
JACOBS ENGINEERING GROUP INC.	ARCS
DRAWN BY: MD/AH DATE: 08/24/94	FIGURE NO. 4
CHECKED BY: LS DATE: 08/24/94	

D253-66-004



Legend

- TCE Concentration in Groundwater

JACOBS

TCE Concentrations From Series of Groundwater Samples Collected from the Oak Grove Village Municipal Well by MDNR over a 120-Hour Period Beginning November 15, 2000

Oak Grove Village Remedial Investigation/Feasibility Study
Oak Grove Village Well Site, Missouri
Oak Grove Village, Missouri

02/27/02 SB TCE-Con.cdr

Figure 8

TABLE 3
RESULTS OF HEADSPACE ANALYSIS (PPM)

Sample Location*	Depth (feet)	HNu	TCE-specific Detector Tubes
1S	1 - 1.5	1	ND
1S	4 - 4.5	120	ND
2S	1.5 - 2	ND	NA
2S	3.5 - 4	ND	NA
2S	5.5 - 6	<1	ND
2S	8.5 - 9	<1	ND
4S	1.5 - 2	8	5
4S	4 - 4.5	7	5
5S	1 - 1.5	12	ND
5S	4 - 4.5	1	ND
6S	1.5 - 2	3	ND
7S	1 - 1.5	1	ND
8S	1 - 1.5	4	ND
9S	1 - 1.5	30	5

* Sample Locations are shown on Figure 4

TABLE 4
WATER MATRIX SAMPLE SUMMARY

EPA Sample ID Number	Sample Location ID	Sample Description
DSX74-016	1185 E. Springfield, Oak Grove	Private Well Sample
DSX74-016D	1185 E. Springfield, Oak Grove	Duplicate of DSX74-016
DSX74-018F	--	Equipment rinsate
DSX74-024F	--	Acid blank
DSX74-025F	--	Water matrix trip blank

TABLE 5
SOIL MATRIX SAMPLE SUMMARY

EPA Sample ID Number	Sample Location ID	Depth of Sample (feet)	Sample Location
DSX74-001	1S	4 - 4.5	Blanton property; northwest of drum pile
DSX74-002	2S	5.5 - 6	Blanton property; northwest of drum pile
DSX74-003	4S	1.5 - 2	Sohn property; at outfall of the floor drain pipe
DSX74-004	4S	4 - 4.5	Sohn property; at outfall of the floor drain pipe
DSX74-004D	4S	4 - 4.5	Sohn property; duplicate of DSX74-004
DSX74-005	5S	1 - 1.5	Sohn property; drainage area
DSX74-006	6S	1.5 - 2	Sohn property; northwest of garage
DSX74-007	7S	1 - 1.5	Sohn property; west of garage
DSX74-008	9S	2 - 4 inches	Sohn property; north of drum storage area
DSX74-009	9S	1 - 1.5	Sohn property; north of drum storage area
DSX74-010	10S	1 - 1.5	Background; Bottomly Park
DSX74-011	10S	3 - 3.5	Background; Bottomly Park
DSX74-015F	--		Trip blank, prepared by EPA laboratory

TABLE 6
EPA SOIL ANALYTICAL RESULTS (ug/kg)
July 13-14, 1994
OAK GROVE VILLAGE SITE
OAK GROVE, MISSOURI
CERCLIS NO. MOD981717036

			CONTAMINANTS									
EPA Sample Number	**EPA Sample Location**	**Sample Depth**	**Benzene**	**Carbon Disulfide**	**Chlorobenzene**	**1,2-Dichloroethylene**	**Ethyl Benzene**	**4-Methyl-2-Pentanone**	**PCE**	**Toluene**	**TCE**	**Total Xylenes**
DSX74-001	1S - Blanton Property	4' - 4.5'	28	8 U	8 U	8 U	8	16 U	8 U	8 U	8 U	68
DSX74-002	2S - Blanton Property	5.5' - 6'	9 U	9 U	9 U	9 U	9 U	17 U	9 U	9 U	9 U	9 U
DSX74-003	4S - Sohn Property	1.5' - 2'	9 U	31	40	9 U	9 U	19 U	9 U	9 U	9 U	9 U
DSX74-004	4S - Sohn Property	4' - 4.5'	11 U	11 U	11 U	11 U	11 U	23 U	11 U	11 U	11 U	11 U
DSX74-004D	Duplicate of DSX74-004	4' - 4.5'	11 U	11 U	11 U	11 U	11 U	23 U	11 U	11 U	11 U	11 U
DSX74-005	5S - Sohn Property	1.5' - 2'	11 U	11 U	11 U	11 U	11 U	22 U	11 U	11 U	11 U	11 U
DSX74-006	6S - Sohn Property	1.5' - 2'	8 U	8 U	8 U	8 U	8 U	16 U	8 U	8 U	8 U	8 U
DSX74-007	7S - Sohn Property	1' - 1.5'	7 U	7 U	7 U	7 U	7 U	14 U	7 U	7 U	7 U	7 U
DSX74-008	9S - Sohn Property	2" - 4"	14 U	14 U	14 U	33	14 U	220	80	32	14 U	300
DSX74-009	9S - Sohn Property	1' - 1.5'	16	8 U	8 U	8	8 U	170	16	8 U	28	83
DSX74-010	Background	1' - 1.5'	6 U	6 U	6 U	6 U	6 U	13 U	6 U	6 U	6 U	6 U
DSX74-011	Background	3' - 3.5'	8 U	8 U	8 U	8 U	8 U	16 U	8 U	8 U	8 U	8 U
Regulatory Levels	EPA Reference Dose Screening Concentration		NL	5.8E+07	1.2E+07	NL	5.8E+07	2.9E+07	5.8E+06	1.2E+08	NL	1.2E+09*
	EPA Cancer Risk Screening Concentration		2.0E+04	NL	NL	NL	NL	NL	1.1E+04	NL	5.3E+04	NL
	EPA Proposed RCRA Soil Action Level		NL	8.0E+06	2.0E+06	NL	8.0E+06	4.0E+12	1.0E+04	2.0E+07	6.0E+04	2.0E+08
	EPA Carcinogenicity Classification		A	D	D	D	D	D	NL	D	B2	D

Note: Sample locations are shown in Figure 4
None of the listed Regulatory Levels were exceeded.
PCE - Tetrachloroethylene
TCE - Trichloroethylene
U - Actual value of sample is less than the measurement detection limit (reported value).
NL - Not Listed.
A - Human Carcinogen.
B2 - Sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans.
D - Not classifiable as to human carcinogenicity.
*EPA Reference Dose Screening concentration listed for m-xylene and o-xylene is shown.

PHASE I REMEDIAL INVESTIGATION REPORT

Plate 2	Phase I Remedial Investigation Sample Locations
Plate 3	TCE Groundwater and Surface Water Concentrations
Table 3	Summary of Detected VOCs for Phase I Remedial Investigation

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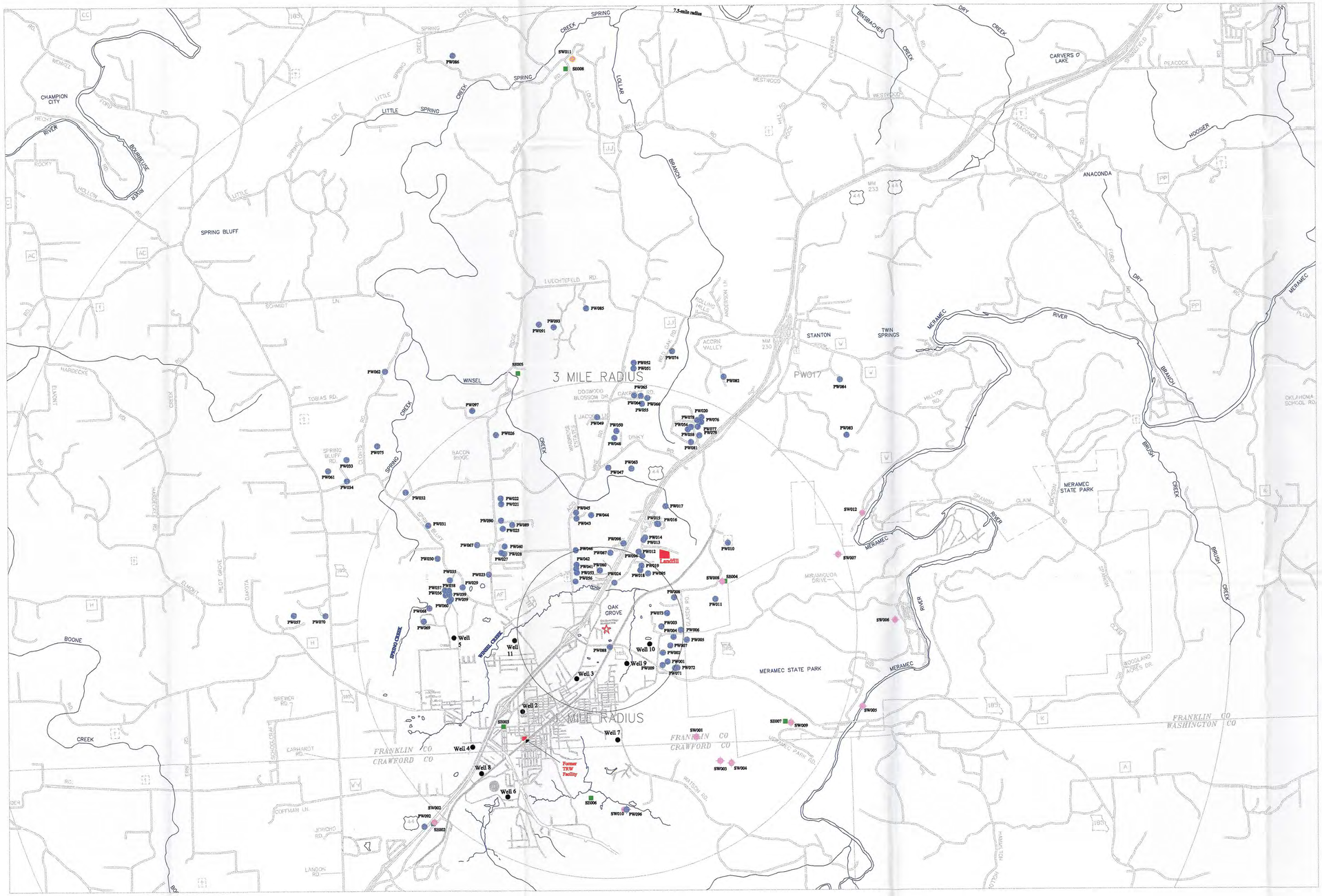


JACOBS MDNR

Phase I Remedial Investigation Sample Locations

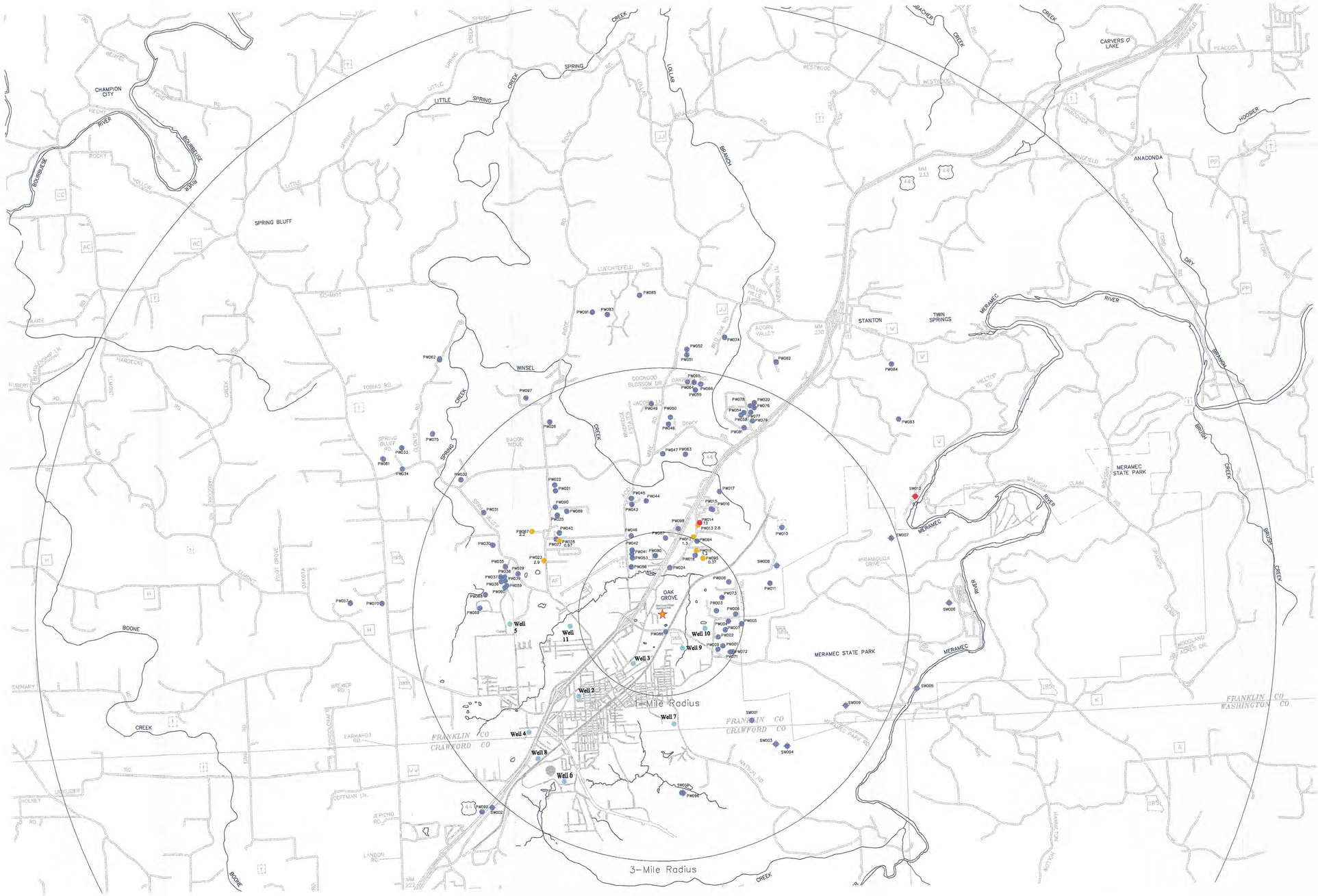
Oak Grove Village Remedial Investigation/ Feasibility Study

Oak Grove Village Well Site

Oak Grove Village, Missouri

OGVRI-FS-sample-Location.DWG

Plate 2



LEGEND

- TCE not detected
- <5 micrograms/liter TCE Concentrations
- >5 micrograms/liter TCE Concentrations
- Well 10 — Municipal Well Location (Not sampled during Phase I)
- SW005 — Surface Water Sample Location
- PW005 — Private Well Location
- Oak Grove Village Municipal Well

N

0 3000

Scale in Feet

JACOBS | MDNR

TCE Groundwater and Surface Water Concentrations from Phase I Remedial Investigation

Oak Grove Village Remedial Investigation/Feasibility Study
Oak Grove Village Well Site
Oak Grove Village, Missouri

OGVRI-FS-TCE-CONC.1.DWG | Plate 3

Table 3
Summary of Detected VOCs for Phase I Remedial Investigation For Groundwater and Surface Water

			Compounds	TCE	4-Methyl-2-pentanone	Acetone	Chloromethane	Ethane	Ethylene	Methane	Toluene
			MCL	5	N/A	N/A	5	N/A	N/A	N/A	1000
			MO WQ Standard	5	N/A	N/A	N/A	N/A	N/A	N/A	1000
Site ID	Field Sample #	Collection Date	Depth (ft - MSL)	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	ug/l
OGV WELL	PW099GWS149	12-Dec-2001	244.000	<1	<5	**5 J**	<1	--	--	--	<1
OGV WELL	PW099GWS144	11-Oct-2001	249.000	**0.5 J**	<5	<5	<1	<5.67	<5.67	**4.57 J**	<1
OGV WELL	PW099GWS148	11-Oct-2001	249.000	<1	<5	<5	<1	--	--	--	<1
OGV WELL	PW099GWS145	11-Oct-2001	357.000	<1	<5	<5	<1	<5.67	<5.67	**4.48 J**	<1
OGV WELL	PW099GWS146	11-Oct-2001	465.000	<1	<5	<5	<1	<5.67	<5.67	**6.4 J**	**0.5 J**
OGV WELL	PW099GWS142	20-Sep-2001	482.000	<1 UJ	<5 UJ	<5 UJ	**1 J**	<5.67	<5.67	**6.08 J**	<1 UJ
OGV WELL	PW099GWS147	11-Oct-2001	575.000	<1	**3 J**	<5	<1	<5.67	<5.67	**5.95 J**	<1
OGV WELL	PW099GWS143	21-Sep-2001	586.000	<1 UJ	<5 UJ	<5 UJ	**7 J**	--	--	--	<1 UJ
OGV WELL DUP	PW099GWS149	12-Dec-2001	244.000	<1	<5	<5	<1	--	--	--	<1
OGV WELL SPLIT	PW099GWS144	11-Oct-2001	249.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
OGV WELL SPLIT	PW099GWS148	11-Oct-2001	249.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
OGV WELL SPLIT	PW099GWS145	11-Oct-2001	357.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
OGV WELL SPLIT	PW099GWS146	11-Oct-2001	465.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
OGV WELL SPLIT	PW099GWS142	20-Sep-2001	482.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
OGV WELL SPLIT	PW099GWS147	11-Oct-2001	575.000	<1.0	**2.3**	<20	<25	--	--	--	<1.0
OGV WELL SPLIT	PW099GWS143	21-Sep-2001	586.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
PW001	PW001GWP0001	26-Jun-2001	676.000	<1	--	--	--	--	--	--	--
PW002	PW002GWP0002	26-Jun-2001	623.000	<1	--	--	--	--	--	--	--
PW003	PW003GWP0003	26-Jun-2001	521.000	<1	--	--	--	--	--	--	--
PW004	PW004GWS0004	26-Jun-2001	670.000	<1	--	--	--	--	--	--	--
PW004 SPLIT	PW004GWS0004	26-Jun-2001	670.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
PW005	PW005GWP0005	27-Jun-2001	497.000	<1	--	--	--	--	--	--	--
PW006	PW006GWP0006	27-Jun-2001	663.000	<1	--	--	--	--	--	--	--
PW007	PW007GWP0007	27-Jun-2001	628.000	<1	--	--	--	--	--	--	--
PW008	PW008GWP0008	27-Jun-2001	615.000	<1	--	--	--	--	--	--	--
PW009	PW009GWP0009	27-Jun-2001	N/A	<1	--	--	--	--	--	--	--
PW010	PW010GWP0010	27-Jun-2001	568.000	<1	--	--	--	--	--	--	--
PW010 DUP	PW010GWP0010	27-Jun-2001	568.000	<1	--	--	--	--	--	--	--
PW011	PW011GWP0013	27-Jun-2001	576.000	<1	--	--	--	--	--	--	--
PW012 [redacted]	PW012GWP0014	28-Jun-2001	N/A	**1.3**	--	--	--	--	--	--	--
PW013 (pre) [redacted]	PW013GWP0015	28-Jun-2001	671.000	**2.8**	--	--	--	--	--	--	--
PW013 (post)	PW013GWP0016	28-Jun-2001	671.000	<1	--	--	--	--	--	--	--
PW014 (pre) [redacted]	PW014GWP0017	28-Jun-2001	606.000	**12**	--	--	--	--	--	--	--
PW014 (post)	PW014GWP0018	28-Jun-2001	606.000	<1	--	--	--	--	--	--	--
PW015	PW015GWP0019	28-Jun-2001	620.000	<1	--	--	--	--	--	--	--
PW016	PW016GWP0020	28-Jun-2001	509.000	<1	--	--	--	--	--	--	--
PW016 SPLIT	PW016GWP0020	28-Jun-2001	509.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
PW017	PW017GWP0021	28-Jun-2001	576.000	<1	--	--	--	--	--	--	--
PW018	PW018GWP0022	28-Jun-2001	580.000	<1	--	--	--	--	--	--	--
PW019 [redacted]	PW019GWP0023	28-Jun-2001	555.000	**1.2**	--	--	--	--	--	--	--
PW020	PW020GWP0024	29-Jun-2001	N/A	<1	--	--	--	--	--	--	--
PW020 DUP	PW020GWP0024	29-Jun-2001	N/A	<1	--	--	--	--	--	--	--
PW021	PW021GWP0028	29-Jun-2001	562.000	<1	--	--	--	--	--	--	--
PW022	PW022GWP0029	29-Jun-2001	N/A	<1	--	--	--	--	--	--	--
PW023 [redacted]	PW023GWP0030	29-Jun-2001	N/A	**2.9**	--	--	--	--	--	--	--

Table 3 (continued)

			Compounds	TCE	4-Methyl-2-pentanone	Acetone	Chloromethane	Ethane	Ethylene	Methane	Toluene
			MCL	5	N/A	N/A	5	N/A	N/A	N/A	1000
			MO WQ Standard	5	N/A	N/A	N/A	N/A	N/A	N/A	1000
Site ID	Field Sample #	Collection Date	Depth (ft - MSL)	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	ug/l
PW024	PW024GWP0031	02-Jul-2001	604.000	<1	--	--	--	--	--	--	--
PW025	PW025GWP0032	02-Jul-2001	552.000	<1	--	--	--	--	--	--	--
PW026	PW026GWP0033	02-Jul-2001	422.000	<1	--	--	--	--	--	--	--
PW027	PW027GWP0034	02-Jul-2001	586.000	<1	--	--	--	--	--	--	--
PW028 [redacted]	PW028GWP0035	02-Jul-2001	N/A	**0.97 J**	--	--	--	--	--	--	--
PW029	PW029GWP0036	02-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW030	PW030GWS0037	02-Jul-2001	334.000	<1	--	--	--	--	--	--	--
PW030 DUP	PW030GWS0037	02-Jul-2001	334.000	<1	--	--	--	--	--	--	--
PW030 SPLIT	PW030GWS0037	02-Jul-2001	334.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
PW031	PW031GWP0040	02-Jul-2001	539.000	<1	--	--	--	--	--	--	--
PW032	PW032GWP0041	02-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW033	PW033GWP0042	03-Jul-2001	611.000	<1	--	--	--	--	--	--	--
PW034	PW034GWP0043	03-Jul-2001	599.000	<1	--	--	--	--	--	--	--
PW035	PW035GWP0044	03-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW036	PW036GWP0045	03-Jul-2001	471.000	<1	--	--	--	--	--	--	--
PW037	PW037GWP0046	03-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW038	PW038GWP0047	03-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW039	PW039GWP0048	03-Jul-2001	420.000	<1	--	--	--	--	--	--	--
PW040	PW040GWP0049	03-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW041	PW041GWS0050	09-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW041 DUP	PW041GWS0050	09-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW041 SPLIT	PW041GWS0050	09-Jul-2001	N/A	<1.0	<1.0	<20	<25	--	--	--	<1.0
PW042	PW042GWP0053	09-Jul-2001	584.000	<1	--	--	--	--	--	--	--
PW043	PW043GWP0054	09-Jul-2001	583.000	<1	--	--	--	--	--	--	--
PW044	PW044GWP0055	09-Jul-2001	N/A	<1	--	--	--	<0.595	**0.043 J**	<0.856	--
PW045	PW045GWP0056	09-Jul-2001	628.000	<1	--	--	--	--	--	--	--
PW046	PW046GWP0057	09-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW047	PW047GWP0058	09-Jul-2001	466.000	<1	--	--	--	--	--	--	--
PW048	PW048GWP0059	09-Jul-2001	N/A	<1	--	--	--	<0.595	**0.056 J**	<0.856	--
PW049	PW049GWP0060	09-Jul-2001	759.000	<1	--	--	--	--	--	--	--
PW050	PW050GWP0061	09-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW050 DUP	PW050GWP0061	09-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW051	PW051GWP0064	09-Jul-2001	485.000	<1	--	--	--	--	--	--	--
PW052	PW052GWS0065	10-Jul-2001	N/A	<1	--	--	--	<0.595	**0.669**	<0.856	--
PW052 SPLIT	PW052GWS0065	10-Jul-2001	N/A	<1.0	<1.0	<20	<25	--	--	--	<1.0
PW053	PW053GWP0066	10-Jul-2001	482.000	<1	--	--	--	--	--	--	--
PW054	PW054GWP0067	10-Jul-2001	518.000	<1	--	--	--	--	--	--	--
PW055	PW055GWP0068	10-Jul-2001	612.000	<1	--	--	--	--	--	--	--
PW056	PW056GWP0069	10-Jul-2001	671.000	<1	--	--	--	<0.595	**0.051 J**	<0.856	--
PW057	PW057GWP0070	10-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW058	PW058GWP0071	10-Jul-2001	484.000	<1	--	--	--	--	--	--	--
PW059	PW059GWP0072	11-Jul-2001	614.000	<1	--	--	--	--	--	--	--
PW060	PW060GWP0073	11-Jul-2001	659.000	<1	--	--	--	--	--	--	--
PW061	PW061GWP0074	11-Jul-2001	565.000	<1	--	--	--	--	--	--	--
PW062	PW062GWS0075	11-Jul-2001	N/A	<1	--	--	--	<0.595	<0.635	<0.856	--
PW062 DUP	PW062GWS0075	11-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW062 SPLIT	PW062GWS0075	11-Jul-2001	N/A	<1.0	<1.0	<20	<25	--	--	--	<1.0

Table 3 (continued)

			Compounds	TCE	4-Methyl-2-pentanone	Acetone	Chloromethane	Ethane	Ethylene	Methane	Toluene
			MCL	5	N/A	N/A	5	N/A	N/A	N/A	1000
			MO WQ Standard	5	N/A	N/A	N/A	N/A	N/A	N/A	1000
Site ID	Field Sample #	Collection Date	Depth (ft - MSL)	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	ug/l
PW063	PW063GWP0078	11-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW064	PW064GWP0079	11-Jul-2001	N/A	<1	--	--	--	<0.595	<0.635	**0.136 J**	--
PW065	PW065GWP0080	11-Jul-2001	544.000	<1	--	--	--	--	--	--	--
PW066	PW066GWP0081	11-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW067[redacted]	PW067GWP0082	12-Jul-2001	517.000	**2.2**	--	--	--	<0.595	<0.635	**0.128 J**	--
PW068	PW068GWP0083	12-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW069	PW069GWP0084	12-Jul-2001	664.000	<1	--	--	--	--	--	--	--
PW070	PW070GWP0085	12-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW070 DUP	PW070GWP0085	12-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW071	PW071GWP0088	12-Jul-2001	590.000	<1	--	--	--	<0.595	<0.635	**0.112 J**	--
PW072	PW072GWP0089	12-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW073	PW073GWP0090	12-Jul-2001	531.000	<1	--	--	--	--	--	--	--
PW074	PW074GWP0091	12-Jul-2001	663.000	<1	--	--	--	--	--	--	--
PW075	PW075GWP0092	13-Jul-2001	518.000	<1	--	--	--	--	--	--	--
PW076	PW076GWP0093	13-Jul-2001	478.000	<1	--	--	--	--	--	--	--
PW077	PW077GWP0094	13-Jul-2001	492.000	<1	--	--	--	--	--	--	--
PW078	PW078GWP0095	13-Jul-2001	696.000	<1	--	--	--	<0.595	<0.635	**0.140 J**	--
PW079	PW079GWP0096	13-Jul-2001	418.000	<1	--	--	--	--	--	--	--
PW080	PW080GWP0097	16-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW081	PW081GWP0098	16-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW081 DUP	PW081GWP0098	16-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW082	PW082GWP0101	16-Jul-2001	366.000	<1	--	--	--	<0.595	<0.635	**0.110 J**	--
PW083	PW083GWP0102	16-Jul-2001	521.000	<1	--	--	--	--	--	--	--
PW084	PW084GWP0103	16-Jul-2001	513.000	<1	--	--	--	--	--	--	--
PW085	PW085GWP0104	16-Jul-2001	499.000	<1	--	--	--	--	--	--	--
PW086	PW086GWP0105	16-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW087	PW087GWP0106	16-Jul-2001	638.000	<1	--	--	--	--	--	--	--
PW088	PW088GWP0107	17-Jul-2001	N/A	<1	--	--	--	<0.595	<0.635	**0.137 J**	--
PW089	PW089GWP0108	17-Jul-2001	650.000	<1	--	--	--	--	--	--	--
PW090	PW090GWP0109	17-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW091	PW091GWP0110	17-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW091 DUP	PW091GWP0110	17-Jul-2001	N/A	<1	--	--	--	--	--	--	--
PW092	PW092GWP0113	17-Jul-2001	842.000	<1	--	--	--	--	--	--	--
PW093	PW093GWP0114	17-Jul-2001	573.000	<1	--	--	--	--	--	--	--
PW094	PW094GWP0115	18-Jul-2001	487.000	<1	--	--	--	<0.595	<0.635	**0.118 J**	--
PW095[redacted]	PW095GWP0116	18-Jul-2001	564.000	**0.37 J**	--	--	--	--	--	--	--
PW096	PW096GWP0117	18-Jul-2001	681.000	<1	--	--	--	**0.138 J**	<0.635	<0.856	--
PW097	PW097GWP0132	24-Jul-2001	593.000	<1	--	--	--	--	--	--	--
PW098	PW098GWP0140	26-Jul-2001	N/A	<1	--	--	--	--	--	--	--
SW001	SW001GWP0118	19-Jul-2001	740.000	<1	--	--	--	--	--	--	--
SW002	SW002SWP0120	19-Jul-2001	993.000	<1	--	--	--	--	--	--	--
SW003	SW003GWS0123	20-Jul-2001	699.000	<1	--	--	--	--	--	--	--
SW003 SPLIT	SW003GWS0123	20-Jul-2001	699.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
SW004	SW004GWP0124	20-Jul-2001	701.000	<1	--	--	--	--	--	--	--
SW005	SW005GWP0125	20-Jul-2001	619.000	<1	--	--	--	<0.595	<0.635	**0.122 J**	--
SW006	SW006GWS0126	20-Jul-2001	610.000	<1	--	--	--	--	--	--	--
SW006 SPLIT	SW006GWS0126	20-Jul-2001	610.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
SW007	SW007GWP0127	23-Jul-2001	615.000	<1	--	--	--	<0.612	<0.635	**0.500 J**	--

Table 3 (continued)

			Compounds	TCE	4-Methyl-2-pentanone	Acetone	Chloromethane	Ethane	Ethylene	Methane	Toluene
			MCL	5	N/A	N/A	5	N/A	N/A	N/A	1000
			MO WQ Standard	5	N/A	N/A	N/A	N/A	N/A	N/A	1000
Site ID	Field Sample #	Collection Date	Depth (ft - MSL)	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	ug/l
SW008	SW008GWP0128	23-Jul-2001	889.000	<1	--	--	--	--	--	--	--
SW009	SW009GWS0130	23-Jul-2001	662.000	<1	--	--	--	--	--	--	--
SW009 SPLIT	SW009GWS0130	23-Jul-2001	662.000	<1.0	<1.0	<20	<25	--	--	--	<1.0
SW010	SW010GWP0131	23-Jul-2001	765.000	<1	--	--	--	--	--	--	--
SW011	SW011GWP0134	24-Jul-2001	609.000	<1	--	--	--	--	--	--	--
SW011 DUP	SW011GWP0134	24-Jul-2001	609.000	<1	--	--	--	--	--	--	--
SW012 [redacted]	SW012GWP0137	24-Jul-2001	565.000	5.7	--	--	--	--	--	--	--

N/A = Not Available
-- = Not Analyzed
J = Indicates estimated concentration
= Highlighted concentration indicates that it exceeds one of the comparision standards
Bold = Bolded concentration indicates that the compound was identified at a detectable concentration
PW (Site ID) = Private Residence Well Sample
SW (Site ID) = Surface Water or Spring Sample
DUP = Indicates duplicate sample analyzed by primary laboratory
SPLIT = Indicates split sample taken by MDNR and analyzed by the MDNR laboratory
(pre) = Indicates a pre-treatment sample taken prior to the owner's private treatment system
(post) = Indicates a post-treatment sample taken after the owner's private treatment system

APPENDIX F

SELECT TABLES AND FIGURES FROM THE PHASE II RI

Figure 2 Area Base Map Showing Environmental Media Sample Sites
Figure 8 Summary of Laboratory Analyses of Sullivan POTW Samples
Figure 10 Depth to Groundwater Map, February 7-11, 2005
Figure 13 TCE Analytical Results for Private and Commercial Water Wells, November 2004, Shallow/Intermediate Groundwater and Area Springs
Figure 14 TCE Maximum Analytical Results for Private and commercial Water Wells, January 1, 1990 to March 10, 2005, Shallow/Intermediate Groundwater and Springs
Figure 15 PCE Analytical Results for Private and Commercial Water Wells, November 2004, Shallow/Intermediate Groundwater and Area Springs
Figure 16 TCE Maximum Analytical Results for Private and commercial Water Wells, January 1, 1990 to March 10, 2005, Shallow/Intermediate Groundwater and Springs
Figure 17 Freon 11 Analytical Results for Private and Commercial Water Wells, November 2004, Shallow/Intermediate Groundwater and Area Springs
Figure 18 Freon 11 Maximum Analytical Results for Private and commercial Water Wells, January 1, 1990 to March 10, 2005, Shallow/Intermediate Groundwater and Springs
Figure 19 Freon 12 Analytical Results for Private and Commercial Water Wells, November 2004, Shallow/Intermediate Groundwater and Area Springs
Figure 20 Freon 12 Maximum Analytical Results for Private and commercial Water Wells, January 1, 1990 to March 10, 2005, Shallow/Intermediate Groundwater and Springs
Figure 21 TCE Analytical Results for Municipal Wells, May and June 2004, Deep Groundwater
Figure 22 TCE Maximum Analytical Results for Municipal Water Wells, January 1, 1990 to March 10, 2005, Deep Groundwater
Figure 23 Geophysical Logs and Heat Pulse Data from Deep Monitoring Wells MW-1, MW-2, and MW-3
Figure 24 Tree Core Sample Locations
Figure 25 Map Showing Location of Sample Sites for Oak Grove Village and Closed Sullivan Sanitary Sewer Lagoons, the Sohn Property, the Peterson Pond Property, and Missouri Conservation Commission Property
Figure 26 La Jolla Spring Cave Complex Air TCE Data
Table 4a Summary of Oak Grove Village Municipal Well Groundwater Analytical Results
Table 9 Summary of Laboratory analyses of Sullivan Sewer Line Samples
Table 17 Groundwater Analytical Data from Deep Monitoring Well Installation Program
Table 19 Analytical Results from Tree Core Samples
Table 21 Summary of Laboratory Analyses of Soil Samples
Table 22 Summary of Laboratory Analyses of Air Monitoring

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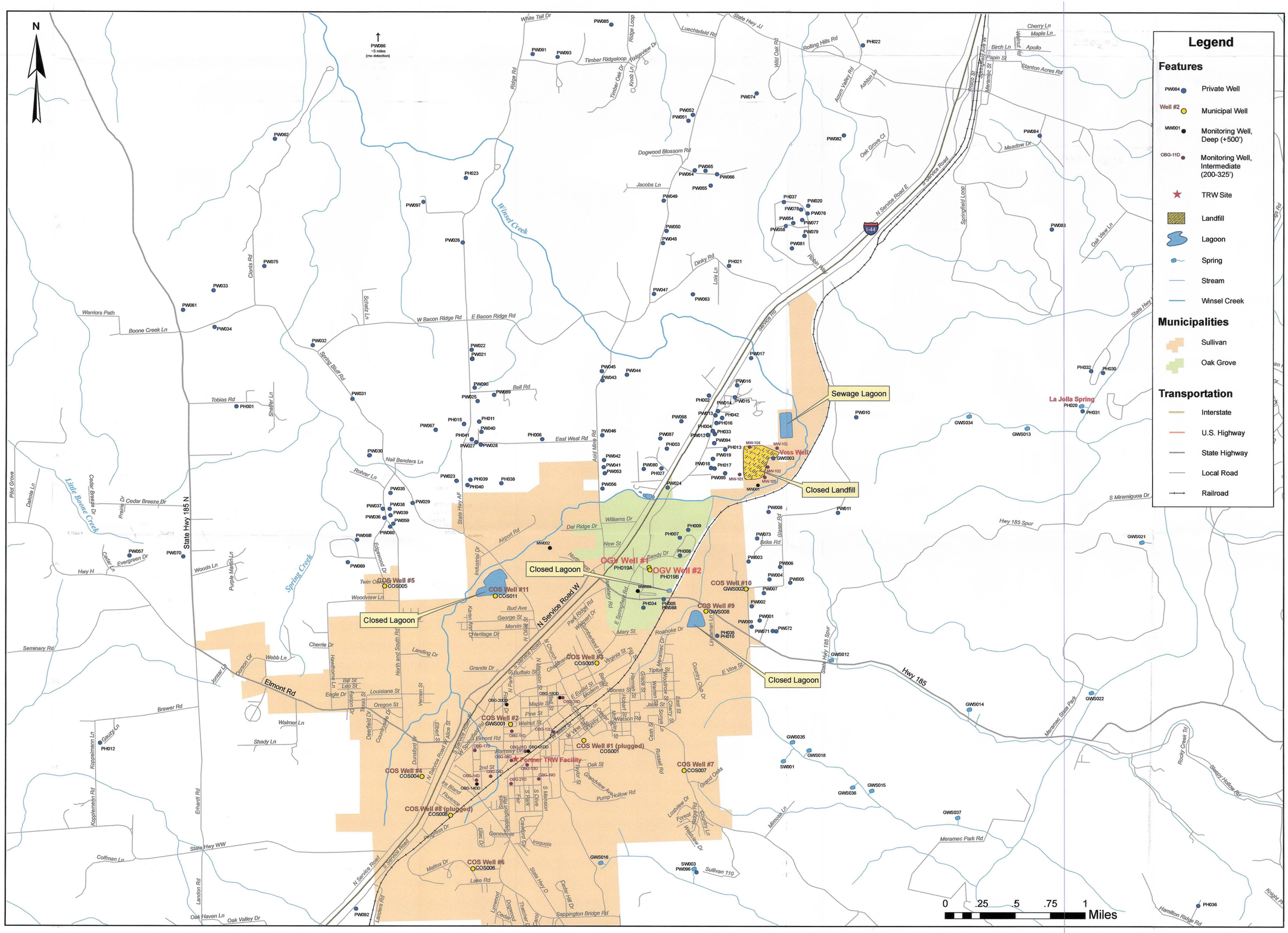

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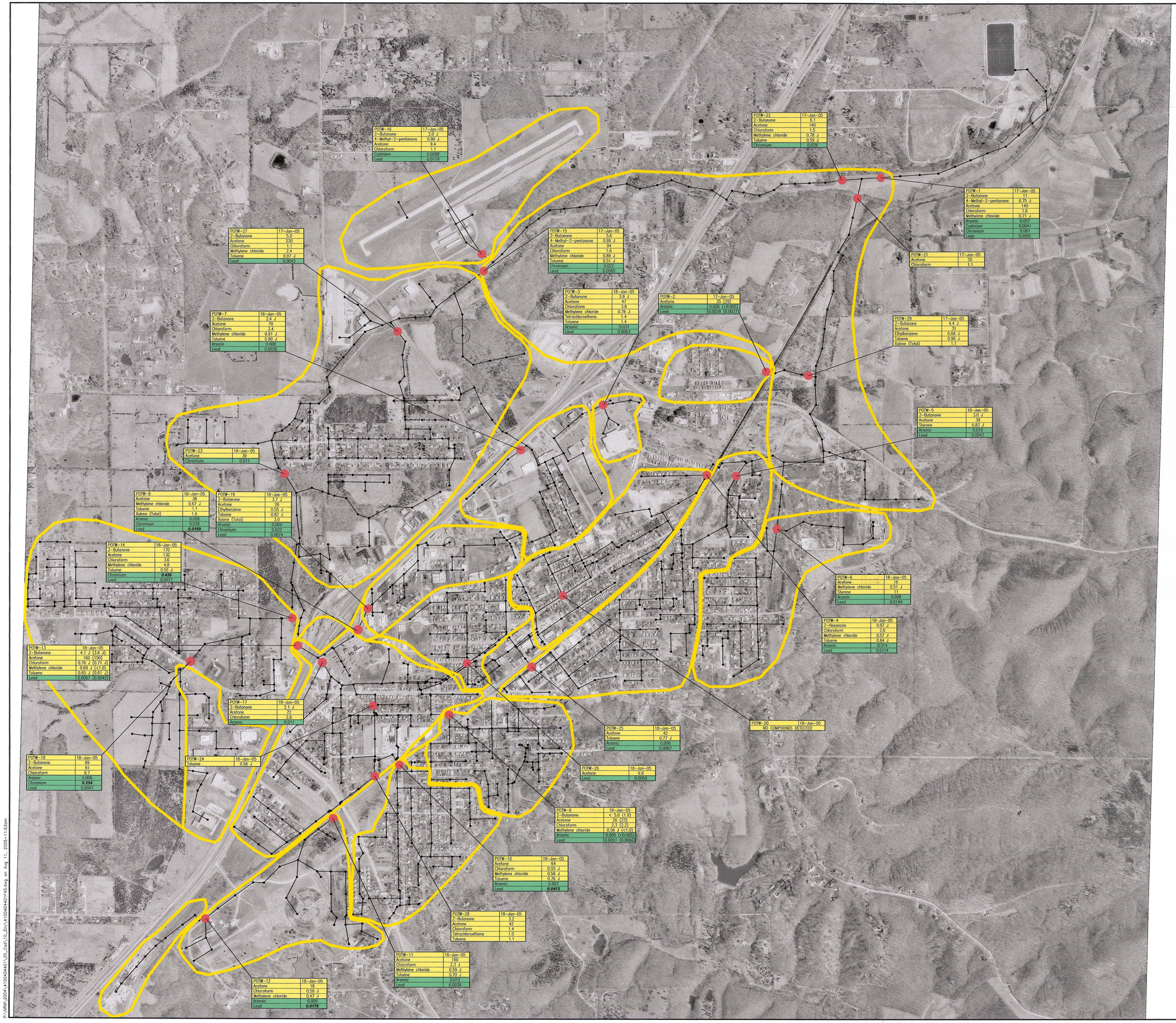
Figure Title	**Area Base Map Showing Environmental Media Sample Sites**
Document Title	Oak Grove Village Well Site Remedial Investigation/Feasibility Study
Client	Missouri Department of Natural Resources
Location	Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	7/21/2005
Scale	As Shown
Designed By	TS
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
2



LEGEND

SEWER LINE AND MANHOLE (BLACK ON MAP)

NOTE: MAP IS NOT FULLY COMPLETED PER SULLIVAN CITY ENGINEER (JULY 2004)

POTW-1 LOCATION OF POTW SAMPLE SITE

APPROXIMATE COLLECTION AREA FOR POTW SAMPLING

SAMPLE ID — PARAMETER — DATE — RESULTS µg/L — RESULTS mg/L

POTW-1	17-Jan-05
2-Butanone	11
4-Methyl-2-pentanone	0.75 J
Acetone	140
Chloroform	1.8
Methylene chloride	0.71 J
Arsenic	0.007
Cadmium	0.0041
Chromium	0.061
Lead	0.0065

Volatile Organic Compounds

Total Metals

0.0051 (0.0066) VALUE IN PARENTHESIS IS FROM A DUPLICATE SAMPLE.

J: ESTIMATED VALUE – REPORTED BELOW LABORATORY PRACTICAL QUANTITATION LIMITS

VALUES IN ***BOLD, ITALICS*** EXCEED EITHER THE EPA MCL AND /OR THE MISSOURI CLASS VII WATER QUALITY STANDARD.

VOLATILE ORGANIC COMPOUNDS ARE REPORTED IN MICROGRAMS PER LITER **(µg/L)**

TOTAL METALS ARE REPORTED IN MILLIGRAMS PER LITER (mg/L)

Equipment Blank	18-Jan-05
Lead	0.0031

-N-

800' 0 800' 1600'

SCALE 1" = 800' FEET

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FIGURE TITLE: ***SUMMARY OF LABORATORY ANALYSES OF SULLIVAN POTW SAMPLES VOLATILE ORGANIC COMPOUNDS AND TOTAL METALS***

DOCUMENT TITLE

CLIENT: MISSOURI DEPARTMENT OF NATURAL RESOURCES

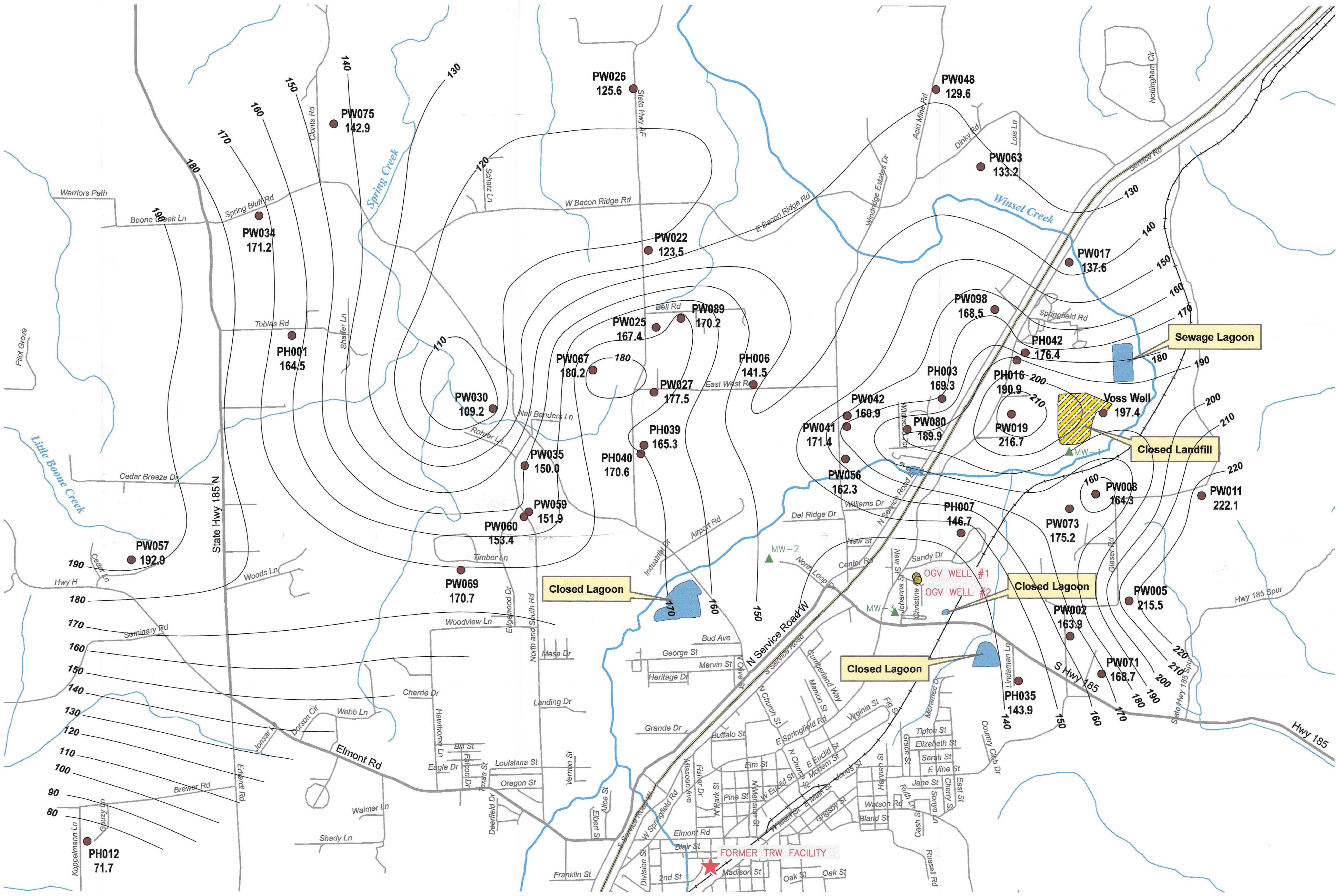
LOCATION: OAK GROVE VILLAGE, MISSOURI

DESIGNED BY	BS
APPROVED BY	BS
DRAWN BY	LJ
DATE	08/11/05
SCALE	AS SHOWN

PROJECT NUMBER: 4100404401 F40

FIGURE NUMBER: 8

P:\NEW_2004\4100404401\20_Cad\10_Env\4100404401F40.dwg on Aug 11, 2005-11:53am



Legend

PW063 133.2 — PRIVATE WELL, DESIGNATED WELL NUMBER, DEPTH-TO-GROUNDWATER (FEET BGL)

OGV WELLS

MW-2 — DEEP MONITOR WELLS, 2005

TRW SITE

Landfill

Lagoons

Streams

NAME

Winsel Creek

Transportation

Classes

Interstate

U.S. Highway

State Highway

Local Road

Railroad

150 — DEPTH-TO-GROUNDWATER CONTOUR, FEET BELOW GROUND SURFACE, FEBRUARY 7-11, 2005

CONTOUR INTERVAL: 10 FEET

NOTE:

1) MOST PRIVATE WATER WELLS MEASURED FULLY PENETRATED THE ROUBIDOUX FORMATION (WHERE PRESENT), FULLY PENETRATED THE GASCONADE FORMATION AND PARTIALLY PENETRATED THE EMINENCE FORMATION.

2) PRIVATE WATER WELLS SHOWN ONLY INCLUDE THOSE SUCCESSFULLY MEASURED FOR WATER LEVELS

-N-

1/4 MI 0 1/4 MI 1/2 MI
SCALE FEET
1" =1/4 MI

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NO.	DATE	DESCRIPTION OF REVISION OR ISSUE	BY	APP'D

FIGURE TITLE: *DEPTH TO GROUNDWATER MAP, FEBRUARY 7-11, 2005, PRIVATE WATER SUPPLY WELLS, GASCONADE AND EMINENCE FORMATIONS*

DOCUMENT TITLE

CLIENT: MISSOURI DEPARTMENT OF NATURAL RESOURCES

LOCATION: OAK GROVE VILLAGE, MISSOURI

DESIGNED BY	BS
APPROVED BY	BS
DRAWN BY	LJ/SKG
DATE	08/11/05
SCALE	AS SHOWN

PROJECT NUMBER
4100404401 F42

FIGURE NUMBER
10

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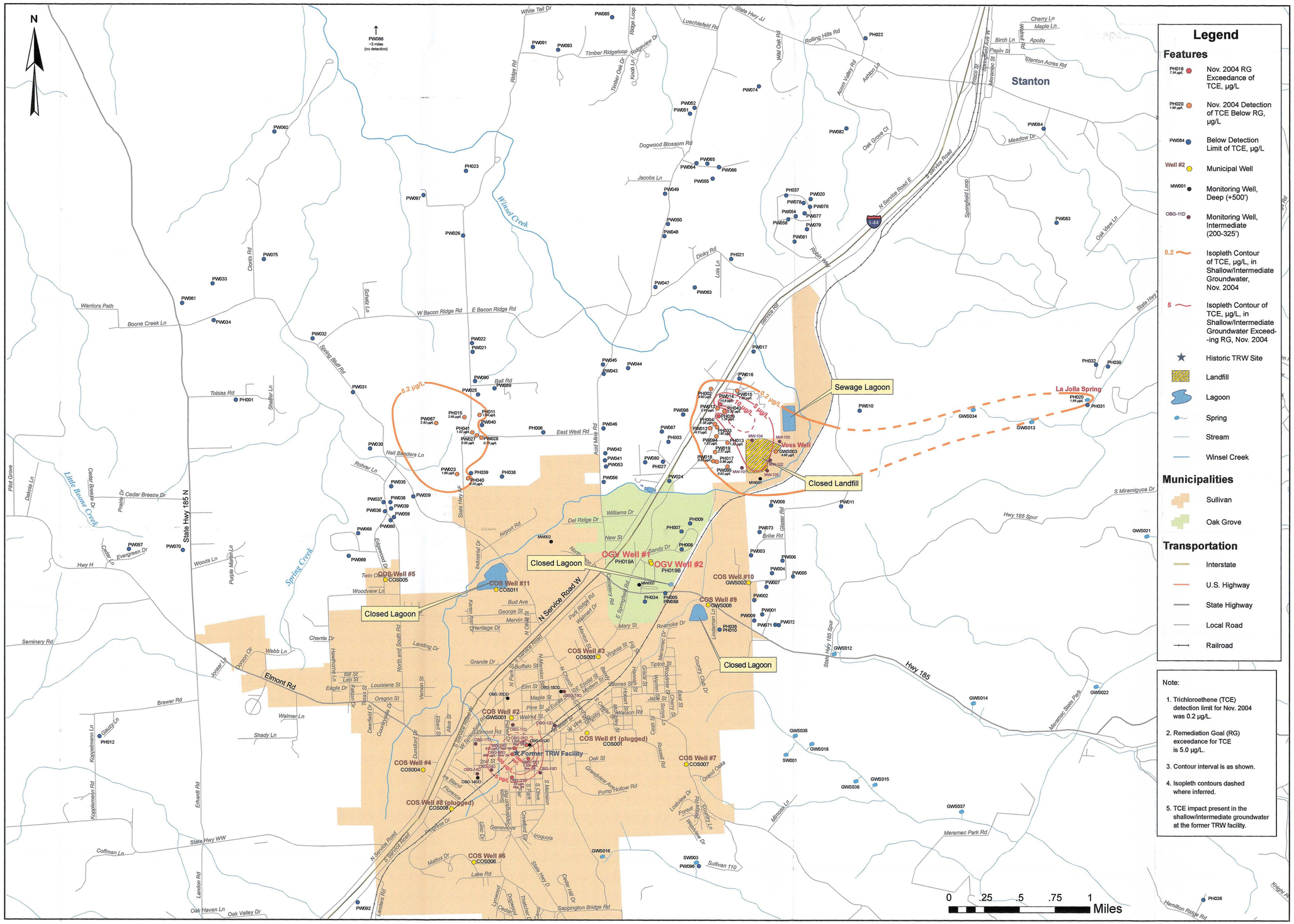

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Figure Title: **TCE Analytical Results for Private and Commercial Water Wells, November 2004, Shallow/Intermediate Groundwater and Area Springs**

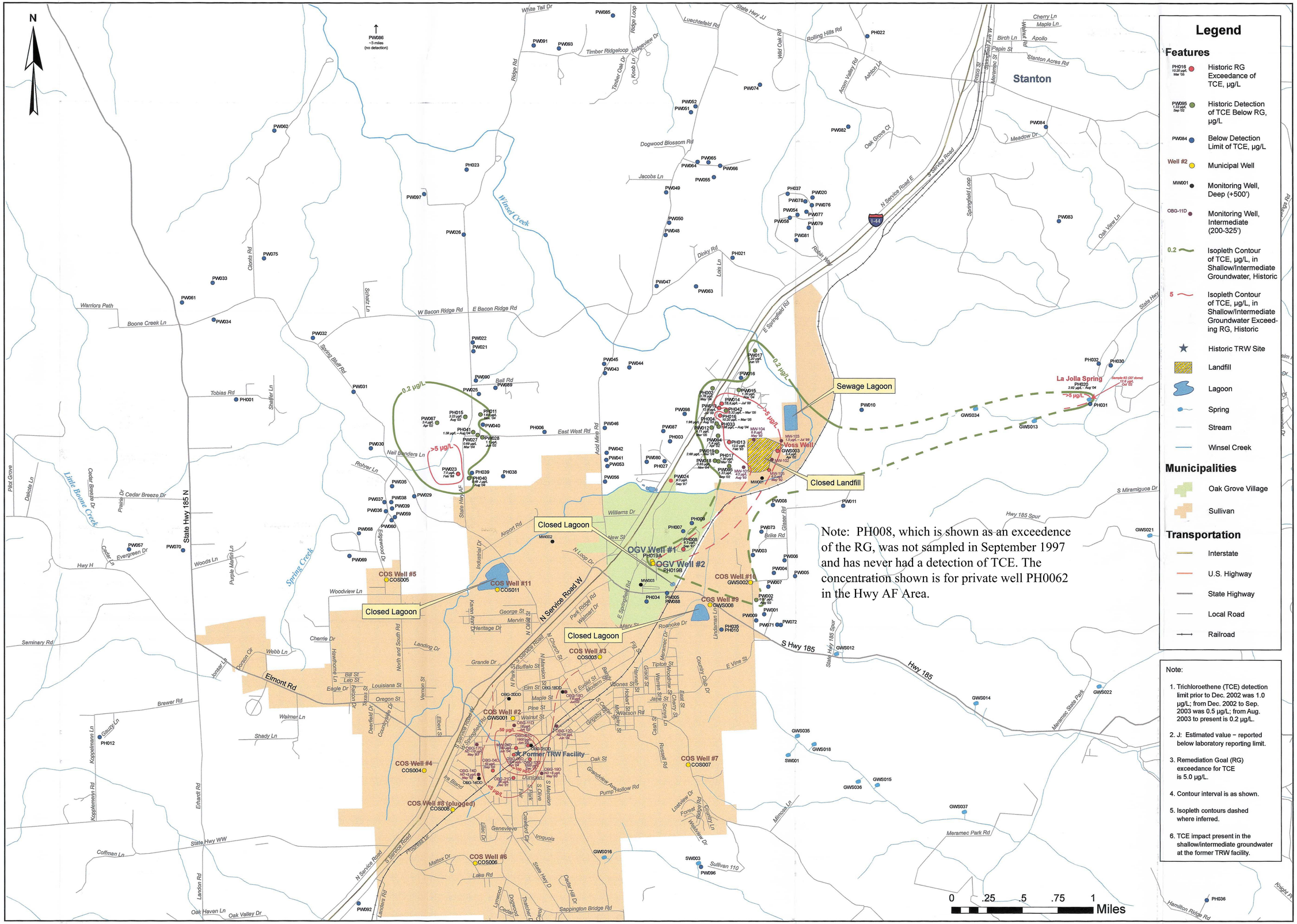
Document Title: Oak Grove Village Well Site Remedial Investigation/Feasibility Study

Client: Missouri Department of Natural Resources

Location: Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	5/23/2005
Scale	As Shown
Designed By	BW
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
13



Note: PH008, which is shown as an exceedence of the RG, was not sampled in September 1997 and has never had a detection of TCE. The concentration shown is for private well PH0062 in the Hwy AF Area.

Legend

Features

- PH016 10.20 µg/L Mar '05 — Historic RG Exceedance of TCE, µg/L
- PW095 1.33 µg/L Sep '02 — Historic Detection of TCE Below RG, µg/L
- PW084 — Below Detection Limit of TCE, µg/L
- Well #2 — Municipal Well
- MW001 — Monitoring Well, Deep (+500')
- OBG-11D — Monitoring Well, Intermediate (200-325')
- 0.2 — Isopleth Contour of TCE, µg/L, in Shallow/Intermediate Groundwater, Historic
- 5 — Isopleth Contour of TCE, µg/L, in Shallow/Intermediate Groundwater Exceeding RG, Historic
- Historic TRW Site
- Landfill
- Lagoon
- Spring
- Stream
- Winsel Creek

Municipalities

- Oak Grove Village
- Sullivan

Transportation

- Interstate
- U.S. Highway
- State Highway
- Local Road
- Railroad

Note:

1. Trichloroethene (TCE) detection limit prior to Dec. 2002 was 1.0 µg/L; from Dec. 2002 to Sep. 2003 was 0.5 µg/L; from Aug. 2003 to present is 0.2 µg/L.
2. J: Estimated value – reported below laboratory reporting limit.
3. Remediation Goal (RG) exceedance for TCE is 5.0 µg/L.
4. Contour interval is as shown.
5. Isopleth contours dashed where inferred.
6. TCE impact present in the shallow/intermediate groundwater at the former TRW facility.

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Figure Title	TCE Maximum Analytical Results for Private and Commercial Water Wells, January 1, 1990 to March 10, 2005, Shallow/Intermediate Groundwater and Area Springs
Document Title	Oak Grove Village Well Site Remedial Investigation/Feasibility Study
Client	Missouri Department of Natural Resources
Location	Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	5/23/2005
Scale	As Shown
Designed By	BW
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
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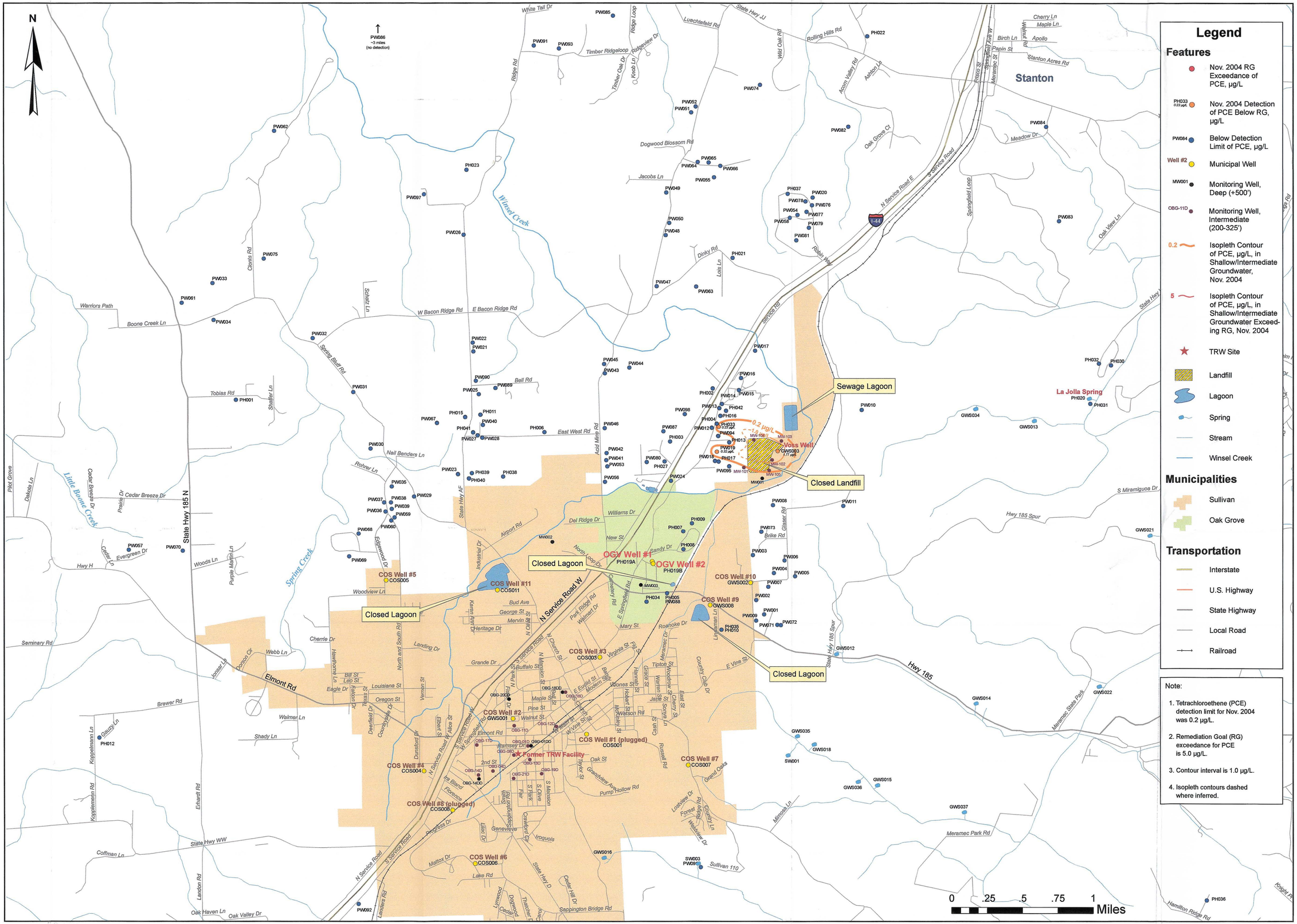

Legend

Features

- Nov. 2004 RG Exceedance of PCE, µg/L
- PH033 0.23 µg/L — Nov. 2004 Detection of PCE Below RG, µg/L
- PW084 — Below Detection Limit of PCE, µg/L
- Well #2 — Municipal Well
- MW001 — Monitoring Well, Deep (+500')
- OBG-11D — Monitoring Well, Intermediate (200-325')
- 0.2 — Isopleth Contour of PCE, µg/L, in Shallow/Intermediate Groundwater, Nov. 2004
- 5 — Isopleth Contour of PCE, µg/L, in Shallow/Intermediate Groundwater Exceeding RG, Nov. 2004
- TRW Site
- Landfill
- Lagoon
- Spring
- Stream
- Winsel Creek

Municipalities

- Sullivan
- Oak Grove

Transportation

- Interstate
- U.S. Highway
- State Highway
- Local Road
- Railroad

Note:

1. Tetrachloroethene (PCE) detection limit for Nov. 2004 was 0.2 µg/L.
2. Remediation Goal (RG) exceedance for PCE is 5.0 µg/L.
3. Contour interval is 1.0 µg/L.
4. Isopleth contours dashed where inferred.

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Figure Title: **PCE Analytical Results for Private and Commercial Water Wells, November 2004, Shallow/Intermediate Groundwater and Area Springs**

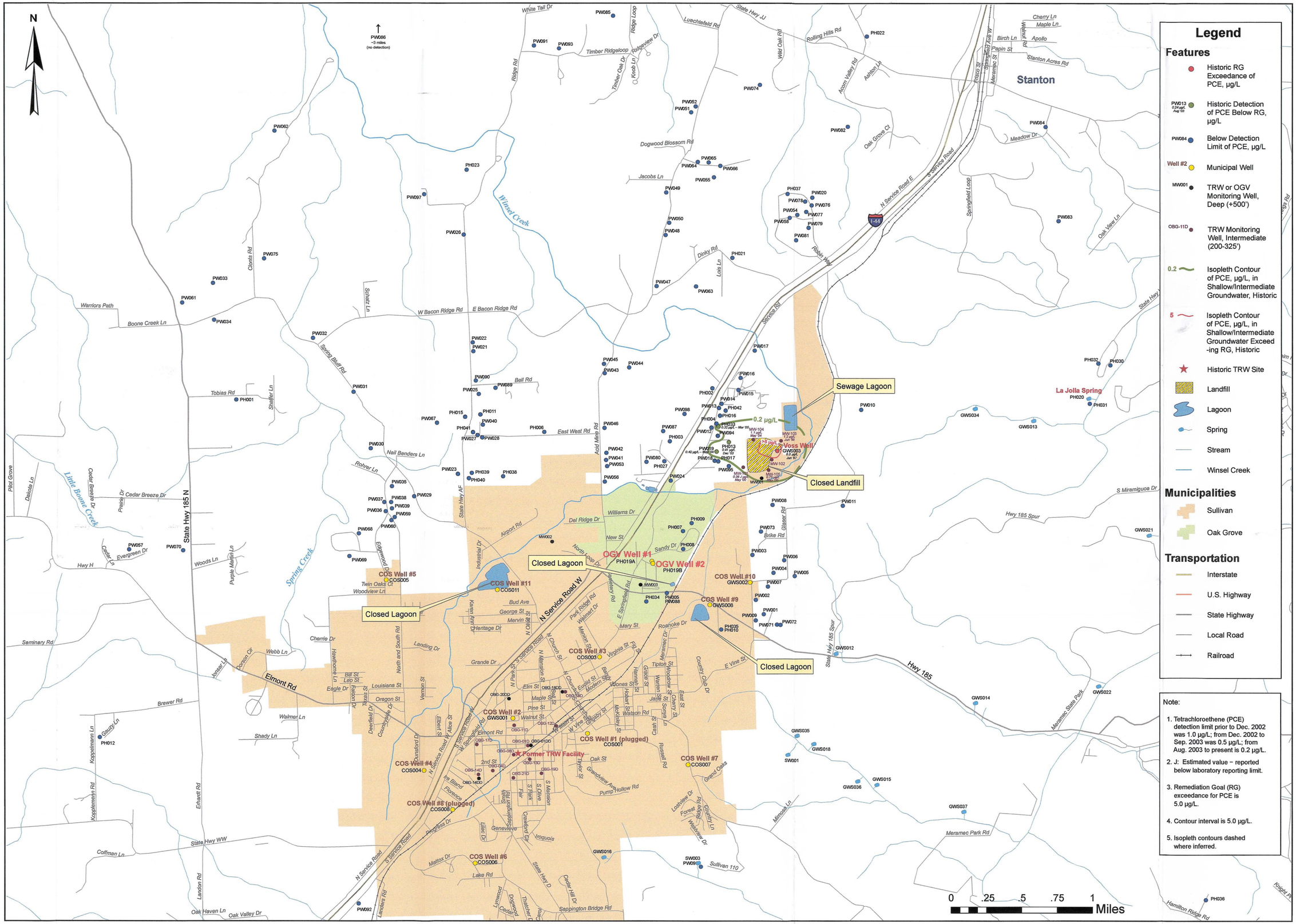
Document Title: Oak Grove Village Well Site Remedial Investigation/Feasibility Study

Client: Missouri Department of Natural Resources

Location: Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	5/23/2005
Scale	As Shown
Designed By	BW
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
15



Legend

Features

- Historic RG Exceedance of PCE, µg/L
- PW013 0.24 µg/L Aug '03 — Historic Detection of PCE Below RG, µg/L
- PW084 — Below Detection Limit of PCE, µg/L
- Well #2 — Municipal Well
- MW001 — TRW or OGV Monitoring Well, Deep (+500')
- OBG-11D — TRW Monitoring Well, Intermediate (200-325')
- 0.2 — Isopleth Contour of PCE, µg/L, in Shallow/Intermediate Groundwater, Historic
- 5 — Isopleth Contour of PCE, µg/L, in Shallow/Intermediate Groundwater Exceed -ing RG, Historic
- Historic TRW Site
- Landfill
- Lagoon
- Spring
- Stream
- Winsel Creek

Municipalities

- Sullivan
- Oak Grove

Transportation

- Interstate
- U.S. Highway
- State Highway
- Local Road
- Railroad

Note:

1. Tetrachloroethene (PCE) detection limit prior to Dec. 2002 was 1.0 µg/L; from Dec. 2002 to Sep. 2003 was 0.5 µg/L; from Aug. 2003 to present is 0.2 µg/L.
2. J: Estimated value – reported below laboratory reporting limit.
3. Remediation Goal (RG) exceedance for PCE is 5.0 µg/L.
4. Contour interval is 5.0 µg/L.
5. Isopleth contours dashed where inferred.

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Figure Title: **PCE Maximum Analytical Results for Private and Commercial Water Wells, January 1, 1990 to March 10, 2005, Shallow/Intermediate Groundwater and Area Springs**

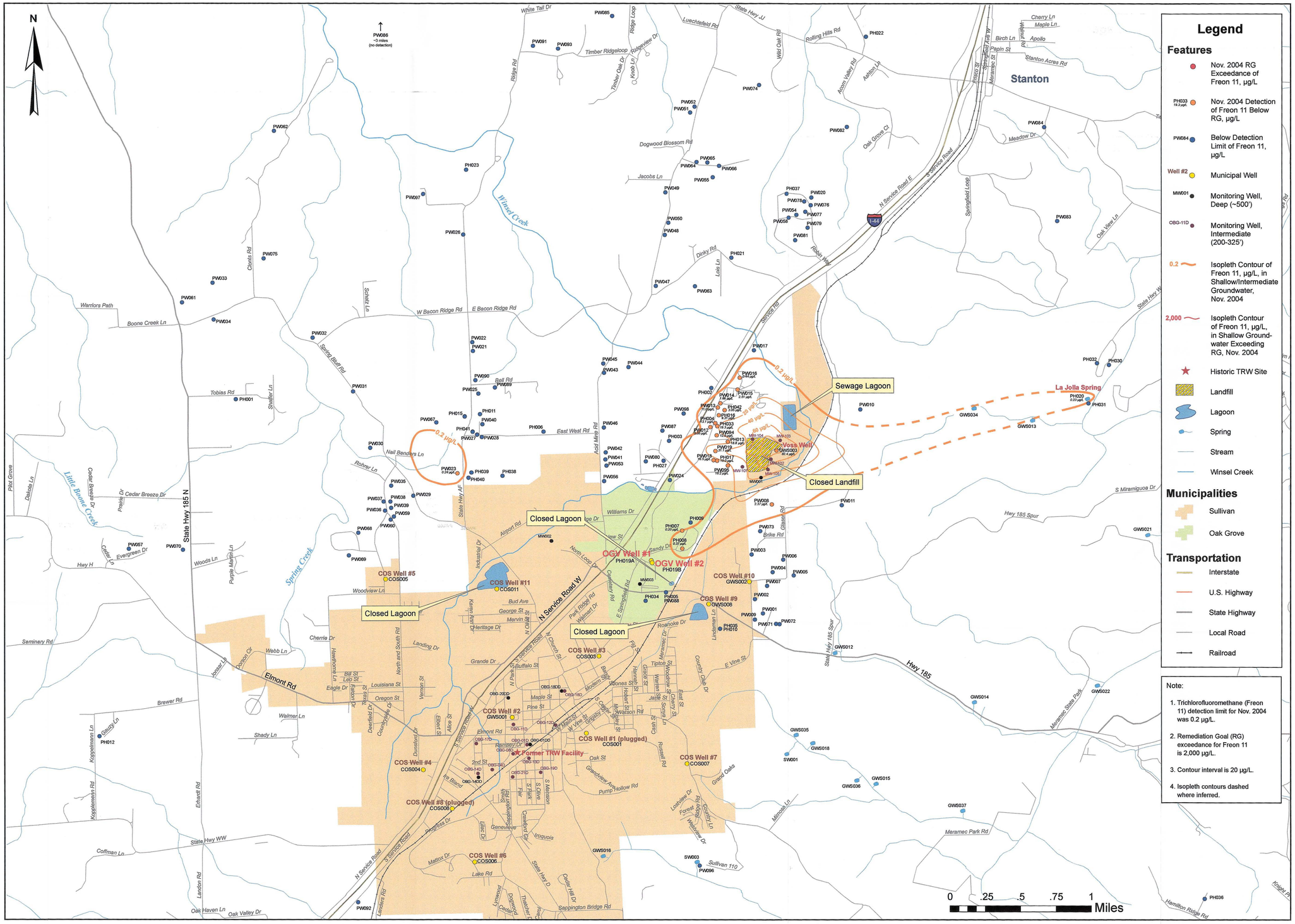
Document Title: Oak Grove Village Well Site Remedial Investigation/Feasibility Study

Client: Missouri Department of Natural Resources

Location: Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	5/23/2005
Scale	As Shown
Designed By	BW
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
16



Legend

Features

- Nov. 2004 RG Exceedance of Freon 11, µg/L
- PH033 18.3 µg/L — Nov. 2004 Detection of Freon 11 Below RG, µg/L
- PW084 — Below Detection Limit of Freon 11, µg/L
- Well #2 — Municipal Well
- MW001 — Monitoring Well, Deep (~500')
- OBG-11D — Monitoring Well, Intermediate (200-325')
- 0.2 — Isopleth Contour of Freon 11, µg/L, in Shallow/Intermediate Groundwater, Nov. 2004
- 2,000 — Isopleth Contour of Freon 11, µg/L, in Shallow Groundwater Exceeding RG, Nov. 2004
- Historic TRW Site
- Landfill
- Lagoon
- Spring
- Stream
- Winsel Creek

Municipalities

- Sullivan
- Oak Grove

Transportation

- Interstate
- U.S. Highway
- State Highway
- Local Road
- Railroad

Note:

1. Trichlorofluoromethane (Freon 11) detection limit for Nov. 2004 was 0.2 µg/L.
2. Remediation Goal (RG) exceedance for Freon 11 is 2,000 µg/L.
3. Contour interval is 20 µg/L.
4. Isopleth contours dashed where inferred.

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Figure Title: **Freon 11 Analytical Results for Private and Commercial Water Wells, November 2004, Shallow/Intermediate Groundwater and Area Springs**

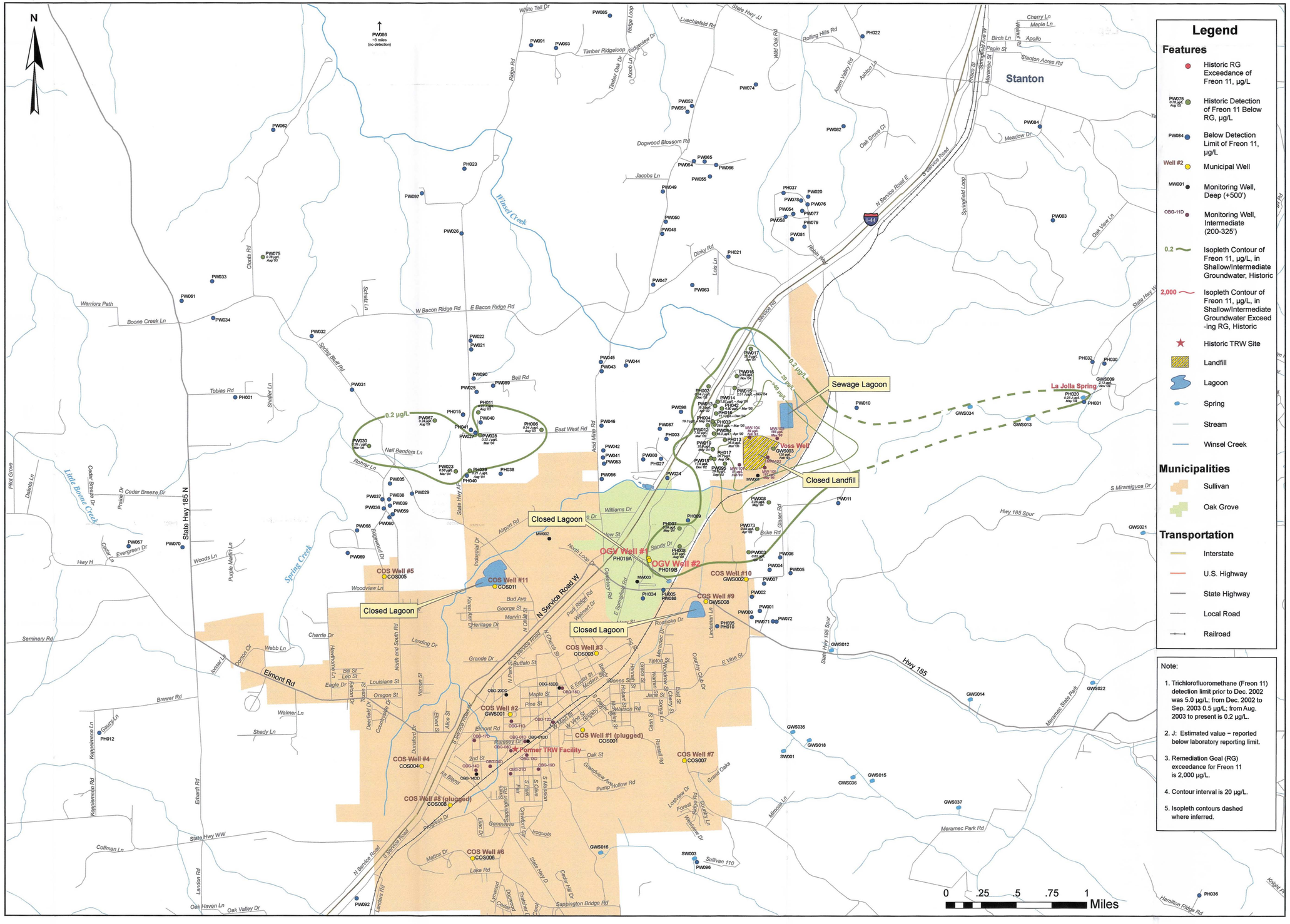
Document Title: Oak Grove Village Well Site Remedial Investigation/Feasibility Study

Client: Missouri Department of Natural Resources

Location: Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	5/23/2005
Scale	As Shown
Designed By	BW
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
17



Legend

Features

- Historic RG Exceedance of Freon 11, µg/L
- PW075 0.19 µg/L Aug 03 — Historic Detection of Freon 11 Below RG, µg/L
- PW084 — Below Detection Limit of Freon 11, µg/L
- Well #2 — Municipal Well
- MW001 — Monitoring Well, Deep (+500')
- OBG-11D — Monitoring Well, Intermediate (200-325')
- 0.2 — Isopleth Contour of Freon 11, µg/L, in Shallow/Intermediate Groundwater, Historic
- 2,000 — Isopleth Contour of Freon 11, µg/L, in Shallow/Intermediate Groundwater Exceed -ing RG, Historic
- Historic TRW Site
- Landfill
- Lagoon
- Spring
- Stream
- Winsel Creek

Municipalities

- Sullivan
- Oak Grove

Transportation

- Interstate
- U.S. Highway
- State Highway
- Local Road
- Railroad

Note:

1. Trichlorofluoromethane (Freon 11) detection limit prior to Dec. 2002 was 5.0 µg/L; from Dec. 2002 to Sep. 2003 0.5 µg/L; from Aug. 2003 to present is 0.2 µg/L.
2. J: Estimated value – reported below laboratory reporting limit.
3. Remediation Goal (RG) exceedance for Freon 11 is 2,000 µg/L.
4. Contour interval is 20 µg/L.
5. Isopleth contours dashed where inferred.

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Figure Title: **Freon 11 Maximum Analytical Results for Private and Commercial Water Wells, January 1, 1990 to March 10, 2005, Shallow/Intermediate Groundwater and Area Springs**

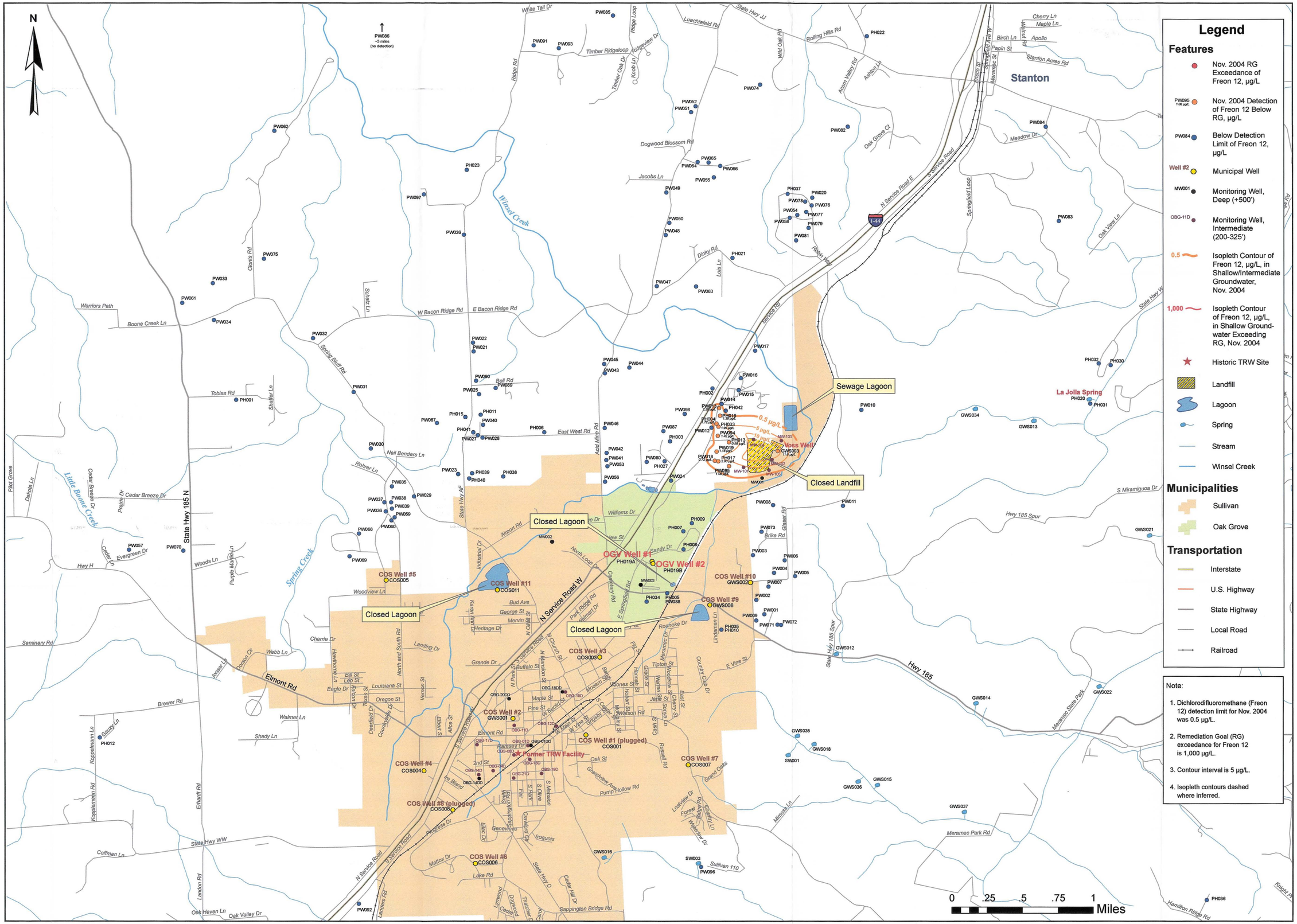
Document Title: Oak Grove Village Well Site Remedial Investigation/Feasibility Study

Client: Missouri Department of Natural Resources

Location: Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	5/23/2005
Scale	As Shown
Designed By	BW
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
18



Legend

Features

- Nov. 2004 RG Exceedance of Freon 12, µg/L
- PW095 1.09 µg/L — Nov. 2004 Detection of Freon 12 Below RG, µg/L
- PW084 — Below Detection Limit of Freon 12, µg/L
- Well #2 — Municipal Well
- MW001 — Monitoring Well, Deep (+500')
- OBG-11D — Monitoring Well, Intermediate (200-325')
- 0.5 — Isopleth Contour of Freon 12, µg/L, in Shallow/Intermediate Groundwater, Nov. 2004
- 1,000 — Isopleth Contour of Freon 12, µg/L, in Shallow Ground-water Exceeding RG, Nov. 2004
- Historic TRW Site
- Landfill
- Lagoon
- Spring
- Stream
- Winsel Creek

Municipalities

- Sullivan
- Oak Grove

Transportation

- Interstate
- U.S. Highway
- State Highway
- Local Road
- Railroad

Note:

1. Dichlorodifluoromethane (Freon 12) detection limit for Nov. 2004 was 0.5 µg/L.
2. Remediation Goal (RG) exceedance for Freon 12 is 1,000 µg/L.
3. Contour interval is 5 µg/L.
4. Isopleth contours dashed where inferred.

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Figure Title: **Freon 12 Analytical Results for Private and Commercial Water Wells, November 2004, Shallow/Intermediate Groundwater and Area Springs**

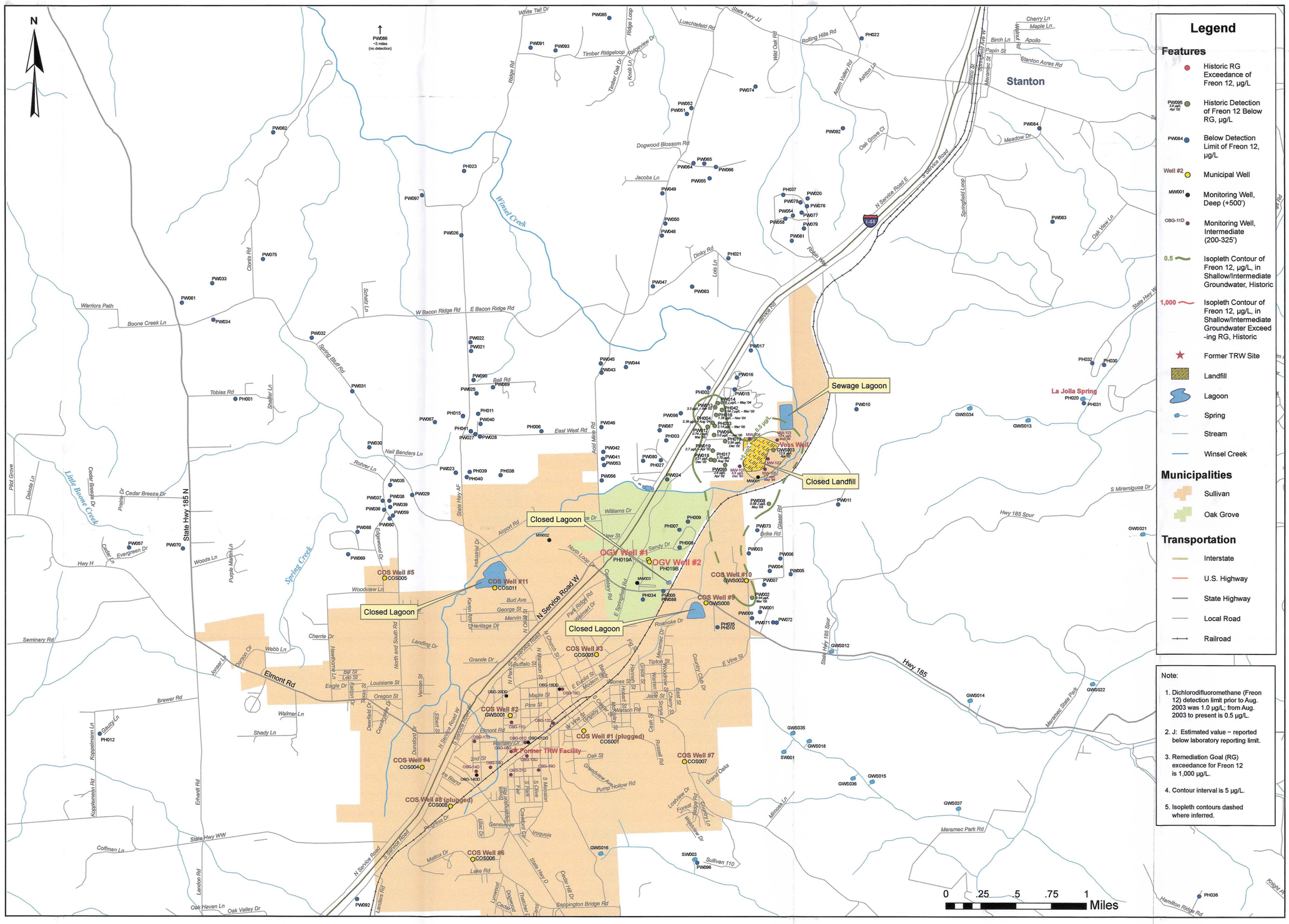
Document Title: Oak Grove Village Well Site Remedial Investigation/Feasibility Study

Client: Missouri Department of Natural Resources

Location: Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	5/23/2005
Scale	As Shown
Designed By	BW
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
19



Legend

Features

- Historic RG Exceedance of Freon 12, µg/L
- PW095 3.6 µg/L Apr '05 — Historic Detection of Freon 12 Below RG, µg/L
- PW084 — Below Detection Limit of Freon 12, µg/L
- Well #2 — Municipal Well
- MW001 — Monitoring Well, Deep (+500')
- OBG-11D — Monitoring Well, Intermediate (200-325')
- 0.5 — Isopleth Contour of Freon 12, µg/L, in Shallow/Intermediate Groundwater, Historic
- 1,000 — Isopleth Contour of Freon 12, µg/L, in Shallow/Intermediate Groundwater Exceeding RG, Historic
- Former TRW Site
- Landfill
- Lagoon
- Spring
- Stream
- Winsel Creek

Municipalities

- Sullivan
- Oak Grove

Transportation

- Interstate
- U.S. Highway
- State Highway
- Local Road
- Railroad

Note:

1. Dichlorodifluoromethane (Freon 12) detection limit prior to Aug. 2003 was 1.0 µg/L; from Aug. 2003 to present is 0.5 µg/L.
2. J: Estimated value – reported below laboratory reporting limit.
3. Remediation Goal (RG) exceedance for Freon 12 is 1,000 µg/L.
4. Contour interval is 5 µg/L.
5. Isopleth contours dashed where inferred.

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Figure Title: **Freon 12 Maximum Analytical Results for Private and Commercial Water Wells, January 1, 1990 to March 10, 2005, Shallow/Intermediate Groundwater and Area Springs**

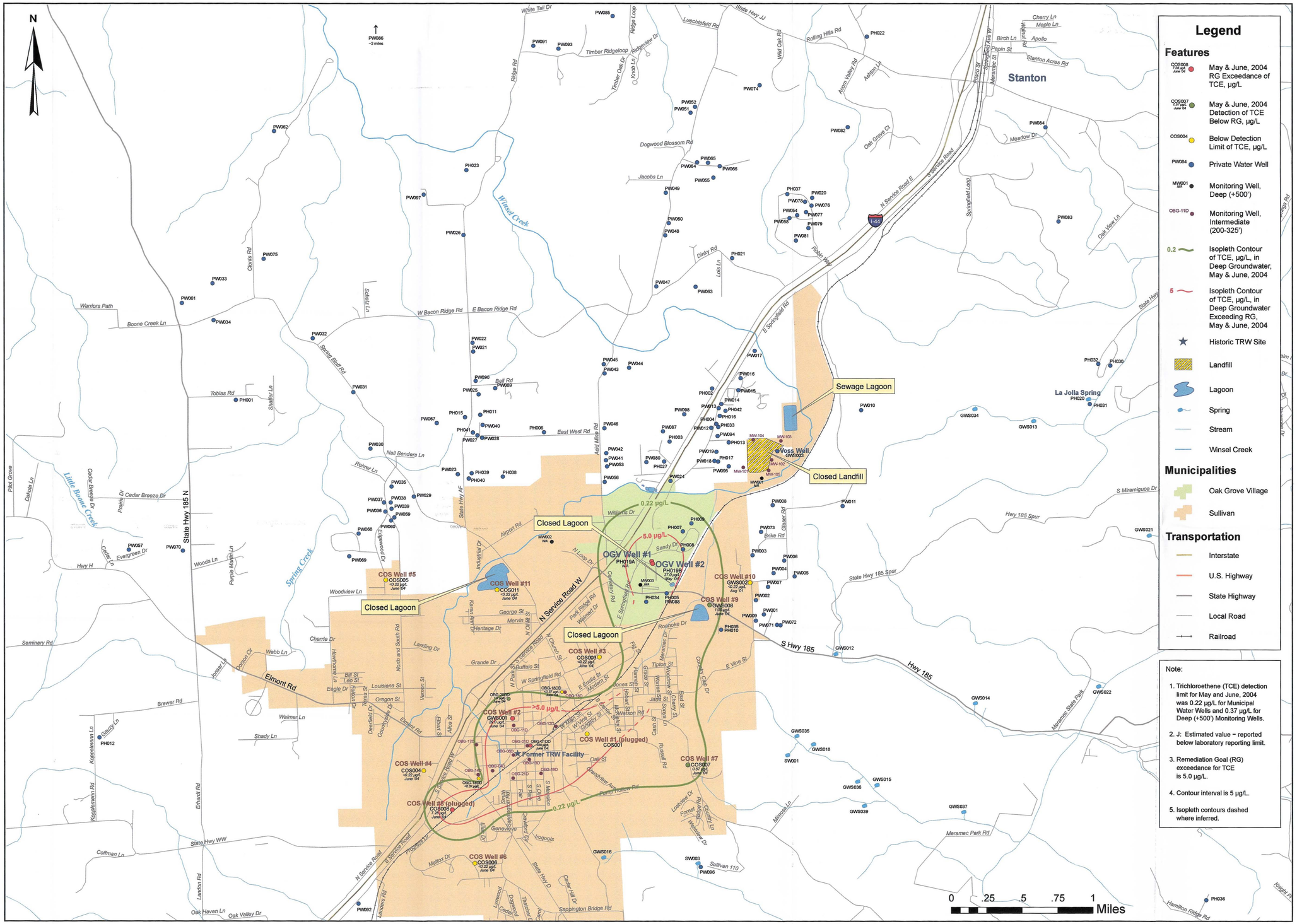
Document Title: Oak Grove Village Well Site Remedial Investigation/Feasibility Study

Client: Missouri Department of Natural Resources

Location: Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	5/23/2005
Scale	As Shown
Designed By	BW
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
20



Legend

Features

- COS008 7.26 µg/L June 04 — May & June, 2004 RG Exceedance of TCE, µg/L
- COS007 0.37 µg/L June 04 — May & June, 2004 Detection of TCE Below RG, µg/L
- COS004 — Below Detection Limit of TCE, µg/L
- PW084 — Private Water Well
- MW001 NR — Monitoring Well, Deep (+500')
- OBG-11D — Monitoring Well, Intermediate (200-325')
- 0.2 — Isopleth Contour of TCE, µg/L, in Deep Groundwater, May & June, 2004
- 5 — Isopleth Contour of TCE, µg/L, in Deep Groundwater Exceeding RG, May & June, 2004
- Historic TRW Site
- Landfill
- Lagoon
- Spring
- Stream
- Winsel Creek

Municipalities

- Oak Grove Village
- Sullivan

Transportation

- Interstate
- U.S. Highway
- State Highway
- Local Road
- Railroad

Note:

1. Trichloroethene (TCE) detection limit for May and June, 2004 was 0.22 µg/L for Municipal Water Wells and 0.37 µg/L for Deep (>500') Monitoring Wells.
2. J: Estimated value – reported below laboratory reporting limit.
3. Remediation Goal (RG) exceedance for TCE is 5.0 µg/L.
4. Contour interval is 5 µg/L.
5. Isopleth contours dashed where inferred.

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Figure Title: **TCE Analytical Results for Municipal Water Wells (Wells Completed into the Potosi), May and June, 2004, Deep Groundwater**

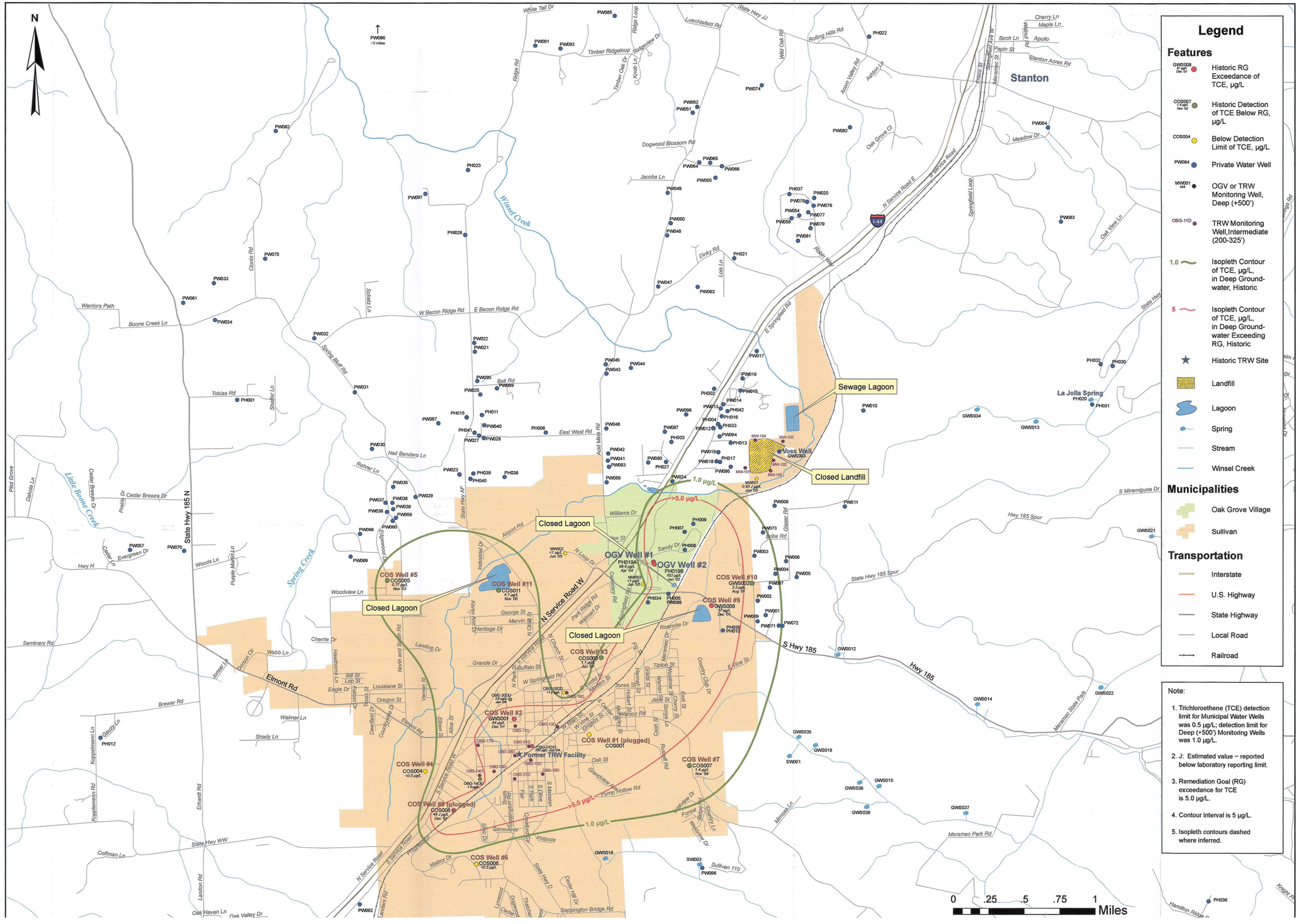
Document Title: Oak Grove Village Well Site Remedial Investigation/Feasibility Study

Client: Missouri Department of Natural Resources

Location: Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	5/23/2005
Scale	As Shown
Designed By	BW
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
21



Legend

Features

- Historic RG Exceedance of TCE, µg/L
- Historic Detection of TCE Below RG, µg/L
- Below Detection Limit of TCE, µg/L
- Private Water Well
- OGV or TRW Monitoring Well, Deep (+500')
- TRW Monitoring Well, Intermediate (200-325')
- Isopleth Contour of TCE, µg/L, in Deep Groundwater, Historic
- Isopleth Contour of TCE, µg/L, in Deep Groundwater Exceeding RG, Historic
- Historic TRW Site
- Landfill
- Lagoon
- Spring
- Stream
- Winsel Creek

Municipalities

- Oak Grove Village
- Sullivan

Transportation

- Interstate
- U.S. Highway
- State Highway
- Local Road
- Railroad

Note:

1. Trichloroethene (TCE) detection limit for Municipal Water Wells was 0.5 µg/L; detection limit for Deep (+500') Monitoring Wells was 1.0 µg/L.
2. J: Estimated value – reported below laboratory reporting limit.
3. Remediation Goal (RG) exceedance for TCE is 5.0 µg/L.
4. Contour interval is 5 µg/L.
5. Isopleth contours dashed where inferred.

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Figure Title: **TCE Maximum Analytical Results for Municipal Water Wells (Wells Completed into the Potosi) January 1, 1990 to March 10, 2005, Deep Groundwater**

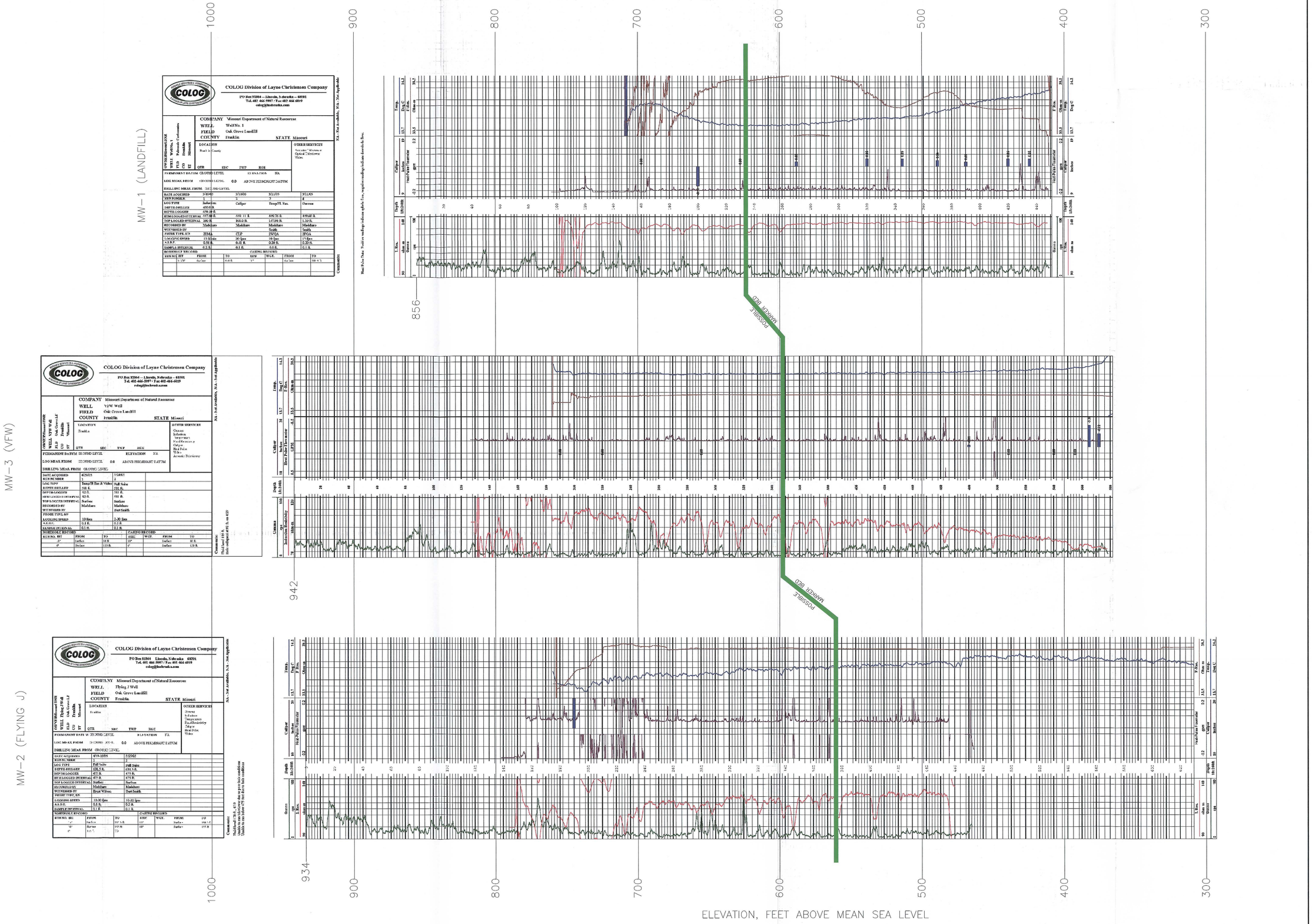
Document Title: Oak Grove Village Well Site Remedial Investigation/Feasibility Study

Client: Missouri Department of Natural Resources

Location: Oak Grove Village, Sullivan and Stanton, Missouri Area

Date	5/23/2005
Scale	As Shown
Designed By	BW
Approved By	BS
Drawn By	BW

Project Number
4100404401
Figure Number
22



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NO.	DATE	DESCRIPTION OF REVISION OR ISSUE	BY	APP'D

FIGURE TITLE
GEOPHYSICAL LOGS AND HEAT PULSE DATA FROM DEEP MONITORING WELLS MW-1, MW-2, AND MW-3
OAK GROVE VILLAGE SUPERFUND SITE

DOCUMENT TITLE

CLIENT MISSOURI DEPARTMENT OF NATURAL RESOURCES

LOCATION OAK GROVE VILLAGE, MISSOURI

DESIGNED BY	BS
APPROVED BY	BS
DRAWN BY	LJ
DATE	08/11/05
SCALE	1" = 30'

PROJECT NUMBER
4100404401 F45

FIGURE NUMBER
23

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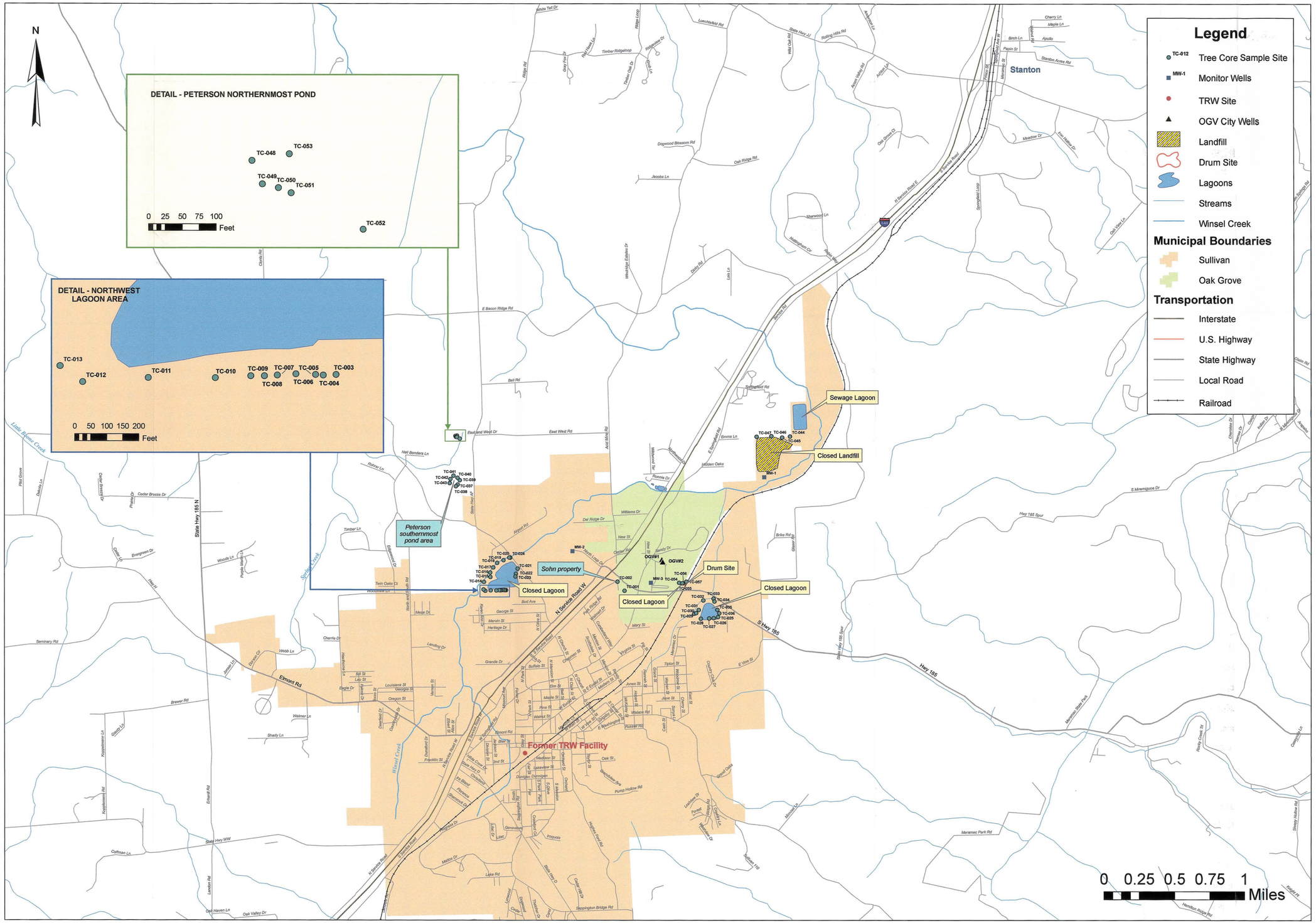

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Figure Title	Tree Core Sample Location Map
Document Title	Oak Grove Village Well Site Remedial Investigation/Feasibility Study
Client	Missouri Department of Natural Resources
Location	Oak Grove Village and Sullivan, Missouri Area

Date	7/19/05
Scale	As Shown
Designed By	BS
Approved By	BS
Drawn By	TS

Project Number
4100404401
Figure Number
24

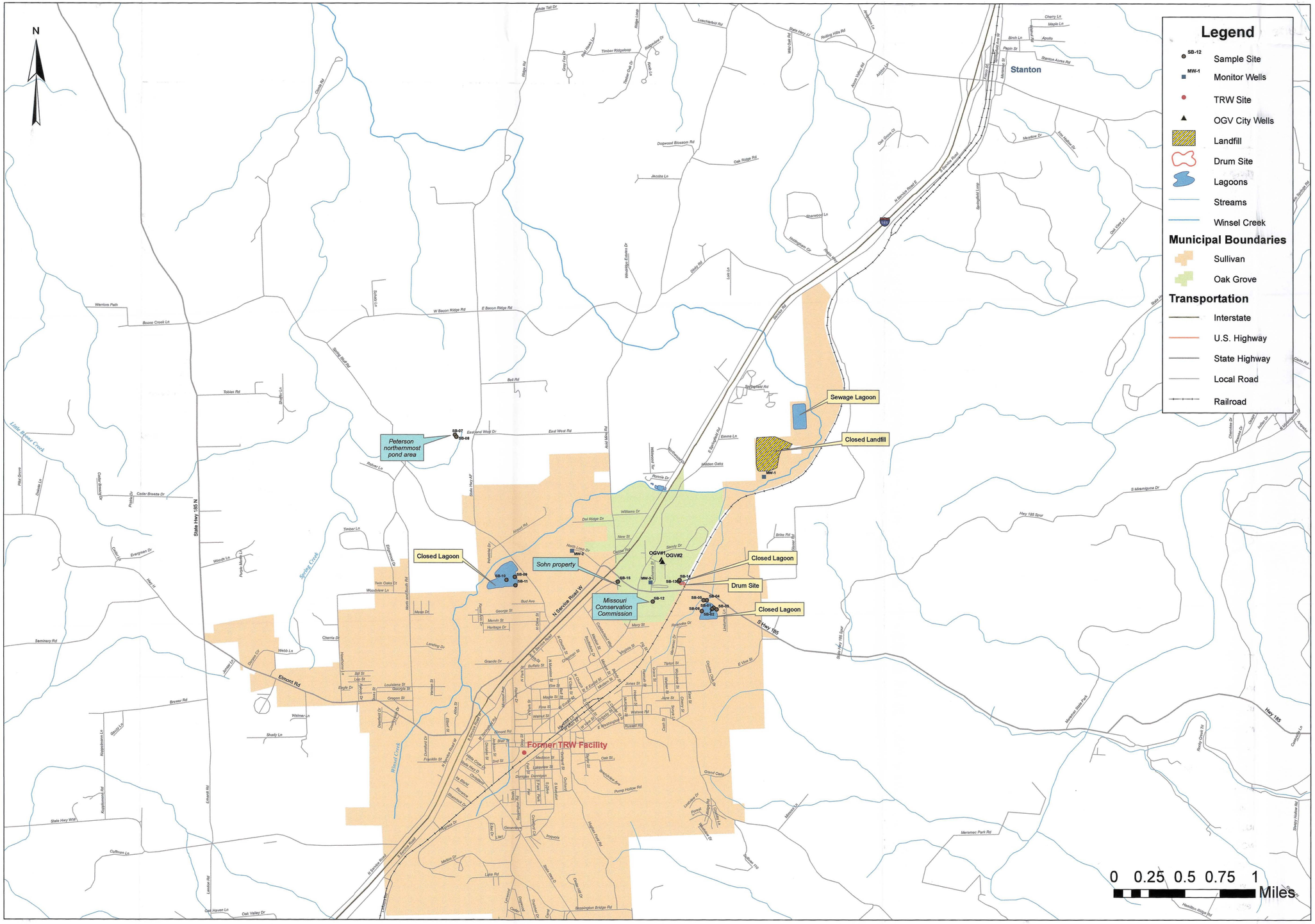

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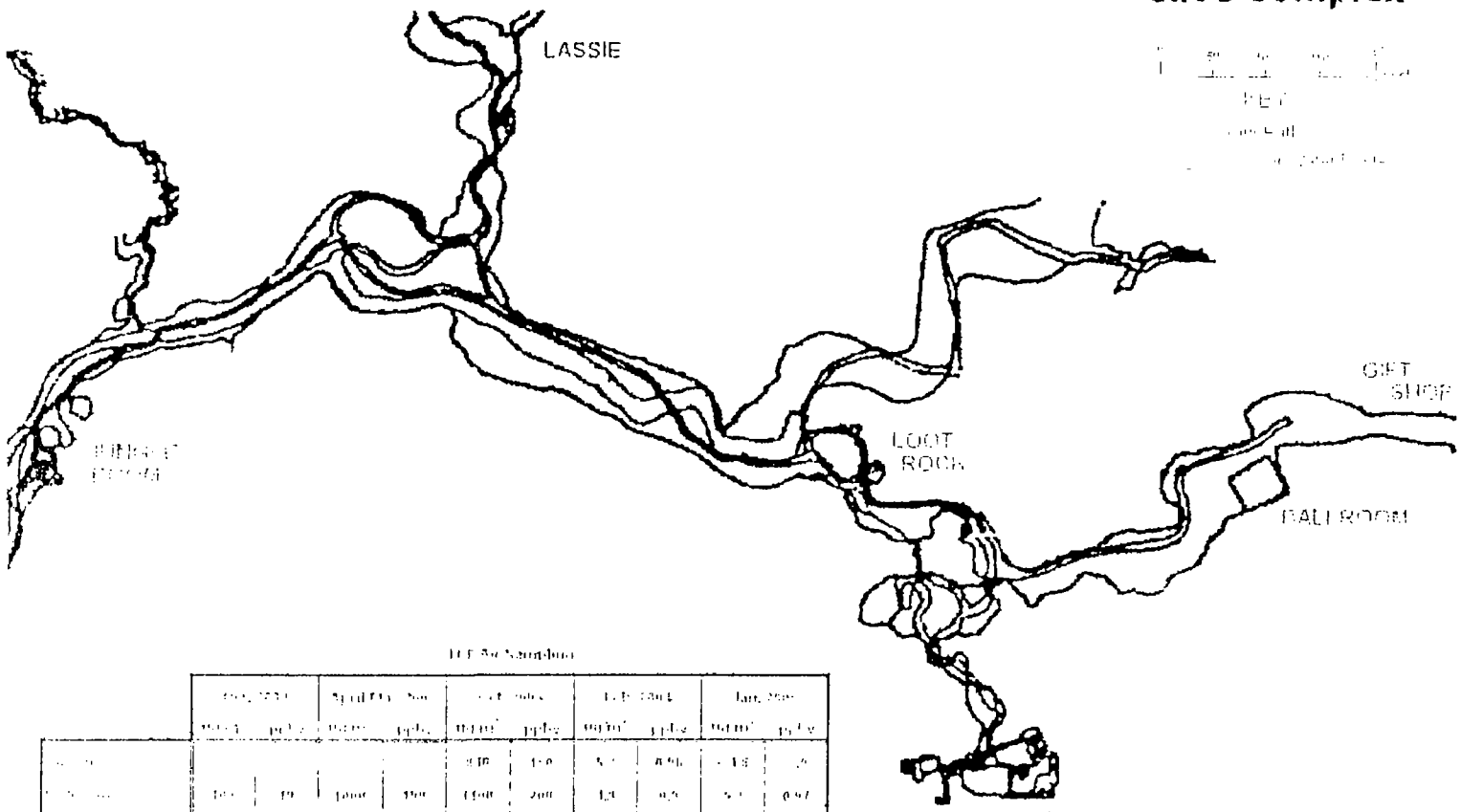
Figure Title	**Map Showing Location of Soil Sample Sites for Oak Grove Village and Closed Sullivan Sanitary Sewer Lagoons, the Sohn Property, the Peterson Pond Property, and Missouri Conservation Commission Property**
Document Title	Oak Grove Village Well Site Remedial Investigation/Feasibility Study
Client	Missouri Department of Natural Resources
Location	Oak Grove Village and Sullivan, Missouri Area

Date	7/19/2005
Scale	As Shown
Designed By	BS
Approved By	BS
Drawn By	TS

Project Number
4100404401
Figure Number
25

LaJolla Spring Cave Complex



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SOURCE: MODIFIED AFTER USEPA, DECEMBER 2004

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FIGURE TITLE	*LA JOLLA SPRING CAVE COMPLEX AIR TCE DATA*
DOCUMENT TITLE	
CLIENT	MISSOURI DEPARTMENT OF NATURAL RESOURCES
LOCATION	OAK GROVE VILLAGE, MISSOURI

DATE	08/11/05
SCALE	NTS
DESIGNED BY	BS
APPROVED BY	BS
DRAWN BY	LJ/SKG
PROJECT NUMBER	4100404401 F53
FIGURE NUMBER	26

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Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

Site ID		Field Sample #	Collection Date	1,1,1,2-Tetrachloroethane, µg/l Result	RL	Q	1,1,1-TCA, µg/l (1,1,1-Trichloroethane) Result	RL	Q	1,1,2,2-Tetrachloroethane, µg/l Result	RL	Q	1,1,2-Trichloroethane, µg/l Result	RL	Q	1,1-DCA, µg/l (1,1-Dichloroethane) Result	RL	Q	1,1-DCE (total), µg/l (Total 1,1-Dichloroethene) Result	RL	Q	1,1-Dichloropropene, µg/l Result	RL	Q	1,2,3-Trichlorobenzene, µg/l Result	RL	Q	1,2,3-Trichloropropane, µg/l Result	RL	Q	1,2,4-Trichlorobenzene, µg/l Result	RL	Q	1,2,4-Trimethylbenzene, µg/l Result	RL	Q	DBCP, µg/l (1,2-Dibromo-3-Chloropropane) Result	RL	Q	Ethylene Dibromide, µg/l (1,2-Dibromoethane) Result	RL	Q	o-Dichlorobenzene, µg/l (1,2-Dichlorobenzene) Result	RL	Q	1,2-DCA, µg/l (1,2-Dichloroethane) Result	RL	Q
			EPA MCL	N/A			200			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
			Missouri CALM Tier I	N/A			200			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
PH019A	(350-427)	0410618	25-Mar-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.05	U,V	<	0.20	U,V	<	0.20	U,V
PH019A	(350-472)	0410612	27-Mar-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	0.37		J,V	<	0.20	U,V	0.20	0.20	J,V	<	0.05	U,V	<	0.20	U,V	<	0.20	U,V
PH019A	(350-489)	0411935	31-Mar-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.05	U,V	<	0.20	U,V	<	0.20	U,V
PH019A	(PP560)	0410613	14-Apr-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.05	U,V	<	0.20	U,V	<	0.20	U,V
PH019A	(PUMP OUTLET 350-560')	0410615	14-Apr-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.05	U,V	<	0.20	U,V	<	0.20	U,V
PH019A	(350-535)	0411937	2-Apr-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.05	U,V	<	0.20	U,V	<	0.20	U,V
PH019A	(578p D)	0410617	21-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.05	U,V	<	0.2	U,V	<	0.2	U,V
PH019A	(555' PACKER 578')	0422013	21-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.05	U,V	<	0.2	U,V	<	0.2	U,V
PH019A	(14GPM PACKER @ 578')	0422015	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.05	U,V	<	0.2	U,V	<	0.2	U,V
PH019A	(573' PUMPING @ 14GPM)	0422016	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.05	U,V	<	0.2	U,V	<	0.2	U,V
PH019A	(560' PUMPING @ 14GPM)	0422017	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.05	U,V	<	0.2	U,V	<	0.2	U,V
PH019A	(540' PUMPING @ 14GPM)	0422018	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.05	U,V	<	0.2	U,V	<	0.2	U,V
PH019A	(515' PUMPING @ 14GPM)	0422019	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.05	U,V	<	0.2	U,V	<	0.2	U,V
PH019A	(490' PUMPING @ 14GPM)	0422020	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.05	U,V	<	0.2	U,V	<	0.2	U,V
PH019A	(470' PUMPING @ 14GPM)	0422021	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.05	U,V	<	0.2	U,V	<	0.2	U,V
PH019A ??	(NO SAMPLE ID)	0422022	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.05	U,V	<	0.2	U,V	<	0.2	U,V
PH019A	(P2A-B)	0411942	19-May-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.05	U,V	<	0.20	U,V	<	0.20	U,V
PH019A		PW099GWS149	12-Dec-01	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A	DUP	PW099GWS149	12-Dec-01	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
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PH019A		PW099GWS145	11-Oct-01	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS146	11-Oct-01	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS147	11-Oct-01	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS148	11-Oct-01	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS142	21-Sep-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS143	21-Sep-01	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U	<	1	U
PH019A		PW099GWS142	20-Sep-01	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U	<	1	U
PH019A (??)		0110435	3-May-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A (??)	DUP	0110437	3-May-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A		0007937	20-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U	<	1.0	U	<	1.0	U,V	<	1.0	U,V	<	1.0	U	<	5	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U,V
PH019A	DUP	0007938	20-Nov-00	<	1.0	U	<	1.0	U,V	<	1.0	U	<	1.0	U	<	1.0	U,V	<	1.0	U,V	<	1.0	U	<	5	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U,V
PH019A		0007932	17-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A		0007931	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	DUP	0007930	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A		0007925	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A		0007926	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A		0007927	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5	U	<	1.0	U,V	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A		0007928	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A		0009100	10-Aug-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	DUP	0009101	10-Aug-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A		97-8401	11-Sep-97	—	—	—	<	0.5	U	—	—	—	—	—	—	<	1.0	U	<	0.5	U	<	1.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	0.5	U
PH019A		N/A	14-Dec-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	0.5	U
PH019A		N/A	5-Mar-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	22-Feb-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	1-Mar-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	24-Jun-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	16-May-91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	28-Nov-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	3-Oct-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	25-Jul-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	11-Jun-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	30-Mar-89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		88-2193	10-Aug-88	—	—	—	<	2.0	U	<	5.0	U	<	2.0	U	<	2.0	U	<	2.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	2.0	U
PH019A		88-0881	18-May-88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	27-Aug-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-1181	11-Jun-87	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U
PH019A		87-2018	6-Mar-87	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U
PH019A		87-3771	18-Feb-87	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U
PH019A		87-2036	11-Feb-87	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U
PH019A		86-8805	3-Dec-86	—	—	—	<	2.2	U	<	1.9	U	<	1.6	U	<	2.2	U	<	2.2	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	2.2	U
PH019A		86-8751	26-Oct-86	—	—	—	<	2.2	U	<	1.9	U	<	1.6	U	<	2.2	U	<	2.2	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	2.2	U
PH019A		86-6136	10-Jun-86	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U
PH019A	DUP	0009101	10-Aug-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT ZONE 1	PW099GWS149	12-Dec-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT ZONE 1 DUP	PW099GWS150	12-Dec-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS144	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT (#2 ZONE)	PW099GWS145	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT DUP (#2 ZONE)	PW099GWS145	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

Site ID		Field Sample #	Collection Date	1,1,1,2-Tetrachloroethane, µg/l			1,1,1-TCA, µg/l (1,1,1-Trichloroethane)			1,1,2,2-Tetrachloroethane, µg/l			1,1,2-Trichloroethane, µg/l			1,1-DCA, µg/l (1,1-Dichloroethane)			1,1-DCE (total), µg/l (Total 1,1-Dichloroethene)			1,1-Dichloropropene, µg/l			1,2,3-Trichlorobenzene, µg/l			1,2,3-Trichloropropane, µg/l			1,2,4-Trichlorobenzene, µg/l			1,2,4-Trimethylbenzene, µg/l			DBCP, µg/l (1,2-Dibromo-3-Chloropropane)			Ethylene Dibromide, µg/l (1,2-Dibromoethane)			o-Dichlorobenzene, µg/l (1,2-Dichlorobenzene)			1,2-DCA, µg/l (1,2-Dichloroethane)		
			EPA MCL	N/A			200			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
			Missouri CALM Tier I	N/A			200			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
Site ID		Field Sample #	Date	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
PH019A	SPLIT (#3 ZONE)	PW099GWS146	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT (#4 ZONE)	PW099GWS147	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS148	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT	PW099GWS143	21-Sep-01	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	5	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U
PH019A	SPLIT	PW099GWS142	20-Sep-01	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	5	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U
PH019B	(PRE)	0504054	24-May-05	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.05	U,V	<	0.20	U,V	<	0.20	U,V
PH019B	(POST)	0504055	24-May-05	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.05	U,V	<	0.20	U,V	<	0.20	U,V
PH019B	(42-HOUR INTERVAL)	0300912	14-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(48-HOUR INTERVAL)	0300913	14-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(24-HOUR INTERVAL)	0300909	13-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(30-HOUR INTERVAL)	0300910	13-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(36-HOUR INTERVAL)	0300911	13-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(START-UP)	0300901	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(2-HOUR INTERVAL)	0300902	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(4-HOUR INTERVAL)	0300903	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(6-HOUR INTERVAL)	0300904	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(9-HOUR INTERVAL)	0300906	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(12-HOUR INTERVAL)	0300907	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	(18-HOUR INTERVAL)	0300908	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	BLIND DUP	0300905	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B		0302800	7-Jan-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B		0302801	7-Jan-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V
PH019B	W/O BUBBLES	0219451	20-Jun-02	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019B	WITH BUBBLES	0219452	20-Jun-02	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
OGV#3		0220975	13-Jun-02	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.10	U,V	<	0.5	U,V	<	0.5	U,V
OGV#4		0220977	13-Jun-02	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.10	U,V	<	0.5	U,V	<	0.5	U,V
OGV CITY HALL	(DRUM WATER)	0320847	30-Apr-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.1	U,V	<	0.5	U,V	<	0.5	U,V

Notes:
1. * : cis-1,2-DCE value used since a value for 1,2-DCE(total) is not included in the referenced documents.
2. N/A : Not available.
3. ND : Not detected.
4. --- : Not analyzed.
5. Q : Qualifiers.
   - J : Indicates estimated concentration.
   - U : Compound not detected.
   - V : Data has been verified.
   - B : Method blank contamination.
   - E : Estimated value - QC out of range.
6. Values shaded and appearing in ***bold/italics*** indicates concentration exceeds one of the comparison standards.
7. RL : Reporting limit.
8. Data appearing "blacked out" could not be verified.
9. Sample collection dates shaded in green could not be verified from data provided to Benham.

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

Site ID		Field Sample #	Collection Date	1,2-Dichloropropane, µg/l			1,3,5-Trimethylbenzene, µg/l			m-Dichlorobenzene, µg/l (1,3-Dichlorobenzene)			1,3-Dichloropropane, µg/l			p-Dichlorobenzene, µg/l (1,4-Dichlorobenzene)			2,2-Dichloropropane, µg/l			o-Chlorotoluene, µg/l (2-Chlorotoluene)			p-Chlorotoluene, µg/l (4-Chlorotoluene)			Benzene, µg/l			Bromobenzene, µg/l			Chlorobromomethane, µg/l (Bromochloromethane)			Bromodichloromethane, µg/l (Dichlorobromomethane)			Bromoform, µg/l			Methyl bromide, µg/l (Bromomethane)			Carbon Tetrachloride, µg/l		
			EPA MCL	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
PH019A	(350-427)	0410618	25-Mar-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	1.00	U,V	<	0.20	U,V
PH019A	(350-472)	0410612	27-Mar-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	1.00	U,V	<	0.20	U,V
PH019A	(350-489)	0411935	31-Mar-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	1.00	U,V	<	0.20	U,V
PH019A	(PP560)	0410613	14-Apr-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	1.00	U,V	<	0.20	U,V
PH019A	(PUMP OUTLET 350-560')	0410615	14-Apr-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	1.00	U,V	<	0.20	U,V
PH019A	(350-535)	0411937	2-Apr-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	1.00	U,V	<	0.20	U,V
PH019A	(578p D)	0410617	21-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	1.00	U,V	<	0.2	U,V
PH019A	(555' PACKER 578')	0422013	21-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	1.00	U,V	<	0.2	U,V
PH019A	(14GPM PACKER @ 578')	0422015	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	1.00	U,V	<	0.2	U,V
PH019A	(573' PUMPING @ 14GPM)	0422016	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	1.00	U,V	<	0.2	U,V
PH019A	(560' PUMPING @ 14GPM)	0422017	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	1.00	U,V	<	0.2	U,V
PH019A	(540' PUMPING @ 14GPM)	0422018	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	1.00	U,V	<	0.2	U,V
PH019A	(515' PUMPING @ 14GPM)	0422019	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	1.00	U,V	<	0.2	U,V
PH019A	(490' PUMPING @ 14GPM)	0422020	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	1.00	U,V	<	0.2	U,V
PH019A	(470' PUMPING @ 14GPM)	0422021	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	1.00	U,V	<	0.2	U,V
PH019A ??	(NO SAMPLE ID)	0422022	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	1.00	U,V	<	0.2	U,V
PH019A	(P2A-B)	0411942	19-May-04	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	1.00	U,V	<	0.20	U,V
PH019A		PW099GWS149	12-Dec-01	<	1	U	—	—	—	<	1	U	—	—	—	<	1	U	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A	DUP	PW099GWS149	12-Dec-01	<	1	U	—	—	—	<	1	U	—	—	—	<	1	U	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS144	11-Oct-01	<	1	U	—	—	—	<	1	U	—	—	—	<	1	U	—	—	—	—	—	—	—	—	—	<	5	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS145	11-Oct-01	<	1	U	—	—	—	<	1	U	—	—	—	<	1	U	—	—	—	—	—	—	—	—	—	<	5	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS146	11-Oct-01	<	1	U	—	—	—	<	1	U	—	—	—	<	1	U	—	—	—	—	—	—	—	—	—	<	5	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS147	11-Oct-01	<	1	U	—	—	—	<	1	U	—	—	—	<	1	U	—	—	—	—	—	—	—	—	—	<	5	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS148	11-Oct-01	<	1	U	—	—	—	<	1	U	—	—	—	<	1	U	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS142	21-Sep-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS143	21-Sep-01	<	1	U	—	—	—	<	1	U,J	—	—	—	<	1	U,J	—	—	—	—	—	—	—	—	—	<	1	U,J	—	—	—	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U,J
PH019A		PW099GWS142	20-Sep-01	<	1	U	—	—	—	<	1	U,J	—	—	—	<	1	U,J	—	—	—	—	—	—	—	—	—	<	5	U	—	—	—	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U,J
PH019A (??)		0110435	3-May-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A (??)	DUP	0110437	3-May-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A		0007937	20-Nov-00	<	1.0	U,V	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U,V	<	1.0	U	<	1.0	U	<	1.0	U,V	<	1.0	U	<	5.0	U,V	<	1.0	U,V
PH019A	DUP	0007938	20-Nov-00	<	1.0	U,V	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U,V	<	1.0	U	<	1.0	U	<	1.0	U,V	<	1.0	U	<	5.0	U,V	<	1.0	U,V
PH019A		0007932	17-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A		0007931	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A	DUP	0007930	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A		0007925	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A		0007926	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A		0007927	15-Nov-00	<	1.0	U,V	<	1.0	U	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A		0007928	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A		0009100	10-Aug-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A	DUP	0009101	10-Aug-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A		97-8401	11-Sep-97	<	0.5	U	—	—	—	—	—	—	—	—	—	—	—	—	<	1.0	U	—	—	—	—	—	—	<	0.6	U	—	—	—	<	1.0	U	<	0.5	U	—	—	—	<	9	U	<	0.5	U
PH019A		N/A	14-Dec-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	5-Mar-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	22-Feb-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	1-Mar-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	24-Jun-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	16-May-91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	28-Nov-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	3-Oct-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	25-Jul-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	11-Jun-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	30-Mar-89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		88-2193	10-Aug-88	<	2.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	2.0	U	—	—	—	—	—	—	<	2.0	U	<	2.0	U	<	5.0	U	<	2.0	U
PH019A		88-0861	18-May-88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	27-Aug-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-1181	11-Jun-87	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U
PH019A		87-2018	6-Mar-87	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U
PH019A		87-3771	18-Feb-87	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U
PH019A		87-2036	11-Feb-87	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U
PH019A		86-8805	3-Dec-86	<	1.9	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	7.9	U	—	—	—	—	—	—	<	1.9	U	<	4.1	U	—	—	—	<	2.2	U
PH019A		86-8751	26-Oct-86	<	1.9	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	7.9	U	—	—	—	—	—	—	<	1.9	U	<	4.1	U	—	—	—	<	2.2	U
PH019A		86-6136	10-Jun-86	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U
PH019A	DUP	0009101	10-Aug-00	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A	SPLIT ZONE 1	PW099GWS149	12-Dec-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A	SPLIT ZONE 1 DUP	PW099GWS150	12-Dec-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS144	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A	SPLIT (#2 ZONE)	PW099GWS145	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A	SPLIT DUP (#2 ZONE)	PW099GWS145	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

				1,2-Dichloropropane, µg/l			1,3,5-Trimethylbenzene, µg/l			m-Dichlorobenzene, µg/l (1,3-Dichlorobenzene)			1,3-Dichloropropane, µg/l			p-Dichlorobenzene, µg/l (1,4-Dichlorobenzene)			2,2-Dichloropropane, µg/l			o-Chlorotoluene, µg/l (2-Chlorotoluene)			p-Chlorotoluene, µg/l (4-Chlorotoluene)			Benzene, µg/l			Bromobenzene, µg/l			Chlorobromomethane, µg/l (Bromochloromethane)			Bromodichloromethane, µg/l (Dichlorobromomethane)			Bromoform, µg/l			Methyl bromide, µg/l (Bromomethane)			Carbon Tetrachloride, µg/l		
			EPA MCL	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5			N/A			N/A			N/A			N/A			N/A			N/A		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5			N/A			N/A			N/A			N/A			N/A			N/A		
Site ID		Field Sample #	Collection Date	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
PH019A	SPLIT (#3 ZONE)	PW099GWS146	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A	SPLIT (#4 ZONE)	PW099GWS147	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS148	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019A	SPLIT	PW099GWS143	21-Sep-01	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	5.0	U	<	1.0	U
PH019A	SPLIT	PW099GWS142	20-Sep-01	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	5.0	U	<	1.0	U
PH019B	(PRE)	0504054	24-May-05	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	1.00	U,V	<	0.20	U,V
PH019B	(POST)	0504055	24-May-05	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	1.00	U,V	<	0.20	U,V
PH019B	(42-HOUR INTERVAL)	0300912	14-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(48-HOUR INTERVAL)	0300913	14-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(24-HOUR INTERVAL)	0300909	13-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(30-HOUR INTERVAL)	0300910	13-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(36-HOUR INTERVAL)	0300911	13-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(START-UP)	0300901	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(2-HOUR INTERVAL)	0300902	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(4-HOUR INTERVAL)	0300903	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(6-HOUR INTERVAL)	0300904	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(9-HOUR INTERVAL)	0300906	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(12-HOUR INTERVAL)	0300907	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	(18-HOUR INTERVAL)	0300908	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	BLIND DUP	0300905	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B		0302800	7-Jan-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B		0302801	7-Jan-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
PH019B	W/O BUBBLES	0219451	20-Jun-02	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
PH019B	WITH BUBBLES	0219452	20-Jun-02	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V
OGV#3		0220975	13-Jun-02	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
OGV#4		0220977	13-Jun-02	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V
OGV CITY HALL	(DRUM WATER)	0320847	30-Apr-03	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	2.5	U,V	<	0.5	U,V

Notes:
1. * : cis-1,2-DCE value used since a value for 1,2-DCE(total) is not included in the referenced documents.
2. N/A : Not available.
3. ND : Not detected.
4. — : Not analyzed.
5. Q : Qualifiers.
   - J : Indicates estimated concentration.
   - U : Compound not detected.
   - V : Data has been verified.
   - B : Method blank contamination.
   - E : Estimated value - QC out of range.
6. Values shaded and appearing in ***bold/italics*** indicates concentration exceeds one of the comparison standards.
7. RL : Reporting limit.
8. Data appearing "blacked out" could not be verified.
9. Sample collection dates shaded in green could not be verified from data provided to Benham.

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

Site ID		Field Sample #	Collection Date	Chlorobenzene, µg/l Result	RL	Q	Chloroethane, µg/l Result	RL	Q	Chloroform, µg/l Result	RL	Q	Chloromethane, µg/l Result	RL	Q	cis-1,2-DCE, µg/l (cis-1,2-Dichloroethene) Result	RL	Q	cis-1,3-Dichloropropene, µg/l Result	RL	Q	Dibromochloromethane, µg/l Result	RL	Q	Methylene bromide, µg/l (Dibromomethane) Result	RL	Q	Dichlorodifluoromethane (Freon 12), µg/l Result	RL	Q	Ethylbenzene, µg/l Result	RL	Q	Hexachlorobutadiene, µg/l Result	RL	Q	1-methylethyl-Benzene (Isopropylbenzene), µg/l Result	RL	Q	m&p-Xylenes, µg/l Result	RL	Q	Methyl tert-butyl ether, µg/l Result	RL	Q	Methylene Chloride, µg/l Result	RL	Q
			EPA MCL	N/A			N/A			N/A			5			70			N/A			80			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			70			N/A			100			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
PH019A	(350-427)	0410618	25-Mar-04	<	0.20	U,V	<	2.50	U,V	<	0.20	U,V	<	5.00	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V
PH019A	(350-472)	0410612	27-Mar-04	<	0.20	U,V	<	2.50	U,V	<	0.20	U,V	<	5.00	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V
PH019A	(350-489)	0411935	31-Mar-04	<	0.20	U,V	<	2.50	U,V	<	0.20	U,V	<	5.00	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V
PH019A	(PP560)	0410613	14-Apr-04	<	0.20	U,V	<	2.50	U,V	<	0.20	U,V	<	5.00	U,V	0.25		J,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V
PH019A	(PUMP OUTLET 350-560')	0410615	14-Apr-04	<	0.20	U,V	<	2.50	U,V	<	0.20	U,V	<	5.00	U,V	0.21		J,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V
PH019A	(350-535)	0411937	2-Apr-04	<	0.20	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.2	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V
PH019A	(578p D)	0410617	21-Apr-04	<	0.2	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V
PH019A	(555' PACKER 578')	0422013	21-Apr-04	<	0.2	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	0.25		J,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V
PH019A	(14GPM PACKER @ 578')	0422015	29-Apr-04	<	0.2	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	1.56		V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V
PH019A	(573' PUMPING @ 14GPM)	0422016	29-Apr-04	<	0.2	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	0.39		J,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V
PH019A	(560' PUMPING @ 14GPM)	0422017	29-Apr-04	<	0.2	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	0.35		J,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V
PH019A	(540' PUMPING @ 14GPM)	0422018	29-Apr-04	<	0.2	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	2.74		V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V
PH019A	(515' PUMPING @ 14GPM)	0422019	29-Apr-04	<	0.2	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	2.05		V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V
PH019A	(490' PUMPING @ 14GPM)	0422020	29-Apr-04	<	0.2	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	2.32		V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V
PH019A	(470' PUMPING @ 14GPM)	0422021	29-Apr-04	<	0.2	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	1.91		V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V
PH019A ??	(NO SAMPLE ID)	0422022	29-Apr-04	<	0.2	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	1.96		V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V
PH019A	(P2A-B)	0411942	19-May-04	<	0.20	U,V	<	2.50	U,V	<	0.2	U,V	<	5.00	U,V	0.98		V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.2	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V
PH019A		PW099GWS149	12-Dec-01	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	<	1	U	<	1	U	—	—	—	—	—	—	—	—	—	—	—	—	<	2	U
PH019A	DUP	PW099GWS149	12-Dec-01	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	<	1	U	<	1	U	—	—	—	—	—	—	—	—	—	—	—	—	<	2	U
PH019A		PW099GWS144	11-Oct-01	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	<	1	U	<	1	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	<	2	U
PH019A		PW099GWS145	11-Oct-01	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	<	1	U	<	1	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	<	2	U
PH019A		PW099GWS146	11-Oct-01	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	<	1	U	<	1	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	<	2	U
PH019A		PW099GWS147	11-Oct-01	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	<	1	U	<	1	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	<	2	U
PH019A		PW099GWS148	11-Oct-01	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	—	—	—	<	1	U	<	1	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	<	2	U
PH019A		PW099GWS142	21-Sep-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS143	21-Sep-01	<	1	U,J	<	1	U,J	<	1	U,J	7		J	<	1	U,J	<	1	U,J	<	1	U,J	—	—	—	—	—	—	<	1	U,J	—	—	—	—	—	—	—	—	—	—	—	—	—	<	2	U,J
PH019A		PW099GWS142	20-Sep-01	<	1	U,J	<	1	U,J	<	1	U,J	1		J	<	1	U,J	<	1	U,J	<	1	U,J	—	—	—	—	—	—	<	1	U,J	<	5	U	—	—	—	—	—	—	—	—	—	—	—	<	2	U,J
PH019A (??)		0110435	3-May-01	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A (??)	DUP	0110437	3-May-01	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A		0007937	20-Nov-00	<	1.0	U	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A	DUP	0007938	20-Nov-00	<	1.0	U	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A		0007932	17-Nov-00	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A		0007931	15-Nov-00	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A	DUP	0007930	15-Nov-00	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1	U,V	<	20	U,V
PH019A		0007925	15-Nov-00	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A		0007926	15-Nov-00	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A		0007927	15-Nov-00	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U	<	1.0	U,V	<	1.0	U,V	<	2.0	U	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A		0007928	15-Nov-00	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A		0009100	10-Aug-00	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	2.0	U,V	<	20.0	U,V
PH019A	DUP	0009101	10-Aug-00	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	I,V	<	1.0	U,V	—	—	—	<	2.0	U,V	<	20.0	U,V
PH019A		97-8401	11-Sep-97	—	—	—	<	2.5	U	<	0.5	U	<	2.5	U	0.8			—	—	—	—	—	—	<	2.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	2.0	U	<	0.5	U
PH019A		N/A	14-Dec-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	5-Mar-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	22-Feb-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	1-Mar-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	24-Jun-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	16-May-91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	28-Nov-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	3-Oct-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	25-Jul-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	11-Jun-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	30-Mar-89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		88-2193	10-Aug-88	<	2.0	U	<	5.0	U	<	2.0	U	<	5.0	U	<	2.0	U	—	—	—	<	2.0	U	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	<	20	U
PH019A		88-0881	18-May-88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	27-Aug-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-1161	11-Jun-87	<	5.0	U	—	—	—	<	5.0	U	—	—	—	—	—	—	<	5.0	U	<	5.0	U	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	<	15.0	U
PH019A		87-2018	6-Mar-87	<	5.0	U	—	—	—	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U	<	5.0	U	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	<	100	U
PH019A		87-3771	18-Feb-87	<	5.0	U	—	—	—	<	5.0	U	—	—	—	—	—	—	<	5.0	U	<	5.0	U	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	<	150	U
PH019A		87-2036	11-Feb-87	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U	<	5.0	U	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	<	10.0	U
PH019A		86-8805	3-Dec-86	<	2.5	U	—	—	—	<	2.5	U	—	—	—	—	—	—	<	2.3	U	<	2.2	U	—	—	—	—	—	—	<	5.3	U	—	—	—	—	—	—	—	—	—	—	—	—	—	<	14.0	U
PH019A		86-8751	26-Oct-86	<	2.5	U	—	—	—	<	2.5	U	—	—	—	—	—	—	<	2.3	U	<	2.2	U	—	—	—	—	—	—	<	5.3	U	—	—	—	—	—	—	—	—	—	—	—	—	—	<	14.0	U
PH019A		86-6136	10-Jun-86	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U	<	5.0	U	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	5.0			
PH019A	DUP	0009101	10-Aug-00	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	I,V	<	1.0	U,V	—	—	—	<	2.0	U,V	<	20.0	U,V
PH019A	SPLIT ZONE 1	PW099GWS149	12-Dec-01	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A	SPLIT ZONE 1 DUP	PW099GWS150	12-Dec-01	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS144	11-Oct-01	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A	SPLIT (#2 ZONE)	PW099GWS145	11-Oct-01	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A	SPLIT DUP (#2 ZONE)	PW099GWS145	11-Oct-01	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

Site ID		Field Sample #	Collection Date	Chlorobenzene, µg/l			Chloroethane, µg/l			Chloroform, µg/l			Chloromethane, µg/l			cis-1,2-DCE, µg/l (cis-1,2-Dichloroethene)			cis-1,3-Dichloropropene, µg/l			Dibromochloromethane, µg/l			Methylene bromide, µg/l (Dibromomethane)			Dichlorodifluoromethane (Freon 12), µg/l			Ethylbenzene, µg/l			Hexachlorobutadiene, µg/l			1-methylethyl-Benzene (Isopropylbenzene), µg/l			m&p-Xylenes, µg/l			Methyl tert-butyl ether, µg/l			Methylene Chloride, µg/l		
			EPA MCL	N/A			N/A			N/A			5			70			N/A			80			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			70			N/A			100			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
				Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
PH019A	SPLIT (#3 ZONE)	PW099GWS146	11-Oct-01	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A	SPLIT (#4 ZONE)	PW099GWS147	11-Oct-01	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS148	11-Oct-01	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019A	SPLIT	PW099GWS143	21-Sep-01	<	1.0	U	<	5.0	U	<	1.0	U	<	25	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U	—	—	—	<	1	U	<	20	U
PH019A	SPLIT	PW099GWS142	20-Sep-01	<	1.0	U	<	5.0	U	<	1.0	U	<	25	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U	—	—	—	<	1	U	<	20	U
PH019B	(PRE)	0504054	24-May-05	<	0.20	U,V	<	2.50	U,V	<	0.20	U,V	<	5.00	U,V	1.04		V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V
PH019B	(POST)	0504055	24-May-05	<	0.20	U,V	<	2.50	U,V	<	0.20	U,V	<	5.00	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V
PH019B	(42-HOUR INTERVAL)	0300912	14-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	1.51		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(48-HOUR INTERVAL)	0300913	14-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	1.69		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(24-HOUR INTERVAL)	0300909	13-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	1.38		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(30-HOUR INTERVAL)	0300910	13-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	1.73		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(36-HOUR INTERVAL)	0300911	13-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	1.48		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(START-UP)	0300901	12-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(2-HOUR INTERVAL)	0300902	12-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	0.54		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(4-HOUR INTERVAL)	0300903	12-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	0.92		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(6-HOUR INTERVAL)	0300904	12-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	1.05		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(9-HOUR INTERVAL)	0300906	12-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	1.15		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(12-HOUR INTERVAL)	0300907	12-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	1.29		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	(18-HOUR INTERVAL)	0300908	12-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	1.35		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	BLIND DUP	0300905	12-Mar-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	1.04		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B		0302800	7-Jan-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	2.41		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B		0302801	7-Jan-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	2.40		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
PH019B	W/O BUBBLES	0219451	20-Jun-02	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
PH019B	WITH BUBBLES	0219452	20-Jun-02	<	1.0	U,V	<	5.0	U,V	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	20.0	U,V
OGV#3		0220975	13-Jun-02	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	—	—	—	<	1.0	U,V	<	0.5	U,V
OGV#4		0220977	13-Jun-02	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	—	—	—	<	1.0	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V
OGV CITY HALL	(DRUM WATER)	0320847	30-Apr-03	<	0.5	U,V	<	5.0	U,V	<	0.5	U,V	<	10.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	0.58		V	<	1.0	U,V	<	0.5	U,V	1.63		V	<	1.0	U,V	<	0.5	U,V

Notes:
1. * : cis-1,2-DCE value used since a value for 1,2-DCE(total) is not included in the referenced documents.
2. N/A : Not available.
3. ND : Not detected.
4. — : Not analyzed.
5. Q : Qualifiers.
   - J : Indicates estimated concentration.
   - U : Compound not detected.
   - V : Data has been verified.
   - B : Method blank contamination.
   - E : Estimated value - QC out of range.
6. Values shaded and appearing in ***bold/italics*** indicates concentration exceeds one of the comparison standards.
7. RL : Reporting limit.
8. Data appearing "blacked out" could not be verified.
9. Sample collection dates shaded in green could not be verified from data provided to Benham.

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

Site ID		Field Sample #	Collection Date	n-Butylbenzene, µg/l			n-Propylbenzene, µg/l			Naphthalene, µg/l			o-Xylene, µg/l			p-Cymene, µg/l (p-Isopropyltoluene)			sec-Butylbenzene, µg/l			Styrene, µg/l			tert-Butylbenzene, µg/l			PCE, µg/l (Tetrachloroethene)			Toluene, µg/l			Xylene (total), µg/l			trans-1,2-DCE, µg/l (trans-1,2-Dichloroethene)			trans-1,3-Dichloropropene, µg/l			TCE, µg/l (Trichloroethene)		
		EPA MCL		N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5			1000			10			N/A			N/A			5		
		Missouri CALM Tier I		N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5			1000			10000			N/A			N/A			5		
				Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	X	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
PH019A	(350-427)	0410618	25-Mar-04	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	0.35		J,V
PH019A	(350-472)	0410612	27-Mar-04	0.20		J,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	1.47		V
PH019A	(350-489)	0411935	31-Mar-04	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	1.47		V
PH019A	(PP560)	0410613	14-Apr-04	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	0.32		J,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	5.89		V
PH019A	(PUMP OUTLET 350-560')	0410615	14-Apr-04	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	6.36		V
PH019A	(350-535)	0411937	2-Apr-04	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	2.20		V
PH019A	(578p D)	0410617	21-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	6.15		V
PH019A	(555' PACKER 578')	0422013	21-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	6.25		V
PH019A	(14GPM PACKER @ 578')	0422015	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	67.3		V
PH019A	(573' PUMPING @ 14GPM)	0422016	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	9.18		V
PH019A	(560' PUMPING @ 14GPM)	0422017	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	10.6		V
PH019A	(540' PUMPING @ 14GPM)	0422018	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	99.6		V
PH019A	(515' PUMPING @ 14GPM)	0422019	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	77.6		V
PH019A	(490' PUMPING @ 14GPM)	0422020	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	87.8		V
PH019A	(470' PUMPING @ 14GPM)	0422021	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	73.7		V
PH019A ??	(NO SAMPLE ID)	0422022	29-Apr-04	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.2	U,V	<	0.5	U,V	<	0.2	U,V	<	0.2	U,V	80.2		V
PH019A	(P2A-B)	0411942	19-May-04	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	37.0		V
PH019A		PW099GWS149	12-Dec-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A	DUP	PW099GWS149	12-Dec-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS144	11-Oct-01	—	—	—	—	—	—	<	5	U	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	0.5		J
PH019A		PW099GWS145	11-Oct-01	—	—	—	—	—	—	<	5	U	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS146	11-Oct-01	—	—	—	—	—	—	<	5	U	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	0.5		J	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS147	11-Oct-01	—	—	—	—	—	—	<	5	U	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS148	11-Oct-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U	<	1	U
PH019A		PW099GWS142	21-Sep-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS143	21-Sep-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	1	U,J	—	—	—	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U,J
PH019A		PW099GWS142	20-Sep-01	—	—	—	—	—	—	<	5	U	—	—	—	—	—	—	—	—	—	<	1	U,J	—	—	—	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U,J	<	1	U,J
PH019A (??)		0110435	3-May-01	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A (??)	DUP	0110437	3-May-01	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A		0007937	20-Nov-00	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U	<	1.0	U,V	<	2.0	U	<	1.0	U,V	<	1.0	U,V	4.7		V
PH019A	DUP	0007938	20-Nov-00	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U	<	1.0	U,V	<	2.0	U	<	1.0	U,V	<	1.0	U,V	4.7		V
PH019A		0007932	17-Nov-00	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	3.4		V
PH019A		0007931	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	2.8		V
PH019A	DUP	0007930	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	1.6		U,V
PH019A		0007925	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	4.0		V
PH019A		0007926	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	1.8		V
PH019A		0007927	15-Nov-00	<	1.0	U	<	1.0	U,V	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U,V	<	2.0	U	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	2.0		V
PH019A		0007928	15-Nov-00	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U	<	1.0	U,V	<	2.0	U	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	2.3		V
PH019A		0009100	10-Aug-00	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	3.4		V
PH019A	DUP	0009101	10-Aug-00	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	3.5		V
PH019A		97-8401	11-Sep-97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	0.6	U	—	—	—	—	—	—	<	0.5	U	—	—	—	42.3		
PH019A		N/A	14-Dec-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5		—	—	—	18		
PH019A		N/A	5-Mar-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10		
PH019A		N/A	22-Feb-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10		
PH019A		N/A	1-Mar-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10		
PH019A		N/A	24-Jun-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.7		
PH019A		N/A	16-May-91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.3		
PH019A		N/A	28-Nov-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9		
PH019A		N/A	3-Oct-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.5		
PH019A		N/A	25-Jul-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.4		
PH019A		N/A	11-Jun-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.3		
PH019A		N/A	30-Mar-89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.4		
PH019A		88-2193	10-Aug-88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	<	2.0	U	—	—	—	<	2.0	U	—	—	—	—	—	—	—	—	—	6.4		
PH019A		88-0881	18-May-88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	0.2	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.9		
PH019A		N/A	27-Aug-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U
PH019A		87-1181	11-Jun-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	7.3		
PH019A		87-2018	6-Mar-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	6.0		
PH019A		87-3771	18-Feb-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U
PH019A		87-2036	11-Feb-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U	<	5.0	U	<	5.0	U	<	5.0	U	7.0		
PH019A		86-8805	3-Dec-86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16			<	7.9	U	—	—	—	<	2.2	U	<	3.1	U	7.7							
PH019A		86-8751	26-Oct-86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59			<	7.9	U	—	—	—	<	2.2	U	<	3.1	U	12							
PH019A		86-6136	10-Jun-86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	<	5.0	U	—	—	—	<	5.0	U	<	5.0	U	6.0							
PH019A	DUP	0009101	10-Aug-00	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	3.5		V
PH019A	SPLIT ZONE 1	PW099GWS149	12-Dec-01	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT ZONE 1 DUP	PW099GWS150	12-Dec-01	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS144	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT (#2 ZONE)	PW099GWS145	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT DUP (#2 ZONE)	PW099GWS145	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

Site ID		Field Sample #	Collection Date	n-Butylbenzene, µg/l Result	RL	Q	n-Propylbenzene, µg/l Result	RL	Q	Naphthalene, µg/l Result	RL	Q	o-Xylene, µg/l Result	RL	Q	p-Cymene, µg/l (p-Isopropyltoluene) Result	RL	Q	sec-Butylbenzene, µg/l X	RL	Q	Styrene, µg/l Result	RL	Q	tert-Butylbenzene, µg/l Result	RL	Q	PCE, µg/l (Tetrachloroethene) Result	RL	Q	Toluene, µg/l Result	RL	Q	Xylene (total), µg/l Result	RL	Q	trans-1,2-DCE, µg/l (trans-1,2-Dichloroethene) Result	RL	Q	trans-1,3-Dichloropropene, µg/l Result	RL	Q	TCE, µg/l (Trichloroethene) Result	RL	Q
			EPA MCL	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5			1000			10			N/A			N/A			5		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5			1000			10000			N/A			N/A			5		
PH019A	SPLIT (#3 ZONE)	PW099GWS146	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT (#4 ZONE)	PW099GWS147	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS148	11-Oct-01	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019A	SPLIT	PW099GWS143	21-Sep-01	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U	<	1.0	U	<	1.0	U
PH019A	SPLIT	PW099GWS142	20-Sep-01	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U	<	1.0	U	<	1.0	U
PH019B	(PRE)	0504054	24-May-05	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	***60.0***		V
PH019B	(POST)	0504055	24-May-05	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V	<	0.50	U,V	<	0.20	U,V	<	0.20	U,V	<	0.20	U,V
PH019B	(42-HOUR INTERVAL)	0300912	14-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	0.84		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***61.0***		V
PH019B	(48-HOUR INTERVAL)	0300913	14-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***66.3***		V
PH019B	(24-HOUR INTERVAL)	0300909	13-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***54.9***		V
PH019B	(30-HOUR INTERVAL)	0300910	13-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***70.8***		V
PH019B	(36-HOUR INTERVAL)	0300911	13-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***63.4***		V
PH019B	(START-UP)	0300901	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	6.85		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***5.86***		V
PH019B	(2-HOUR INTERVAL)	0300902	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***19.3***		V
PH019B	(4-HOUR INTERVAL)	0300903	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***37.3***		V
PH019B	(6-HOUR INTERVAL)	0300904	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***39.0***		V
PH019B	(9-HOUR INTERVAL)	0300906	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***44.9***		V
PH019B	(12-HOUR INTERVAL)	0300907	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***48.0***		V
PH019B	(18-HOUR INTERVAL)	0300908	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	0.51		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***51.0***		V
PH019B	BLIND DUP	0300905	12-Mar-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***39.4***		V
PH019B		0302800	7-Jan-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	0.73		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***97.2***		V
PH019B		0302801	7-Jan-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	***103***		V
PH019B	W/O BUBBLES	0219451	20-Jun-02	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
PH019B	WITH BUBBLES	0219452	20-Jun-02	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
OGV#3		0220975	13-Jun-02	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	—	—	—	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.6	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	0.9		V
OGV#4		0220977	13-Jun-02	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	—	—	—	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.6	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V
OGV CITY HALL	(DRUM WATER)	0320847	30-Apr-03	<	0.5	U,V	<	0.5	U,V	<	1.0	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V	1.63		V	<	0.5	U,V	<	0.5	U,V	<	0.5	U,V

Notes:

1. * : cis-1,2-DCE value used since a value for 1,2-DCE(total) is not included in the referenced documents.
2. N/A : Not available.
3. ND : Not detected.
4. — : Not analyzed.
5. Q : Qualifiers.
   - J : Indicates estimated concentration.
   - U : Compound not detected.
   - V : Data has been verified.
   - B : Method blank contamination.
   - E : Estimated value - QC out of range.
6. Values shaded and appearing in ***bold/italics*** indicates concentration exceeds one of the comparison standards.
7. RL : Reporting limit.
8. Data appearing "blacked out" could not be verified.
9. Sample collection dates shaded in green could not be verified from data provided to Benham.

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

Site ID		Field Sample #	Collection Date	Trichlorofluoromethane (Freon 11), µg/l			Vinyl chloride, µg/l (Chloroethene)			Acetone, µg/l			Carbon Disulfide, µg/l			Methyl ethyl ketone, µg/l (2-Butanone)			2-Hexanone, µg/l			4-Methyl-2-pentanone, µg/l			Diethyl Ether, µg/l			Methyl Iodide, µg/l (Iodomethane)			Acrylonitrile, µg/l			Allyl Chloride, µg/l			Propionitrile, µg/l			Methacrylonitrile, µg/l			Methyl Acrylate, µg/l			Tetrahydrofuran, µg/l		
			EPA MCL	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
				Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
PH019A	(350-427)	0410618	25-Mar-04	<	0.20	U,V	<	0.20	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(350-472)	0410612	27-Mar-04	<	0.20	U,V	<	0.20	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(350-489)	0411935	31-Mar-04	<	0.20	U,V	<	0.20	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(PP560)	0410613	14-Apr-04	<	0.20	U,V	<	0.20	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(PUMP OUTLET 350-560')	0410615	14-Apr-04	<	0.20	U,V	<	0.20	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(350-535)	0411937	2-Apr-04	<	0.20	U,V	<	0.20	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(578p D)	0410617	21-Apr-04	<	0.2	U,V	<	0.2	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(555' PACKER 578')	0422013	21-Apr-04	<	0.2	U,V	<	0.2	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(14GPM PACKER @ 578')	0422015	29-Apr-04	0.28		J,V	<	0.2	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(573' PUMPING @ 14GPM)	0422016	29-Apr-04	<	0.2	U,V	<	0.2	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(560' PUMPING @ 14GPM)	0422017	29-Apr-04	<	0.2	U,V	<	0.2	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(540' PUMPING @ 14GPM)	0422018	29-Apr-04	0.25		J,V	<	0.2	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(515' PUMPING @ 14GPM)	0422019	29-Apr-04	0.22		J,V	<	0.2	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(490' PUMPING @ 14GPM)	0422020	29-Apr-04	0.27		J,V	<	0.2	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(470' PUMPING @ 14GPM)	0422021	29-Apr-04	0.28		J,V	<	0.2	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A ??	(NO SAMPLE ID)	0422022	29-Apr-04	0.26		J,V	<	0.2	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(P2A-B)	0411942	19-May-04	0.35		J,V	<	0.20	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS149	12-Dec-01	<	1	U	<	1	U	5		J	<	1	U	<	5	U	<	5	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	PW099GWS149	12-Dec-01	<	1	U	<	1	U	<	5	U	<	1	U	<	5	U	<	5	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS144	11-Oct-01	<	1	U	<	1	U	<	5	U	<	1	U	<	5	U	<	5	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS145	11-Oct-01	<	1	U	<	1	U	<	5	U	<	1	U	<	5	U	<	5	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS146	11-Oct-01	<	1	U	<	1	U	<	5	U	<	1	U	<	5	U	<	5	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS147	11-Oct-01	<	1	U	<	1	U	<	5	U	<	1	U	<	5	U	<	5	U	3		J	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS148	11-Oct-01	<	1	U	<	1	U	<	5	U	<	1	U	<	5	U	<	5	U	<	5	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS142	21-Sep-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS143	21-Sep-01	—	—	—	<	1	U,J	<	5	U,J	<	1	U,J	<	5	U,J	<	5	U,J	<	5	U,J	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS142	20-Sep-01	—	—	—	<	1	U,J	<	5	U,J	<	1	U,J	<	5	U,J	<	5	U,J	<	5	U,J	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A (??)		0110435	3-May-01	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A (??)	DUP	0110437	3-May-01	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A		0007937	20-Nov-00	<	5.0	U	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U	—	—	—	<	5.0	U	<	2.0	U	—	—	—	—	—	—	<	1.0	U	—	—	—	—	—	—	—
PH019A	DUP	0007938	20-Nov-00	<	5.0	U	<	1.0	U,V	<	20	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U	—	—	—	<	5.0	U	<	2.0	U	—	—	—	—	—	—	<	1.0	U	—	—	—	—	—	—	—
PH019A		0007932	17-Nov-00	<	5.0	U,V	<	1.0	U,V	<	20	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A		0007931	15-Nov-00	<	5.0	U,V	<	1.0	U,V	<	20	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A	DUP	0007930	15-Nov-00	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A		0007925	15-Nov-00	<	5.0	U,V	<	1.0	U,V	<	20	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A		0007926	15-Nov-00	<	5.0	U,V	<	1.0	U,V	<	20	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A		0007927	15-Nov-00	<	5.0	U,V	<	1.0	U,V	<	20	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A		0007928	15-Nov-00	<	5.0	U,V	<	1.0	U,V	<	20	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A		0009100	10-Aug-00	<	5.0	U,V	<	1.0	U,V	<	20	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A	DUP	0009101	10-Aug-00	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A		97-8401	11-Sep-97	<	2.5	U	<	0.5	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	14-Dec-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	5-Mar-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	22-Feb-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	1-Mar-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	24-Jun-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	16-May-91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	28-Nov-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	3-Oct-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	25-Jul-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	11-Jun-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	30-Mar-89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		88-2193	10-Aug-88	<	5.0	U	<	2.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		88-0881	18-May-88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	27-Aug-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-1181	11-Jun-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-2018	6-Mar-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-3771	18-Feb-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-2036	11-Feb-87	<	5.0	U	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		86-8805	3-Dec-86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		86-8751	26-Oct-86	—			—			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		86-6136	10-Jun-86	<	5.0	U	<	5.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	0009101	10-Aug-00	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A	SPLIT ZONE 1	PW099GWS149	12-Dec-01	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A	SPLIT ZONE 1 DUP	PW099GWS150	12-Dec-01	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS144	11-Oct-01	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A	SPLIT (#2 ZONE)	PW099GWS145	11-Oct-01	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A	SPLIT DUP (#2 ZONE)	PW099GWS145	11-Oct-01	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

Site ID		Field Sample #	Collection Date	Trichlorofluoromethane (Freon 11), µg/l			Vinyl chloride, µg/l (Chloroethene)			Acetone, µg/l			Carbon Disulfide, µg/l			Methyl ethyl ketone, µg/l (2-Butanone)			2-Hexanone, µg/l			4-Methyl-2-pentanone, µg/l			Diethyl Ether, µg/l			Methyl Iodide, µg/l (Iodomethane)			Acrylonitrile, µg/l			Allyl Chloride, µg/l			Propionitrile, µg/l			Methacrylonitrile, µg/l			Methyl Acrylate, µg/l			Tetrahydrofuran, µg/l		
		Missouri CALM	EPA MCL	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
			Tier I	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A		
				Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
PH019A	SPLIT (#3 ZONE)	PW099GWS146	11-Oct-01	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A	SPLIT (#4 ZONE)	PW099GWS147	11-Oct-01	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	2.3		V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS148	11-Oct-01	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019A	SPLIT	PW099GWS143	21-Sep-01	<	5.0	U	<	1.0	U	<	20	U	<	1.0	U	<	5.0	U	<	2.0	U	<	1.0	U	—	—	—	<	5.0	U	<	2.0	U	—	—	—	—	—	—	<	1.0	U	—	—	—	—	—	—
PH019A	SPLIT	PW099GWS142	20-Sep-01	<	5.0	U	<	1.0	U	<	20	U	<	1.0	U	<	5.0	U	<	2.0	U	<	1.0	U	—	—	—	<	5.0	U	<	2.0	U	—	—	—	—	—	—	<	1.0	U	—	—	—	—	—	—
PH019B	(PRE)	0504054	24-May-05	<	0.20	U,V	<	0.20	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(POST)	0504055	24-May-05	<	0.20	U,V	<	0.20	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(42-HOUR INTERVAL)	0300912	14-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(48-HOUR INTERVAL)	0300913	14-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(24-HOUR INTERVAL)	0300909	13-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(30-HOUR INTERVAL)	0300910	13-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(36-HOUR INTERVAL)	0300911	13-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(START-UP)	0300901	12-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(2-HOUR INTERVAL)	0300902	12-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(4-HOUR INTERVAL)	0300903	12-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(6-HOUR INTERVAL)	0300904	12-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(9-HOUR INTERVAL)	0300906	12-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(12-HOUR INTERVAL)	0300907	12-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(18-HOUR INTERVAL)	0300908	12-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	BLIND DUP	0300905	12-Mar-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B		0302800	7-Jan-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B		0302801	7-Jan-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	W/O BUBBLES	0219451	20-Jun-02	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
PH019B	WITH BUBBLES	0219452	20-Jun-02	<	5.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	5.0	U,V	<	2.0	U,V	<	1.0	U,V	<	20.0	U,V	<	1.0	U,V	<	10.0	U,V	<	5.0	U,V
OGV#3		0220975	13-Jun-02	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OGV#4		0220977	13-Jun-02	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OGV CITY HALL	(DRUM WATER)	0320847	30-Apr-03	<	0.5	U,V	<	0.5	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Notes:
1. * : cis-1,2-DCE value used since a value for 1,2-DCE(total) is not included in the referenced documents.
2. N/A : Not available.
3. ND : Not detected.
4. — : Not analyzed.
5. Q : Qualifiers.
   - J : Indicates estimated concentration.
   - U : Compound not detected.
   - V : Data has been verified.
   - B : Method blank contamination.
   - E : Estimated value - QC out of range.
6. Values shaded and appearing in ***bold/italics*** indicates concentration exceeds one of the comparison standards.
7. RL : Reporting limit.
8. Data appearing "blacked out" could not be verified.
9. Sample collection dates shaded in green could not be verified from data provided to Benham.

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

Site ID		Field Sample #	Collection Date	1-Chlorobutane, µg/l			Chloroacetonitrile, µg/l			2-Nitropropane, µg/l			Methylmethacrylate, µg/l			1,1-Dichloropropanone, µg/l			Ethylmethacrylate, µg/l			trans-1,4-Dichloro-2-butene, µg/l			Pentachloroethane, µg/l			Hexachloroethane, µg/l			Nitrobenzene, µg/l			Dichlorofluoromethane, µg/l (Freon 21)			1,2-DCE (total), µg/l (1,2-Dichloroethene)			Dichlorodifluoroethane, µg/l (Freon 132)		
			EPA MCL	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			70*			N/A		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			70*			N/A		
PH019A	(350-427)	0410618	25-Mar-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(350-472)	0410612	27-Mar-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(350-489)	0411935	31-Mar-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(PP560)	0410613	14-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(PUMP OUTLET 350-560')	0410615	14-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(350-535)	0411937	2-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(578p D)	0410617	21-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(555' PACKER 578')	0422013	21-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(14GPM PACKER @ 578')	0422015	29-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(573' PUMPING @ 14GPM)	0422016	29-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(560' PUMPING @ 14GPM)	0422017	29-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(540' PUMPING @ 14GPM)	0422018	29-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(515' PUMPING @ 14GPM)	0422019	29-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(490' PUMPING @ 14GPM)	0422020	29-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(470' PUMPING @ 14GPM)	0422021	29-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A ??	(NO SAMPLE ID)	0422022	29-Apr-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	(P2A-B)	0411942	19-May-04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS149	12-Dec-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	—	—	—	—
PH019A	DUP	PW099GWS149	12-Dec-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	—	—	—	—
PH019A		PW099GWS144	11-Oct-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5	U	<	5	U	<	1	U	—	—	—	—	—	—	—
PH019A		PW099GWS145	11-Oct-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5	U	<	5	U	<	1	U	—	—	—	—	—	—	—
PH019A		PW099GWS146	11-Oct-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5	U	<	5	U	<	1	U	—	—	—	—	—	—	—
PH019A		PW099GWS147	11-Oct-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5	U	<	5	U	<	1	U	—	—	—	—	—	—	—
PH019A		PW099GWS148	11-Oct-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	1	U	—	—	—	—	—	—	—
PH019A		PW099GWS142	21-Sep-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS143	21-Sep-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS142	20-Sep-01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5	U	<	5	U	—	—	—	—	—	—	—	—	—	—
PH019A (??)		0110435	3-May-01	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A (??)	DUP	0110437	3-May-01	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A		0007937	20-Nov-00	—	—	—	—	—	—	—	—	—	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U,V	<	1.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	0007938	20-Nov-00	—	—	—	—	—	—	—	—	—	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		0007932	17-Nov-00	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A		0007931	15-Nov-00	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	0007930	15-Nov-00	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A		0007925	15-Nov-00	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A		0007926	15-Nov-00	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A		0007927	15-Nov-00	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A		0007928	15-Nov-00	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		0009100	10-Aug-00	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	0009101	10-Aug-00	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	I,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A		97-8401	11-Sep-97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	20	U
PH019A		N/A	14-Dec-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	—	—	—	—	—	—
PH019A		N/A	5-Mar-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	22-Feb-93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	1-Mar-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	24-Jun-92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	16-May-91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	28-Nov-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	3-Oct-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	25-Jul-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	11-Jun-90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	30-Mar-89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		88-2193	10-Aug-88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	5.0	U	—	—	—	—	—	—	—
PH019A		88-0881	18-May-88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	27-Aug-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-1181	11-Jun-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-2018	6-Mar-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-3771	18-Feb-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		87-2036	11-Feb-87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		86-8805	3-Dec-86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		86-8751	26-Oct-86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A		86-6136	10-Jun-86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	0009101	10-Aug-00	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	I,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT ZONE 1	PW099GWS149	12-Dec-01	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT ZONE 1 DUP	PW099GWS150	12-Dec-01	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS144	11-Oct-01	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT (#2 ZONE)	PW099GWS145	11-Oct-01	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT DUP (#2 ZONE)	PW099GWS145	11-Oct-01	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—	—

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

				1-Chlorobutane, µg/l			Chloroacetonitrile, µg/l			2-Nitropropane, µg/l			Methylmethacrylate, µg/l			1,1-Dichloropropanone, µg/l			Ethylmethacrylate, µg/l			trans-1,4-Dichloro-2-butene, µg/l			Pentachloroethane, µg/l			Hexachloroethane, µg/l			Nitrobenzene, µg/l			Dichlorodifluoromethane, µg/l (Freon 21)			1,2-DCE (total), µg/l (1,2-Dichloroethene)			Dichlorodifluoroethane, µg/l (Freon 132)		
			EPA MCL	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			70*			N/A		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			70*			N/A		
Site ID		Field Sample #	Collection Date	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
PH019A	SPLIT (#3 ZONE)	PW099GWS146	11-Oct-01	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—
PH019A	SPLIT (#4 ZONE)	PW099GWS147	11-Oct-01	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS148	11-Oct-01	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—
PH019A	SPLIT	PW099GWS143	21-Sep-01	—	—	—	—	—	—	—	—	—	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT	PW099GWS142	20-Sep-01	—	—	—	—	—	—	—	—	—	<	1.0	U	—	—	—	<	1.0	U	<	1.0	U	<	1.0	U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(PRE)	0504054	24-May-05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(POST)	0504055	24-May-05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(42-HOUR INTERVAL)	0300912	14-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(48-HOUR INTERVAL)	0300913	14-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(24-HOUR INTERVAL)	0300909	13-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(30-HOUR INTERVAL)	0300910	13-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(36-HOUR INTERVAL)	0300911	13-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(START-UP)	0300901	12-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(2-HOUR INTERVAL)	0300902	12-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(4-HOUR INTERVAL)	0300903	12-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(6-HOUR INTERVAL)	0300904	12-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(9-HOUR INTERVAL)	0300906	12-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(12-HOUR INTERVAL)	0300907	12-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	(18-HOUR INTERVAL)	0300908	12-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	BLIND DUP	0300905	12-Mar-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B		0302800	7-Jan-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B		0302801	7-Jan-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PH019B	W/O BUBBLES	0219451	20-Jun-02	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—
PH019B	WITH BUBBLES	0219452	20-Jun-02	<	1.0	U,V	<	25.0	U,V	<	1.0	U,V	<	1.0	U,V	<	2.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	10.0	U,V	—	—	—	—	—	—	—	—	—
OGV#3		0220975	13-Jun-02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OGV#4		0220977	13-Jun-02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OGV CITY HALL	(DRUM WATER)	0320847	30-Apr-03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Notes:
1. * : cis-1,2-DCE value used since a value for 1,2-DCE(total) is not included in the referenced documents.
2. N/A : Not available.
3. ND : Not detected.
4. — : Not analyzed.
5. Q : Qualifiers.
   - J : Indicates estimated concentration.
   - U : Compound not detected.
   - V : Data has been verified.
   - B : Method blank contamination.
   - E : Estimated value - QC out of range.
6. Values shaded and appearing in ***bold/italics*** indicates concentration exceeds one of the comparison standards.
7. RL : Reporting limit.
8. Data appearing "blacked out" could not be verified.
9. Sample collection dates shaded in green could not be verified from data provided to Benham.

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

				Field Turbidity, NTU		Dissolved Oxygen, mg/l		Field pH, S.U.		Field Specific Conductivity, umhos/cm		Field Temperature, °C	
			EPA MCL	N/A		N/A		N/A		N/A		N/A	
			Missouri CALM Tier I	N/A		N/A		N/A		N/A		N/A	
Site ID		Field Sample #	Collection Date	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
PH019A	(350-427)	0410618	25-Mar-04	—	—	—	—	—	—	—	—	—	—
PH019A	(350-472)	0410612	27-Mar-04	—	—	—	—	—	—	—	—	—	—
PH019A	(350-489)	0411935	31-Mar-04	—	—	—	—	—	—	—	—	—	—
PH019A	(PP560)	0410613	14-Apr-04	—	—	—	—	—	—	—	—	—	—
PH019A	(PUMP OUTLET 350-560')	0410615	14-Apr-04	—	—	—	—	—	—	—	—	—	—
PH019A	(350-535)	0411937	2-Apr-04	—	—	—	—	—	—	303	V	14.8	V
PH019A	(578p D)	0410617	21-Apr-04	—	—	—	—	—	—	—	—	—	—
PH019A	(555' PACKER 578')	0422013	21-Apr-04	—	—	—	—	—	—	—	—	—	—
PH019A	(14GPM PACKER @ 578')	0422015	29-Apr-04	—	—	—	—	—	—	300	V	14.8	V
PH019A	(573' PUMPING @ 14GPM)	0422016	29-Apr-04	—	—	—	—	—	—	325	V	14.6	V
PH019A	(560' PUMPING @ 14GPM)	0422017	29-Apr-04	—	—	—	—	—	—	322	V	14.6	V
PH019A	(540' PUMPING @ 14GPM)	0422018	29-Apr-04	—	—	—	—	—	—	297	V	14.7	V
PH019A	(515' PUMPING @ 14GPM)	0422019	29-Apr-04	—	—	—	—	—	—	296	V	14.7	V
PH019A	(490' PUMPING @ 14GPM)	0422020	29-Apr-04	—	—	—	—	—	—	297	V	14.8	V
PH019A	(470' PUMPING @ 14GPM)	0422021	29-Apr-04	—	—	—	—	—	—	299	V	14.8	V
PH019A ??	(NO SAMPLE ID)	0422022	29-Apr-04	—	—	—	—	—	—	298	V	14.7	V
PH019A	(P2A-B)	0411942	19-May-04	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS149	12-Dec-01	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	PW099GWS149	12-Dec-01	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS144	11-Oct-01	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS145	11-Oct-01	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS146	11-Oct-01	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS147	11-Oct-01	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS148	11-Oct-01	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS142	21-Sep-01	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS143	21-Sep-01	—	—	—	—	—	—	—	—	—	—
PH019A		PW099GWS142	20-Sep-01	—	—	—	—	—	—	—	—	—	—
PH019A (??)		0110435	3-May-01	—	—	—	—	—	—	—	—	—	—
PH019A (??)	DUP	0110437	3-May-01	—	—	—	—	—	—	—	—	—	—
PH019A		0007937	20-Nov-00	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	0007938	20-Nov-00	—	—	—	—	—	—	—	—	—	—
PH019A		0007932	17-Nov-00	—	—	—	—	—	—	—	—	—	—
PH019A		0007931	15-Nov-00	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	0007930	15-Nov-00	—	—	—	—	—	—	—	—	—	—
PH019A		0007925	15-Nov-00	—	—	—	—	—	—	—	—	—	—
PH019A		0007926	15-Nov-00	—	—	—	—	—	—	—	—	—	—
PH019A		0007927	15-Nov-00	—	—	—	—	—	—	—	—	—	—
PH019A		0007928	15-Nov-00	—	—	—	—	—	—	—	—	—	—
PH019A		0009100	10-Aug-00	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	0009101	10-Aug-00	—	—	—	—	—	—	—	—	—	—
PH019A		97-8401	11-Sep-97	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	14-Dec-93	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	5-Mar-93	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	22-Feb-93	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	1-Mar-92	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	24-Jun-92	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	16-May-91	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	28-Nov-90	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	3-Oct-90	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	25-Jul-90	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	11-Jun-90	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	30-Mar-89	—	—	—	—	—	—	—	—	—	—
PH019A		88-2193	10-Aug-88	—	—	—	—	—	—	—	—	—	—
PH019A		88-0881	18-May-88	—	—	—	—	—	—	—	—	—	—
PH019A		N/A	27-Aug-87	—	—	—	—	—	—	—	—	—	—
PH019A		87-1181	11-Jun-87	—	—	—	—	—	—	—	—	—	—
PH019A		87-2018	6-Mar-87	—	—	—	—	—	—	—	—	—	—
PH019A		87-3771	18-Feb-87	—	—	—	—	—	—	—	—	—	—
PH019A		87-2036	11-Feb-87	—	—	—	—	—	—	—	—	—	—
PH019A		86-8805	3-Dec-86	—	—	—	—	—	—	—	—	—	—
PH019A		86-8751	26-Oct-86	—	—	—	—	—	—	—	—	—	—
PH019A		86-6136	10-Jun-86	—	—	—	—	—	—	—	—	—	—
PH019A	DUP	0009101	10-Aug-00	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT ZONE 1	PW099GWS149	12-Dec-01	2.80	V	3.3	V	6.81	V	338	V	15	V
PH019A	SPLIT ZONE 1 DUP	PW099GWS150	12-Dec-01	2.80	V	3.3	V	6.81	V	338	V	15	V
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS144	11-Oct-01	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT (#2 ZONE)	PW099GWS145	11-Oct-01	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT DUP (#2 ZONE)	PW099GWS145	11-Oct-01	—	—	—	—	—	—	—	—	—	—

Table 4a : Summary of Oak Grove Village Muncipal Well Groundwater Analytical Results
Oak Grove Village, Missouri

				Field Turbidity, NTU		Dissolved Oxygen, mg/l		Field pH, S.U.		Field Specific Conductivity, umhos/cm		Field Temperature, °C	
			EPA MCL	N/A		N/A		N/A		N/A		N/A	
			Missouri CALM Tier I	N/A		N/A		N/A		N/A		N/A	
Site ID		Field Sample #	Collection Date	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
PH019A	SPLIT (#3 ZONE)	PW099GWS146	11-Oct-01	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT (#4 ZONE)	PW099GWS147	11-Oct-01	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT (#1 PRE-PURGE)	PW099GWS148	11-Oct-01	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT	PW099GWS143	21-Sep-01	—	—	—	—	—	—	—	—	—	—
PH019A	SPLIT	PW099GWS142	20-Sep-01	—	—	—	—	—	—	—	—	—	—
PH019B	(PRE)	0504054	24-May-05	—	—	—	—	—	—	—	—	—	—
PH019B	(POST)	0504055	24-May-05	—	—	—	—	—	—	—	—	—	—
PH019B	(42-HOUR INTERVAL)	0300912	14-Mar-03	—	—	—	—	8.02	V	338	V	13.4	V
PH019B	(48-HOUR INTERVAL)	0300913	14-Mar-03	—	—	—	—	7.84	V	338	V	13.1	V
PH019B	(24-HOUR INTERVAL)	0300909	13-Mar-03	—	—	—	—	8.17	V	334	V	14.0	V
PH019B	(30-HOUR INTERVAL)	0300910	13-Mar-03	—	—	—	—	8.16	V	331	V	13.6	V
PH019B	(36-HOUR INTERVAL)	0300911	13-Mar-03	—	—	—	—	8.14	V	340	V	13.5	V
PH019B	(START-UP)	0300901	12-Mar-03	—	—	—	—	8.25	V	337	V	14.0	V
PH019B	(2-HOUR INTERVAL)	0300902	12-Mar-03	—	—	—	—	8.23	V	346	V	16.9	V
PH019B	(4-HOUR INTERVAL)	0300903	12-Mar-03	—	—	—	—	8.18	V	319	V	16.4	V
PH019B	(6-HOUR INTERVAL)	0300904	12-Mar-03	—	—	—	—	8.13	V	321	V	16.4	V
PH019B	(9-HOUR INTERVAL)	0300906	12-Mar-03	—	—	—	—	8.24	V	323	V	16.0	V
PH019B	(12-HOUR INTERVAL)	0300907	12-Mar-03	—	—	—	—	8.29	V	327	V	15.4	V
PH019B	(18-HOUR INTERVAL)	0300908	12-Mar-03	—	—	—	—	8.14	V	331	V	14.8	V
PH019B	BLIND DUP	0300905	12-Mar-03	—	—	—	—	—	—	—	—	—	—
PH019B		0302800	7-Jan-03	—	—	—	—	—	—	—	—	—	—
PH019B		0302801	7-Jan-03	—	—	—	—	—	—	—	—	—	—
PH019B	W/O BUBBLES	0219451	20-Jun-02	—	—	—	—	—	—	—	—	—	—
PH019B	WITH BUBBLES	0219452	20-Jun-02	—	—	—	—	—	—	—	—	—	—
OGV#3		0220975	13-Jun-02	—	—	—	—	—	—	—	—	—	—
OGV#4		0220977	13-Jun-02	—	—	—	—	—	—	—	—	—	—
OGV CITY HALL	(DRUM WATER)	0320847	30-Apr-03	—	—	—	—	—	—	—	—	—	—

Notes:
1. * : cis-1,2-DCE value used since a value for 1,2-DCE(total) is not included in the referenced documents.
2. N/A : Not available.
3. ND : Not detected.
4. — : Not analyzed.
5. Q : Qualifiers.
   - J : Indicates estimated concentration.
   - U : Compound not detected.
   - V : Data has been verified.
   - B : Method blank contamination.
   - E : Estimated value - QC out of range.
6. Values shaded and appearing in ***bold/italics*** indicates concentration exceeds one of the comparison standards.
7. RL : Reporting limit.
8. Data appearing "blacked out" could not be verified.
9. Sample collection dates shaded in green could not be verified from data provided to Benham.

Table 9 : Summary of Laboratory Analyses of Sullivan Sewer Line Samples
Oak Grove Village Superfund Site
Oak Grove Village, Missouri

Parameter	Screening Levels EPA MCL[1]	Screening Levels MO MCL[2]	Sample ID: / Sample Date: / Units	POTW-1 17-Jan-05 Result	RL	Q	POTW-2 17-Jan-05 Result	RL	Q	POTW-DUP-A (POTW-2) 17-Jan-05 Result	RL	Q	POTW-2 (L-4) 17-Jan-05 Result	RL	Q	POTW-3 18-Jan-05 Result	RL	Q	POTW-4 18-Jan-05 Result	RL	Q	POTW-5 18-Jan-05 Result	RL	Q	POTW-6 18-Jan-05 Result	RL	Q	POTW-7 18-Jan-05 Result	RL	Q
Volatile Organic Compounds																														
1,1,1,2-Tetrachloroethane	NA	0.07	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,1-Trichloroethane	200	200	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,2,2-Tetrachloroethane	NA	0.17	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,2-Trichloroethane	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1-Dichloroethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1-Dichloroethene	7	7	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,2-Dichloroethane	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,2-Dichloropropane	5	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
2-Butanone (MEK)	NA	NA	µg/l	11	5.0	V	<	5.0	U,V	<	5.0	U,V	1.9		J,V	3.9	5.0	J,V	<	5.0	U,V	3.0	5.0	J,V	<	5.0	U,V	2.4	5.0	J,V
2-Hexanone (MBK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	0.97	5.0	J,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
4-Methyl-2-pentanone (MIBK)	NA	NA	µg/l	0.75	5.0	J,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
Acetone	NA	NA	µg/l	140	5.0	V	35	5.0	V	29	5.0	V	45		B,V	47	5.0	V	<	5.0	U,V	39	5.0	V	16	5.0	V	70	5.0	V
Benzene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromodichloromethane	80[3]	100[3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromoform	80[3]	100[3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromomethane	NA	10	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Carbon disulfide	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Carbon tetrachloride	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chlorobenzene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.29		J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloroethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloroform	80[3]	100[3]	µg/l	1.8	1.0	V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	3.8	1.0	V	2.6	1.0	V	<	1.0	U,V	<	1.0	U,V	3.4	1.0	V
Chloromethane	NA	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
cis-1,2-Dichloroethene	70	70	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
cis-1,3-Dichloropropene	NA	87	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Dibromochloromethane	80[3]	100[3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Dichlorodifluoromethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Ethylbenzene	700	700	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Methylene chloride	5	5	µg/l	0.71	1.0	J,V	<	1.0	U,V	<	1.0	U,V	0.32		J,V	0.76	1.0	J,V	0.57	1.0	J,V	<	1.0	U,V	0.51	1.0	J,V	0.91	1.0	J,V
Styrene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	0.83	1.0	J,V	11	1.0	V	<	1.0	U,V
Tetrachloroethene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	1.4	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Toluene	1000	1000	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.24		J,V	1.4	1.0	V	0.64	1.0	J,V	<	1.0	U,V	<	1.0	U,V	0.80	1.0	J,V
trans,1,2-Dichloroethene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
trans-1,3-Dichloropropene	NA	87	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trichloroethene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.23	0.50	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trichlorofluoromethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Vinyl chloride	2	2	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Xylene (Total)	10,000	10,000	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Total Metals																														
Arsenic	0.05	0.05	mg/l	0.007	0.005	V	0.026	0.005	V	<	0.005	U,V	—	—	—	0.031	0.005	V	0.014	0.005	V	0.010	0.005	V	0.008	0.005	V	0.008	0.005	V
Cadmium	0.05	0.05	mg/l	0.0041	0.001	V	<	0.001	U,V	<	0.001	U,V	—	—	—	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V
Chromium	0.1	0.1	mg/l	0.061	0.01	V	<	0.01	U,V	<	0.01	U,V	—	—	—	<	0.01	U,V	<	0.01	U,V	<	0.01	U,V	<	0.01	U,V	<	0.01	U,V
Lead	0.015	0.015	mg/l	0.0065	0.003	V	0.0039	0.003	V	0.0037	0.003	V	—	—	—	0.0063	0.003	V	0.0114	0.003	V	0.0047	0.003	V	0.0149	0.003	V	0.0036	0.003	V

Table 9 : Summary of Laboratory Analyses of Sullivan Sewer Line Samples
Oak Grove Village Superfund Site
Oak Grove Village, Missouri

Parameter	Screening Levels EPA MCL [1]	Screening Levels MO MCL [2]	Sample ID: / Sample Date: / Units	POTW-8 18-Jan-05 Result	RL	Q	POTW-9 18-Jan-05 Result	RL	Q	POTW-DUP-C (POTW-9) 18-Jan-05 Result	RL	Q	POTW-9 (L-4) 18-Jan-05 Result	RL	Q	POTW-10 18-Jan-05 Result	RL	Q	POTW-11 18-Jan-05 Result	RL	Q	POTW-12 18-Jan-05 Result	RL	Q	POTW-13 18-Jan-05 Result	RL	Q	POTW-DUP-B (POTW-13) 18-Jan-05 Result	RL	Q
Volatile Organic Compounds																														
1,1,1,2-Tetrachloroethane	NA	0.07	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	—	—	—	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,1-Trichloroethane	200	200	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,2,2-Tetrachloroethane	NA	0.17	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,2-Trichloroethane	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1-Dichloroethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1-Dichloroethene	7	7	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,2-Dichloroethane	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,2-Dichloropropane	5	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
2-Butanone (MEK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	1.9	5.0	J,V	2.4		J,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	4.1	5.0	J,V	3.6	5.0	J,V
2-Hexanone (MBK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
4-Methyl-2-pentanone (MIBK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
Acetone	NA	NA	µg/l	38	5.0	V	26	5.0	V	23	5.0	V	26		B,V	64	5.0	V	160	5.0	V	18	5.0	V	160	5.0	V	150	5.0	V
Benzene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromodichloromethane	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromoform	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromomethane	NA	10	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Carbon disulfide	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Carbon tetrachloride	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chlorobenzene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloroethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloroform	80 [3]	100 [3]	µg/l	<	1.0	U,V	2.3	1.0	V	2.2	1.0	V	2.8		V	0.55	1.0	J,V	2.3	1.0	V	0.59	1.0	J,V	0.76	1.0	J,V	0.71	1.0	J,V
Chloromethane	NA	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
cis-1,2-Dichloroethene	70	70	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
cis-1,3-Dichloropropene	NA	87	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Dibromochloromethane	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Dichlorodifluoromethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Ethylbenzene	700	700	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Methylene chloride	5	5	µg/l	0.67	1.0	J,V	0.56	1.0	J,V	<	1.0	U,V	0.39		J,V	0.56	1.0	J,V	0.59	1.0	J,V	0.47	1.0	J,V	0.69	1.0	J,V	<	1.0	U,V
Styrene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Tetrachloroethene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Toluene	1000	1000	µg/l	1.1	1.0	V	<	1.0	U,V	<	1.0	U,V	0.49		J,V	0.76	1.0	J,V	0.70	1.0	J,V	<	1.0	U,V	0.65	1.0	J,V	0.61	1.0	J,V
trans,1,2-Dichloroethene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
trans-1,3-Dichloropropene	NA	87	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trichloroethene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trichlorofluoromethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Vinyl chloride	2	2	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Xylene (Total)	10,000	10,000	µg/l	1.6	1.0	V	<	1.0	U,V	<	1.0	U,V	<	0.50	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Total Metals																														
Arsenic	0.05	0.05	mg/l	0.008	0.005	V	0.009	0.005	V	<	0.005	U,V	—	—	—	0.007	0.005	V	0.012	0.005	V	0.009	0.005	V	<	0.005	U,V	<	0.005	U,V
Cadmium	0.05	0.05	mg/l	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	—	—	—	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V
Chromium	0.1	0.1	mg/l	0.038	0.01	V	<	0.01	U,V	<	0.01	U,V	—	—	—	<	0.01	U,V	<	0.01	U,V	<	0.01	U,V	<	0.01	U,V	<	0.01	U,V
Lead	0.015	0.015	mg/l	***0.0169***	0.003	V	0.0051	0.003	V	0.0066	0.003	V	—	—	—	***0.0413***	0.003	V	0.0038	0.003	V	***0.0176***	0.003	V	0.0067	0.003	V	0.0042	0.003	V

Table 9 : Summary of Laboratory Analyses of Sullivan Sewer Line Samples
Oak Grove Village Superfund Site
Oak Grove Village, Missouri

Parameter	Screening Levels EPA MCL[1]	Screening Levels MO MCL[2]	Sample ID: Sample Date: Units	POTW-14 18-Jan-05 Result	RL	Q	POTW-15 17-Jan-05 Result	RL	Q	POTW-16 17-Jan-05 Result	RL	Q	POTW-17 18-Jan-05 Result	RL	Q	POTW-18 18-Jan-05 Result	RL	Q	POTW-19 18-Jan-05 Result	RL	Q	POTW-20 18-Jan-05 Result	RL	Q	POTW-21 17-Jan-05 Result	RL	Q	POTW-22 17-Jan-05 Result	RL	Q
Volatile Organic Compounds																														
1,1,1,2-Tetrachloroethane	NA	0.07	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,1-Trichloroethane	200	200	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,2,2-Tetrachloroethane	NA	0.17	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,2-Trichloroethane	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1-Dichloroethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1-Dichloroethene	7	7	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,2-Dichloroethane	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,2-Dichloropropane	5	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
2-Butanone (MEK)	NA	NA	µg/l	170	5.0	V	5.6	5.0	V	2.0	5.0	J,V	2.1	5.0	J,V	89	5.0	V	3.7	5.0	J,V	<	5.0	U,V	<	5.0	U,V	6.1	5.0	V
2-Hexanone (MBK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
4-Methyl-2-pentanone (MIBK)	NA	NA	µg/l	<	5.0	U,V	0.89	5.0	J,V	0.90	5.0	J,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
Acetone	NA	NA	µg/l	130	5.0	V	94	5.0	V	9.4	5.0	V	72	5.0	V	61	5.0	V	26	5.0	V	<	5.0	U,V	55	5.0	V	140	5.0	V
Benzene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromodichloromethane	80[3]	100[3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromoform	80[3]	100[3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromomethane	NA	10	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Carbon disulfide	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Carbon tetrachloride	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chlorobenzene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloroethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloroform	80[3]	100[3]	µg/l	3.6	1.0	V	1.6	1.0	V	1.1	1.0	V	2.6	1.0	V	6.7	1.0	V	<	1.0	U,V	<	1.0	U,V	1.1	1.0	V	1.5	1.0	V
Chloromethane	NA	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
cis-1,2-Dichloroethene	70	70	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
cis-1,3-Dichloropropene	NA	87	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Dibromochloromethane	80[3]	100[3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Dichlorodifluoromethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Ethylbenzene	700	700	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.55	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Methylene chloride	5	5	µg/l	4.8	1.0	V	0.89	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.78	1.0	J,V
Styrene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Tetrachloroethene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Toluene	1000	1000	µg/l	0.55	1.0	J,V	0.51	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.82	1.0	J,V	<	1.0	U,V	<	1.0	U,V	0.59	1.0	J,V
trans,1,2-Dichloroethene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
trans-1,3-Dichloropropene	NA	87	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trichloroethene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trichlorofluoromethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Vinyl chloride	2	2	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Xylene (Total)	10,000	10,000	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	3.0	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Total Metals																														
Arsenic	0.05	0.05	mg/l	<	0.005	U,V	<	0.005	U,V	<	0.005	U,V	0.011	0.005	V	0.006	0.005	V	0.009	0.005	V	<	0.005	U,V	<	0.005	U,V	<	0.005	U,V
Cadmium	0.05	0.05	mg/l	<	0.001	U,V	<	0.001	U,V	0.0098	0.001	V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V
Chromium	0.1	0.1	mg/l	***0.430***	0.01	V	0.022	0.01	V	<	0.01	U,V	<	0.01	U,V	***0.254***	0.01	V	0.022	0.01	V	<	0.01	U,V	<	0.01	U,V	0.028	0.01	V
Lead	0.015	0.015	mg/l	0.0077	0.003	V	0.0060	0.003	V	0.0119	0.003	V	<	0.003	U,V	0.0047	0.003	V	0.0074	0.003	V	<	0.003	U,V	<	0.003	U,V	<	0.003	U,V

Table 9 : Summary of Laboratory Analyses of Sullivan Sewer Line Samples
Oak Grove Village Superfund Site
Oak Grove Village, Missouri

Parameter	Screening Levels EPA MCL [1]	Screening Levels MO MCL [2]	Sample ID: / Sample Date: / Units	POTW-23 18-Jan-05 Result	RL	Q	POTW-24 18-Jan-05 Result	RL	Q	POTW-25 18-Jan-05 Result	RL	Q	POTW-26 18-Jan-05 Result	RL	Q	POTW-27 17-Jan-05 Result	RL	Q	POTW-28 18-Jan-05 Result	RL	Q	POTW-29 17-Jan-05 Result	RL	Q
Volatile Organic Compounds																								
1,1,1,2-Tetrachloroethane	NA	0.07	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,1-Trichloroethane	200	200	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,2,2-Tetrachloroethane	NA	0.17	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,2-Trichloroethane	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1-Dichloroethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1-Dichloroethene	7	7	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,2-Dichloroethane	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,2-Dichloropropane	5	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
2-Butanone (MEK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	5.0	5.0	V	3.2	5.0	J,V	4.4	5.0	J,V
2-Hexanone (MBK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
4-Methyl-2-pentanone (MIBK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
Acetone	NA	NA	µg/l	39	5.0	V	<	5.0	U,V	42	5.0	V	9.9	5.0	V	230	5.0	V	42	5.0	V	31	5.0	V
Benzene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromodichloromethane	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromoform	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromomethane	NA	10	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Carbon disulfide	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Carbon tetrachloride	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chlorobenzene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloroethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloroform	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.1	1.0	V	1.4	1.0	V	<	1.0	U,V
Chloromethane	NA	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
cis-1,2-Dichloroethene	70	70	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
cis-1,3-Dichloropropene	NA	87	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Dibromochloromethane	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Dichlorodifluoromethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Ethylbenzene	700	700	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.66	1.0	J,V
Methylene chloride	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.4	1.0	V	<	1.0	U,V	<	1.0	U,V
Styrene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Tetrachloroethene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.0	1.0	V	<	1.0	U,V
Toluene	1000	1000	µg/l	<	1.0	U,V	0.56	1.0	J,V	0.77	1.0	J,V	<	1.0	U,V	0.97	1.0	J,V	1.1	1.0	V	0.96	1.0	J,V
trans,1,2-Dichloroethene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
trans-1,3-Dichloropropene	NA	87	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trichloroethene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trichlorofluoromethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Vinyl chloride	2	2	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Xylene (Total)	10,000	10,000	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.1	1.0	V
Total Metals																								
Arsenic	0.05	0.05	mg/l	<	0.005	U,V	<	0.005	U,V	0.006	0.005	V	<	0.005	U,V	<	0.005	U,V	<	0.005	U,V	<	0.005	U,V
Cadmium	0.05	0.05	mg/l	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V	<	0.001	U,V
Chromium	0.1	0.1	mg/l	0.011	0.01	V	<	0.01	U,V	<	0.01	U,V	<	0.01	U,V	<	0.01	U,V	<	0.01	U,V	<	0.01	U,V
Lead	0.015	0.015	mg/l	<	0.003	U,V	<	0.003	U,V	0.0067	0.003	V	0.0050	0.003	V	0.0043	0.003	V	<	0.003	U,V	<	0.003	U,V

Table 9 : Summary of Laboratory Analyses of Sullivan Sewer Line Samples
Oak Grove Village Superfund Site
Oak Grove Village, Missouri

Parameter	Screening Levels EPA MCL [1]	Screening Levels MO MCL [2]	Sample ID: Sample Date: Units	Equipment Blank 18-Jan-05 Result	RL	Q	Trip Blank #1 18-Jan-05 Result	RL	Q	Trip Blank #2 18-Jan-05 Result	RL	Q
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	NA	0.07	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,1-Trichloroethane	200	200	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,2,2-Tetrachloroethane	NA	0.17	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1,2-Trichloroethane	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1-Dichloroethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,1-Dichloroethene	7	7	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,2-Dichloroethane	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
1,2-Dichloropropane	5	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
2-Butanone (MEK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
2-Hexanone (MBK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
4-Methyl-2-pentanone (MIBK)	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
Acetone	NA	NA	µg/l	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V
Benzene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromodichloromethane	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromoform	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Bromomethane	NA	10	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Carbon disulfide	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Carbon tetrachloride	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chlorobenzene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloroethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloroform	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Chloromethane	NA	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
cis-1,2-Dichloroethene	70	70	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
cis-1,3-Dichloropropene	NA	87	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Dibromochloromethane	80 [3]	100 [3]	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Dichlorodifluoromethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Ethylbenzene	700	700	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Methylene chloride	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Styrene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Tetrachloroethene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Toluene	1000	1000	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
trans,1,2-Dichloroethene	100	100	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
trans-1,3-Dichloropropene	NA	87	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trichloroethene	5	5	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trichlorofluoromethane	NA	NA	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Vinyl chloride	2	2	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Xylene (Total)	10,000	10,000	µg/l	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Total Metals												
Arsenic	0.05	0.05	mg/l	<	0.005	U,V	—	—	—	—	—	—
Cadmium	0.05	0.05	mg/l	<	0.001	U,V	—	—	—	—	—	—
Chromium	0.1	0.1	mg/l	<	0.01	U,V	—	—	—	—	—	—
Lead	0.015	0.015	mg/l	0.0031	0.003	V	—	—	—	—	—	—

Notes:

1. EPA MCL : Value is an EPA Maximum Contaminant Level (MCL) from the primary drinking water standards.
2. Missouri Class VII Water Quality Standards (10 CSR 20-7.031).
3. Value is for total trihalomethanes.
4. NA : No screening level available.
5. Q : Data qualifiers.
   - U : Not detected above the laboratory reporting limit.
   - J : Estimated value–sample value is below the laboratory reporting limit but above the method detection limit.
   - V : Verified sample data.
   - B : Compound was detected in a laboratory method blank at a concentration of 0.49 J µg/l.
6. RL : Reporting limit.
7. Value in ***bold, italics*** exceeds at least one of the screening levels.
8. (L-4) : Data is from a duplicate quality control sample run as a CLP Level IV sample.
9. — : No analysis performed.

Table 17 : Groundwater Analytical Data from Deep Monitor Well Installation Program, June/July 2005
Oak Grove Village, Missouri

Site ID		Lab Sample #	Collection Date	1,1,1,2-Tetrachloroethane, µg/l Result	RL	Q	1,1,1-TCA, µg/l (1,1,1-Trichloroethane) Result	RL	Q	1,1,2,2-Tetrachloroethane, µg/l Result	RL	Q	1,1,2-Trichloroethane, µg/l Result	RL	Q	1,1-DCA, µg/l (1,1-Dichloroethane) Result	RL	Q	1,1-DCE (total), µg/l (Total 1,1-Dichloroethene) Result	RL	Q	1,2-DCA, µg/l (1,2-Dichloroethane) Result	RL	Q	1,2-Dichloropropane, µg/l Result	RL	Q	Methyl ethyl ketone, µg/l (2-Butanone) Result	RL	Q	2-Hexanone, µg/l Result	RL	Q	4-Methyl-2-pentanone, µg/l Result	RL	Q	Acetone, µg/l Result	RL	Q	Benzene, µg/l Result	RL	Q
			EPA MCL	N/A			200			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5		
			Missouri CALM Tier I	N/A			200			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5		
Flying J-10MIN		6339.002	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-1HR		6339.003	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-3HR		6339.004	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-6HR		6339.005	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-12HR		6339.006	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-18HR		6339.007	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-24HR		6339.008	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-24HR	(Duplicate 5)	6340.001	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-36HR		6340.003	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-48HR		6340.004	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-72HR		6372.001	28-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-96HR		6372.003	29-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-96HR	(Duplicate 6)	6372.005	29-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Flying J-120HR		6372.006	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-10MIN		6285.001	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-10MIN	(Re-sample)	6336.001	22-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-1HR		6285.003	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-3HR		6285.005	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-6HR		6285.007	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-12HR		6284.001	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-18HR		6286.001	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-24HR		6286.003	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-24HR	(Duplicate 1)	6286.007	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-24HR	(Re-sample)	6336.002	23-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-36HR		6286.005	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-48HR		6284.003	15-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-48HR	(Re-sample)	6336.003	24-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-72HR **		6297.001	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-72HR **	(Duplicate 3)	6297.003	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-R72HR **		6297.005	17-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-72HR	(Re-sample)	6339.001	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-96HR		6301.002	18-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-96HR	(Re-sample)	6340.002	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-120HR		6301.003	19-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Landfill-120HR	(Re-sample)	6340.005	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-10MIN		6285.002	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-10MIN	(Re-sample)	6372.002	28-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-1HR		6285.004	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-3HR		6285.006	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-6HR		6285.008	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-12HR		6284.002	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-18HR		6286.002	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-18HR	(Duplicate 2)	6286.008	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-24HR		6286.004	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-24HR	(Re-sample)	6372.004	29-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-36HR		6286.006	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-48HR		6284.004	15-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-48HR	(Re-sample)	6387.002	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-48HR	(Duplicate 7)	6387.001	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V

Table 17 : Groundwater Analytical Data from Deep Monitor Well Installation Program, June/July 2005
Oak Grove Village, Missouri

Site ID		Lab Sample #	Collection Date	Bromodichloromethane, µg/l (Dichlorobromomethane) Result	RL	Q	Bromoform, µg/l Result	RL	Q	Methyl bromide, µg/l (Bromomethane) Result	RL	Q	Carbon Disulfide, µg/l Result	RL	Q	Carbon Tetrachloride, µg/l Result	RL	Q	Chlorobenzene, µg/l Result	RL	Q	Chloroethane, µg/l Result	RL	Q	Chloroform, µg/l Result	RL	Q	Chloromethane, µg/l Result	RL	Q	cis-1,2-DCE, µg/l (cis-1,2-Dichloroethene) Result	RL	Q	cis-1,3-Dichloropropene, µg/l Result	RL	Q	Dibromochloromethane, µg/l Result	RL	Q
			EPA MCL	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5			70			N/A			80		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			70			N/A			100		
Flying J-10MIN		6339.002	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-1HR		6339.003	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-3HR		6339.004	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-6HR		6339.005	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-12HR		6339.006	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-18HR		6339.007	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-24HR		6339.008	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-24HR	(Duplicate 5)	6340.001	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-36HR		6340.003	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-48HR		6340.004	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-72HR		6372.001	28-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-96HR		6372.003	29-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-96HR	(Duplicate 6)	6372.005	29-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-120HR		6372.006	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-10MIN		6285.001	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-10MIN	(Re-sample)	6336.001	22-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-1HR		6285.003	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-3HR		6285.005	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-6HR		6285.007	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-12HR		6284.001	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-18HR		6286.001	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-24HR		6286.003	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-24HR	(Duplicate 1)	6286.007	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-24HR	(Re-sample)	6336.002	23-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-36HR		6286.005	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-48HR		6284.003	15-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-48HR	(Re-sample)	6336.003	24-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-72HR **		6297.001	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-72HR **	(Duplicate 3)	6297.003	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-R72HR **		6297.005	17-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-72HR	(Re-sample)	6339.001	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-96HR		6301.002	18-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-96HR	(Re-sample)	6340.002	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-120HR		6301.003	19-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-120HR	(Re-sample)	6340.005	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-10MIN		6285.002	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-10MIN	(Re-sample)	6372.002	28-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-1HR		6285.004	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-3HR		6285.006	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-6HR		6285.008	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-12HR		6284.002	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-18HR		6286.002	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-18HR	(Duplicate 2)	6286.008	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-24HR		6286.004	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-24HR	(Re-sample)	6372.004	29-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-36HR		6286.006	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-48HR		6284.004	15-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-48HR	(Re-sample)	6387.002	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-48HR	(Duplicate 7)	6387.001	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V

Table 17 : Groundwater Analytical Data from Deep Monitor Well Installation Program, June/July 2005
Oak Grove Village, Missouri

Site ID		Lab Sample #	Collection Date	Dichlorodifluoromethane (Freon 12), µg/l			Ethylbenzene, µg/l			Methylene Chloride, µg/l			Styrene, µg/l			PCE, µg/l (Tetrachloroethene)			Toluene, µg/l			trans-1,2-DCE, µg/l (trans-1,2-Dichloroethene)			trans-1,3-Dichloropropene, µg/l			TCE, µg/l (Trichloroethene)			Trichlorofluoromethane (Freon 11), µg/l			Vinyl chloride, µg/l (Chloroethene)			Xylene (total), µg/l		
			EPA MCL	N/A			N/A			5			N/A			5			1000			N/A			N/A			5			N/A			N/A			10		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			5			1000			N/A			N/A			5			N/A			N/A			10000		
				Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
Flying J-10MIN		6339.002	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	5.8	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-1HR		6339.003	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	4.9	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-3HR		6339.004	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	4.7	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-6HR		6339.005	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	4.3	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-12HR		6339.006	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	3.6	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-18HR		6339.007	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	3.1	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-24HR		6339.008	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.7	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-24HR	(Duplicate 5)	6340.001	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	3.5	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-36HR		6340.003	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.8	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-48HR		6340.004	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.2	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-72HR		6372.001	28-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.5	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-96HR		6372.003	29-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.1	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-96HR	(Duplicate 6)	6372.005	29-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.3	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Flying J-120HR		6372.006	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.96	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-10MIN		6285.001	13-Jun-05	0.76	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	34	1.0	V	<	1.0	U,V	<	1.0	U,V	0.83	1.0	J,V	9.3	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-10MIN	(Re-sample)	6336.001	22-Jun-05	0.72	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	3.2	1.0	V	<	1.0	U,V	<	1.0	U,V	0.76	1.0	J,V	8.0	1.0	H,V	<	1.0	U,V	<	1.0	U,V
Landfill-1HR		6285.003	13-Jun-05	0.58	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	9.6	1.0	V	<	1.0	U,V	<	1.0	U,V	0.54	1.0	J,V	5.8	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-3HR		6285.005	13-Jun-05	0.57	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	6.3	1.0	V	<	1.0	U,V	<	1.0	U,V	0.53	1.0	J,V	5.7	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-6HR		6285.007	13-Jun-05	0.52	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	4.5	1.0	V	<	1.0	U,V	<	1.0	U,V	0.52	1.0	J,V	6.0	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-12HR		6284.001	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.1	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-18HR		6286.001	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.7	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	5.3	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-24HR		6286.003	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.1	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	4.6	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-24HR	(Duplicate 1)	6286.007	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.2	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	4.2	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-24HR	(Re-sample)	6336.002	23-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.0	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.7	1.0	H,V	<	1.0	U,V	<	1.0	U,V
Landfill-36HR		6286.005	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.83	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	3.8	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-48HR		6284.003	15-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.75	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	3.6	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-48HR	(Re-sample)	6336.003	24-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.69	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.8	1.0	H,V	<	1.0	U,V	<	1.0	U,V
Landfill-72HR **		6297.001	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.64	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	4.4	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-72HR **	(Duplicate 3)	6297.003	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.62	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	4.1	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-R72HR **		6297.005	17-Jun-05	0.67	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	6.9	1.0	V	<	1.0	U,V	<	1.0	U,V	0.66	1.0	J,V	7.4	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-72HR	(Re-sample)	6339.001	25-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Landfill-96HR		6301.002	18-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	0.46	1.0	J,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.9	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-96HR	(Re-sample)	6340.002	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.1	1.0	H,V	<	1.0	U,V	<	1.0	U,V
Landfill-120HR		6301.003	19-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.6	1.0	V	<	1.0	U,V	<	1.0	U,V
Landfill-120HR	(Re-sample)	6340.005	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-10MIN		6285.002	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	6.6	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-10MIN	(Re-sample)	6372.002	28-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	14	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-1HR		6285.004	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	3.2	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-3HR		6285.006	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.8	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-6HR		6285.008	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.7	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-12HR		6284.002	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.7	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-18HR		6286.002	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.8	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-18HR	(Duplicate 2)	6286.008	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.0	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-24HR		6286.004	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.1	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-24HR	(Re-sample)	6372.004	29-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	5.7	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-36HR		6286.006	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.5	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-48HR		6284.004	15-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.5	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-48HR	(Re-sample)	6387.002	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	3.6	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-48HR	(Duplicate 7)	6387.001	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	4.6	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V

Table 17 : Groundwater Analytical Data from Deep Monitor Well Installation Program, June/July 2005
Oak Grove Village, Missouri

				Total Arsenic, mg/l			Total Cadmium, mg/l			Total Chromium, mg/l			Total Lead, mg/l		
			EPA MCL	N/A			N/A			100			0.015		
			Missouri CALM Tier I	N/A			N/A			100			0.015		
Site ID		Lab Sample #	Collection Date	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
Flying J-10MIN		6339.002	25-Jun-05	<	0.005	U,V	0.0013	0.001	V	0.012	0.01	V	0.0050	0.003	V
Flying J-1HR		6339.003	25-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Flying J-3HR		6339.004	25-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Flying J-6HR		6339.005	25-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Flying J-12HR		6339.006	26-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	0.0034	0.003	V
Flying J-18HR		6339.007	26-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Flying J-24HR		6339.008	26-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Flying J-24HR	(Duplicate 5)	6340.001	26-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Flying J-36HR		6340.003	27-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Flying J-48HR		6340.004	27-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Flying J-72HR		6372.001	28-Jun-05	<	0.005	U,V	0.0035	0.001	V	<	0.01	U,V	<	0.003	U,V
Flying J-96HR		6372.003	29-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Flying J-96HR	(Duplicate 6)	6372.005	29-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Flying J-120HR		6372.006	30-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-10MIN		6285.001	13-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	0.0093	0.003	V
Landfill-10MIN	(Re-sample)	6336.001	22-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	0.0032	0.003	V
Landfill-1HR		6285.003	13-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	0.0099	0.003	V
Landfill-3HR		6285.005	13-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-6HR		6285.007	13-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-12HR		6284.001	13-Jun-05	<	0.005	U,V	0.0094	0.001	V	<	0.01	U,V	<	0.003	U,V
Landfill-18HR		6286.001	14-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-24HR		6286.003	14-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-24HR	(Duplicate 1)	6286.007	14-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-24HR	(Re-sample)	6336.002	23-Jun-05	0.015	0.005	V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-36HR		6286.005	14-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-48HR		6284.003	15-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-48HR	(Re-sample)	6336.003	24-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-72HR **		6297.001	16-Jun-05	<	0.005	U,V	0.0072	0.001	V	<	0.01	U,V	<	0.003	U,V
Landfill-72HR **	(Duplicate 3)	6297.003	16-Jun-05	0.009	0.005	V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-R72HR **		6297.005	17-Jun-05	0.009	0.005	V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-72HR	(Re-sample)	6339.001	25-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-96HR		6301.002	18-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-96HR	(Re-sample)	6340.002	26-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	0.0034	0.003	V
Landfill-120HR		6301.003	19-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Landfill-120HR	(Re-sample)	6340.005	27-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-10MIN		6285.002	13-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	0.0035	0.003	V
VFW-10MIN	(Re-sample)	6372.002	28-Jun-05	<	0.005	U,V	0.0013	0.001	V	<	0.01	U,V	<	0.003	U,V
VFW-1HR		6285.004	13-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-3HR		6285.006	13-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-6HR		6285.008	13-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-12HR		6284.002	13-Jun-05	0.008	0.005	V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-18HR		6286.002	14-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-18HR	(Duplicate 2)	6286.008	14-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-24HR		6286.004	14-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-24HR	(Re-sample)	6372.004	29-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-36HR		6286.006	14-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-48HR		6284.004	15-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-48HR	(Re-sample)	6387.002	30-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-48HR	(Duplicate 7)	6387.001	30-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V

Table 17 : Groundwater Analytical Data from Deep Monitor Well Installation Program, June/July 2005
Oak Grove Village, Missouri

				1,1,1,2-Tetrachloroethane, µg/l			1,1,1-TCA, µg/l (1,1,1-Trichloroethane)			1,1,2,2-Tetrachloroethane, µg/l			1,1,2-Trichloroethane, µg/l			1,1-DCA, µg/l (1,1-Dichloroethane)			1,1-DCE (total), µg/l (Total 1,1-Dichloroethene)			1,2-DCA, µg/l (1,2-Dichloroethane)			1,2-Dichloropropane, µg/l			Methyl ethyl ketone, µg/l (2-Butanone)			2-Hexanone, µg/l			4-Methyl-2-pentanone, µg/l			Acetone, µg/l			Benzene, µg/l		
			EPA MCL	N/A			200			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5		
			Missouri CALM Tier I	N/A			200			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5		
Site ID		Lab Sample #	Collection Date	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
VFW-72HR **		6297.002	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-72HR **	(Duplicate 4)	6297.004	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-72HR	(Re-sample)	6387.003	1-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-96HR **		6297.006	17-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-96HR	(Re-sample)	6387.004	2-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-96HR	(Duplicate 8)	6387.005	2-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-120HR		6301.001	18-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
VFW-120HR	(Re-sample)	6387.006	3-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Trip Blank		6285.009	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Trip Blank		6286.009	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Trip Blank		6284.005	15-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Trip Blank		6297.007	17-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Trip Blank **		6301.004	19-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Trip Blank		6336.004	24-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Trip Blank		6339.009	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Trip Blank		6340.006	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Trip Blank		6372.007	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V
Trip Blank		6387.007	3-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	5.0	U,V	<	1.0	U,V

Table 17 : Groundwater Analytical Data from Deep Monitor Well Installation Program, June/July 2005
Oak Grove Village, Missouri

Site ID		Lab Sample #	Collection Date	Bromodichloromethane, µg/l (Dichlorobromomethane) Result	RL	Q	Bromoform, µg/l Result	RL	Q	Methyl bromide, µg/l (Bromomethane) Result	RL	Q	Carbon Disulfide, µg/l Result	RL	Q	Carbon Tetrachloride, µg/l Result	RL	Q	Chlorobenzene, µg/l Result	RL	Q	Chloroethane, µg/l Result	RL	Q	Chloroform, µg/l Result	RL	Q	Chloromethane, µg/l Result	RL	Q	cis-1,2-DCE, µg/l (cis-1,2-Dichloroethene) Result	RL	Q	cis-1,3-Dichloropropene, µg/l Result	RL	Q	Dibromochloromethane, µg/l Result	RL	Q
			EPA MCL	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			5			70			N/A			80		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			N/A			70			N/A			100		
VFW-72HR **		6297.002	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-72HR **	(Duplicate 4)	6297.004	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-72HR	(Re-sample)	6387.003	1-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-96HR **		6297.006	17-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-96HR	(Re-sample)	6387.004	2-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-96HR	(Duplicate 8)	6387.005	2-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-120HR		6301.001	18-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-120HR	(Re-sample)	6387.006	3-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6285.009	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6286.009	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6284.005	15-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6297.007	17-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank **		6301.004	19-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6336.004	24-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6339.009	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6340.006	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6372.007	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6387.007	3-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V

Table 17 : Groundwater Analytical Data from Deep Monitor Well Installation Program, June/July 2005
Oak Grove Village, Missouri

				Dichlorodifluoromethane (Freon 12), µg/l			Ethylbenzene, µg/l			Methylene Chloride, µg/l			Styrene, µg/l			PCE, µg/l (Tetrachloroethene)			Toluene, µg/l			trans-1,2-DCE, µg/l (trans-1,2-Dichloroethene)			trans-1,3-Dichloropropene, µg/l			TCE, µg/l (Trichloroethene)			Trichlorofluoromethane (Freon 11), µg/l			Vinyl chloride, µg/l (Chloroethene)			Xylene (total), µg/l		
			EPA MCL	N/A			N/A			5			N/A			5			1000			N/A			N/A			5			N/A			N/A			10		
			Missouri CALM Tier I	N/A			N/A			N/A			N/A			5			1000			N/A			N/A			5			N/A			N/A			10000		
Site ID		Lab Sample #	Collection Date	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
VFW-72HR **		6297.002	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.4	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-72HR **	(Duplicate 4)	6297.004	16-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.3	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-72HR	(Re-sample)	6387.003	1-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.7	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-96HR **		6297.006	17-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.1	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-96HR	(Re-sample)	6387.004	2-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.3	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-96HR	(Duplicate 8)	6387.005	2-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	2.3	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-120HR		6301.001	18-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.0	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
VFW-120HR	(Re-sample)	6387.006	3-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	1.9	1.0	V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6285.009	13-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6286.009	14-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6284.005	15-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6297.007	17-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank **		6301.004	19-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6336.004	24-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6339.009	26-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6340.006	27-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6372.007	30-Jun-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V
Trip Blank		6387.007	3-Jul-05	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V	<	1.0	U,V

Table 17 : Groundwater Analytical Data from Deep Monitor Well Installation Program, June/July 2005
Oak Grove Village, Missouri

				Total Arsenic, mg/l			Total Cadmium, mg/l			Total Chromium, mg/l			Total Lead, mg/l		
			EPA MCL	N/A			N/A			100			0.015		
			Missouri CALM Tier I	N/A			N/A			100			0.015		
Site ID		Lab Sample #	Collection Date	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
VFW-72HR **		6297.002	16-Jun-05	0.016	0.005	V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-72HR **	(Duplicate 4)	6297.004	16-Jun-05	0.009	0.005	V	0.0011	0.001	V	<	0.01	U,V	<	0.003	U,V
VFW-72HR	(Re-sample)	6387.003	1-Jul-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-96HR **		6297.006	17-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-96HR	(Re-sample)	6387.004	2-Jul-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-96HR	(Duplicate 8)	6387.005	2-Jul-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-120HR		6301.001	18-Jun-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
VFW-120HR	(Re-sample)	6387.006	3-Jul-05	<	0.005	U,V	<	0.001	U,V	<	0.01	U,V	<	0.003	U,V
Trip Blank		6285.009	13-Jun-05	—	—	—	—	—	—	—	—	—	—	—	—
Trip Blank		6286.009	14-Jun-05	—	—	—	—	—	—	—	—	—	—	—	—
Trip Blank		6284.005	15-Jun-05	—	—	—	—	—	—	—	—	—	—	—	—
Trip Blank		6297.007	17-Jun-05	—	—	—	—	—	—	—	—	—	—	—	—
Trip Blank **		6301.004	19-Jun-05	—	—	—	—	—	—	—	—	—	—	—	—
Trip Blank		6336.004	24-Jun-05	—	—	—	—	—	—	—	—	—	—	—	—
Trip Blank		6339.009	26-Jun-05	—	—	—	—	—	—	—	—	—	—	—	—
Trip Blank		6340.006	27-Jun-05	—	—	—	—	—	—	—	—	—	—	—	—
Trip Blank		6372.007	30-Jun-05	—	—	—	—	—	—	—	—	—	—	—	—
Trip Blank		6387.007	3-Jul-05	—	—	—	—	—	—	—	—	—	—	—	—

Notes:
1. * : cis-1,2-DCE value used since a value for 1,2-DCE(total) is not included in the referenced documents.
2. N/A : Not available.
3. ND : Not detected.
4. — : Not analyzed.
5. ** : Temperature of shipping container was 9.5°C upon arrival at the laboratory; therefore, results should be considered estimated values.
6. Q : Qualifiers.
   - J : Indicates estimated concentration.
   - U : Compound not detected.
   - H : Possible high bias with result; compound recovery in lab batch QC samples was above the lab acceptance criteria..
   - V : Data has been verified.
7. Values shaded and appearing in ***bold/italics*** indicates concentration exceeds one of the comparison standards.
8. RL : Reporting limit.

Table 19 : Analytical Results from Tree Core Samples
Oak Grove Village, Missouri

Physical Location of Sample	Sample ID	Field Sample #	Sample Date	cis-1,2-Dichloroethene, µg Result	RL	Q	trans-1,2-Dichloroethene, µg Result	RL	Q	Trichloroethene, µg Result	RL	Q	Species	Measured Circumference (inches)	Calculated Diameter (inches)
Sohn Property	TC-001	0429742	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Cedar	46	14.6
	TC-002	0429743	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Unknown	8.5	2.7
Closed Sullivan "North"	TC-003	0429744	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Shingle Oak	130	41.4
Sewage Lagoon	TC-004	0429745	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Sassafras	22	7.0
	TC-005	0429746	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Hickory	55	17.5
	TC-006	0429747	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Red Mulberry	33	10.5
	TC-007	0429748	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Hickory	38	12.1
	TC-008	0429749	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Hickory	58	18.5
	TC-009	0429750	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Sassafras	10	3.2
	TC-010	0429751	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	46	14.6
	TC-011	0429752	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Sassafras	17	5.4
	TC-012	0429753	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	28	8.9
	TC-013	0429754	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Black Walnut	19	6.0
	TC-014	0429755	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Unknown	22	7.0
	TC-015	0429756	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Unknown	101	32.1
	TC-016	0429757	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Maple	52	16.6
	TC-017	0429758	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	87	27.7
	TC-018	0429759	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	18	5.7
	TC-019	0429760	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	58	18.5
	TC-020	0429761	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Maple	28	8.9
	TC-021	0429762	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	43	13.7
	TC-022	0429763	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Cedar	35	11.1
	TC-023	0429764	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	112	35.7
	TC-024	0429765	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Willow	36	11.5
Closed Sullivan "South"	TC-025	0429766	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Black Walnut	35	11.1
Sewage Lagoon	TC-026	0429767	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	134	42.7
(Sullivan Country Club)	TC-027	0429768	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Oak	69	22.0
	TC-028	0429769	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Hickory	63	20.0
	TC-029	0429770	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Willow	30	9.6
	TC-030	0429771	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Maple	156	49.7
	TC-031	0429772	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Willow	25	8.0
	TC-032	0429773	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Willow	53	16.7
	TC-033	0429774	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Hickory	42	13.7
	TC-034	0429775	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Sycamore	59	18.8
	TC-035	0429776	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	46	14.6
	TC-036	0429777	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	White Oak	73	23.2

Table 19 : Analytical Results from Tree Core Samples
Oak Grove Village, Missouri

Physical Location of Sample	Sample ID	Field Sample #	Sample Date	cis-1,2-Dichloroethene, µg Result	RL	Q	trans-1,2-Dichloroethene, µg Result	RL	Q	Trichloroethene, µg Result	RL	Q	Species	Measured Circumference (inches)	Calculated Diameter (inches)
Peterson Property Southernmost Pond	TC-037	0429778	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Willow	14	4.5
	TC-038	0429779	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	55	17.5
	TC-039	0429780	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Cedar	30	9.5
	TC-040	0429781	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Cedar	35	11.1
	TC-041			unable to core									Walnut	23	7.3
	TC-042	0429782	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	21	6.7
	TC-043	0429783	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Cedar	40	12.7
Closed Sullivan Landfill	TC-044	0429784	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	65	20.7
	TC-045			unable to core									Black Locust		
	TC-046	0429785	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Cedar	31	9.9
	TC-047	0429786	22-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Oak	64	20.3
Peterson Property Northernmost Pond	TC-048	0429806	25-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Oak	33	10.5
	TC-049	0429807	25-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Oak	38	12.1
	TC-050	0429808	25-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	47	15.0
	TC-051	0429809	25-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Elm	26	8.3
	TC-052	0429810	25-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Magnolia	32	10.2
	TC-053	0429811	25-Jun-04	<	0.10	U,V	<	0.10	U,V	<	0.10	U,V	Magnolia	39	12.4
Closed Oak Grove Village Sewage Lagoon	TC-054	0429821	25-Aug-04	<	0.1	U,V	<	0.1	U,V	<	0.1	U,V	Elm	27	8.6
	TC-055	0429822	25-Aug-04	<	0.1	U,V	<	0.1	U,V	<	0.1	U,V	Elm	28	8.9
	TC-056	0429823	25-Aug-04	<	0.1	U,V	<	0.1	U,V	<	0.1	U,V	Maple	8	2.5
	TC-057	0429824	25-Aug-04	<	0.1	U,V	<	0.1	U,V	<	0.1	U,V	Maple	13	4.1

Notes:

1. < : Denotes a sample value of less than the laboratory reporting limit.
2. — : No analysis performed.
3. RL : Reporting limit.
4. Q : Qualifiers for data.
   U : Undetected.
   V : Data has been verified.
5. Data source was Missouri Department of Natural Resources Environmental Services Program report sheets.
6. Tree core parameters are reported in micrograms (µg).

Table 21 : Summary of Laboratory Analyses of Soil Samples
Oak Grove Village, Missouri

Physical Location:		Closed Sullivan "South" Sewage Lagoon																													
Sample ID:		SB-01			SB-01			SB-01			SB-02			Dup (SB-02)			SB-03			SB-04			SB-04			SB-05			SB-06		
Field Sample #:		0429789			0429787			0429788			0429790			0429791			0429792			0429793			0429794			0429795			0429796		
Sample Depth, feet:		7.5 - 8.0			9.5 - 10.0			12.5 - 13.0			11.5 - 12.0			11.5 - 12.0			11.5 - 12.0			0.33 - 0.83			1.5 - 2.0			0.66 - 1.16			12.5 - 13.0		
Sample Date:		24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04		
Parameter		Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
Total Metals	***Units***																														
Chromium	µg/kg	22,900		D,V	2,660		P,D,V	7,270		D,V	7,150		D,V	9,300		D,V	7,050		D,V	2,550		P,D,V	12,900		D,V	15,100		D,V	9,540		D,V
Lead	µg/kg	9,480		D,V	11,600		D,V	25,600		D,V	2,520		P,D,V	3,350		P,D,V	9,280		D,V	297		P,D,E,V	4,960		D,V	3,130		P,D,V	5,910		D,V
TCLP Metals	***Units***																														
Lead	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Volatile Organic Compounds																															
1,1,1,2-Tetrachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,1-Trichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,2,2-Tetrachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,2-Trichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloropropanone	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
1,1-Dichloropropene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2,3-Trichlorobenzene	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
1,2,3-Trichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2,4-Trichlorobenzene	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
1,2,4-Trimethylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dibromo-3-chloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dibromoethane (EDB)	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3,5-Trimethylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3-Dichlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3-Dichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,4-Dichlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1-Chlorobutane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2,2-Dichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2-Butanone (MEK)	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
2-Chlorotoluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2-Hexanone	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
2-Nitropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
4-Chlorotoluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
4-Methyl-2-pentanone (MIBK)	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Acetone	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Acrylonitrile	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Allyl Chloride	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Benzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromochloromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromodichloromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromoform	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromomethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Carbon Disulfide	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Carbon Tetrachloride	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloroacetonitrile	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Chlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloroethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Chloroform	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloromethane	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
cis-1,2-Dichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
cis-1,3-Dichloropropene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Dibromochloromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V

Table 21 : Summary of Laboratory Analyses of Soil Samples
Oak Grove Village, Missouri

Physical Location:		Closed Sullivan "South" Sewage Lagoon																														
Sample ID:		SB-01			SB-01			SB-01			SB-02			Dup (SB-02)			SB-03			SB-04			SB-04			SB-05			SB-06		
Field Sample #:		0429789			0429787			0429788			0429790			0429791			0429792			0429793			0429794			0429795			0429796		
Sample Depth, feet:		7.5 - 8.0			9.5 - 10.0			12.5 - 13.0			11.5 - 12.0			11.5 - 12.0			11.5 - 12.0			0.33 - 0.83			1.5 - 2.0			0.66 - 1.16			12.5 - 13.0		
Sample Date:		24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04			24-Jun-04		
Parameter		Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
Dibromomethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Dichlorodifluoromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Diethyl Ether	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Ethylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Ethylmethacrylate	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Hexachlorobutadiene	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Hexachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Iodomethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Isopropylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
m&p-Xylenes	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methacrylonitrile	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methyl Acrylate	µg/kg	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V
Methylene Chloride	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Methylmethacrylate	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methyl-t-butyl Ether	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Naphthalene	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
n-Butylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Nitrobenzene	µg/kg	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V
n-Propylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
o-Xylene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Pentachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
p-Isopropyltoluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Propionitrile	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
sec-Butylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Styrene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
tert-Butylbenzene	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Tetrachlorethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Tetrahydrofuran	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Toluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Total Xylenes	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
trans-1,2-Dichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
trans-1,3-Dichloropropene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
trans-1,4-Dichloro-2-butene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Trichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Trichlorofluoromethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Vinyl Chloride	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Moisture	%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 21 : Summary of Laboratory Analyses of Soil Samples
Oak Grove Village, Missouri

Parameter	Units	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
Physical Location:		Peterson Property Northernmost Pond															Closed Sullivan "North" Sewage Lagoon												MO Dept. of Conservation Property		
Sample ID:		SB-07			SB-07			SB-08			SB-08			SB-09			SB-10			SB-11			Dup (SB-11)			SB-11			SB-12		
Field Sample #:		0429797			0429798			0429799			0429800			0429801			0429802			0429803			0429804			0429805			0429812		
Sample Depth, feet:		4.5 - 5.0			14.5 - 15.0			4.5 - 5.0			7.0 - 7.5			10.5 - 11.0			2.0 - 2.5			4.0 - 5.0			4.0 - 5.0			4.5 - 15.0			3.0 - 4.0		
Sample Date:		25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Aug-04		
Total Metals	***Units***																														
Chromium	µg/kg	7,540		D,V	13,900		D,V	17,800		D,V	6,160		D,V	3,960		P,D,V	8,020		D,V	27,600		D,V	101,000		D,V	274		P,D,E,V	27,200		V
Lead	µg/kg	3,780		P,D,V	5,620		D,V	6,850		D,V	17,600		D,V	883		P,D,V	15,000		D,V	24,700		D,V	16,100		D,V	<	100	U,P,D,V	6,900		V
TCLP Metals	***Units***																														
Lead	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Volatile Organic Compounds																															
1,1,1,2-Tetrachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,1-Trichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,2,2-Tetrachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,2-Trichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloropropanone	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
1,1-Dichloropropene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2,3-Trichlorobenzene	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
1,2,3-Trichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2,4-Trichlorobenzene	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
1,2,4-Trimethylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dibromo-3-chloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dibromoethane (EDB)	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3,5-Trimethylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3-Dichlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3-Dichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,4-Dichlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1-Chlorobutane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2,2-Dichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2-Butanone (MEK)	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
2-Chlorotoluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2-Hexanone	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
2-Nitropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
4-Chlorotoluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
4-Methyl-2-pentanone (MIBK)	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Acetone	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Acrylonitrile	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Allyl Chloride	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Benzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromochloromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromodichloromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromoform	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromomethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Carbon Disulfide	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Carbon Tetrachloride	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloroacetonitrile	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Chlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloroethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Chloroform	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloromethane	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
cis-1,2-Dichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
cis-1,3-Dichloropropene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Dibromochloromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V

Table 21 : Summary of Laboratory Analyses of Soil Samples
Oak Grove Village, Missouri

Physical Location:		Peterson Property Northernmost Pond												Closed Sullivan "North" Sewage Lagoon															MO Dept. of Conservation Property		
Sample ID:		SB-07			SB-07			SB-08			SB-08			SB-09			SB-10			SB-11			Dup (SB-11)			SB-11			SB-12		
Field Sample #:		0429797			0429798			0429799			0429800			0429801			0429802			0429803			0429804			0429805			0429812		
Sample Depth, feet:		4.5 - 5.0			14.5 - 15.0			4.5 - 5.0			7.0 - 7.5			10.5 - 11.0			2.0 - 2.5			4.0 - 5.0			4.0 - 5.0			4.5 - 15.0			3.0 - 4.0		
Sample Date:		25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Jun-04			25-Aug-04		
Parameter		Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
Dibromomethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Dichlorodifluoromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Diethyl Ether	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Ethylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Ethylmethacrylate	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Hexachlorobutadiene	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Hexachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Iodomethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Isopropylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
m&p-Xylenes	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methacrylonitrile	µg/kg	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methyl Acrylate	µg/kg	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V
Methylene Chloride	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Methylmethacrylate	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methyl-t-butyl Ether	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Naphthalene	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
n-Butylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Nitrobenzene	µg/kg	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V
n-Propylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
o-Xylene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Pentachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
p-Isopropyltoluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Propionitrile	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
sec-Butylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Styrene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
tert-Butylbenzene	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Tetrachlorethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Tetrahydrofuran	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Toluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	2.62		E,V
Total Xylenes	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
trans-1,2-Dichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
trans-1,3-Dichloropropene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
trans-1,4-Dichloro-2-butene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Trichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Trichlorofluoromethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Vinyl Chloride	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Moisture	%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 21 : Summary of Laboratory Analyses of Soil Samples
Oak Grove Village, Missouri

	Physical Location:	Closed Oak Grove Village Sewage Lagoon																									Sohn Property					
	Sample ID:	SB-13			SB-13			Dup (SB-13)			SB-13			SB-14			SB-14			SB-14			SB-14			SB-15			SB-15		
	Field Sample #:	0429813			0429815			0429814			0429816			0429817			0429820			0429819			0429818			0429825			0429826		
	Sample Depth, feet:	0.0 - 1.0			7.0 - 8.0			7.0 - 8.0			15.0 - 16.0			0.0 - 1.0			4.5 - 5.0			11.5 - 12.0			14.5 - 15.0			1.0 - 2.0			7.0 - 8.0		
	Sample Date:	25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04		
Parameter		Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
Total Metals	***Units***																															
Chromium	µg/kg	20,500		V	14,400		V	11,700		V	14,000		V	29,200		V	24,300		V	14,300		V	—	—	—	25,000		V	5,610		V
Lead	µg/kg	26,900		V	6,770		V	6,160		V	7,910		V	23,800		V	12,200		V	3,530		V	—	—	—	12,100		V	8,200		V
TCLP Metals	***Units***																															
Lead	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Volatile Organic Compounds																																
1,1,1,2-Tetrachloroethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,1-Trichloroethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,2,2-Tetrachloroethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,2-Trichloroethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloroethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloroethene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloropropanone	µg/kg	<	5.00	U,V	<	10.0	D,U,V	<	10.0	D,U,V	<	5.00	U,V	<	5.00	U,V	—	—	—	—	—	—	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
1,1-Dichloropropene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2,3-Trichlorobenzene	µg/kg	<	10.0	U,V	<	20.0	D,U,V	<	20.0	D,U,V	<	10.0	U,V	<	10.0	U,V	—	—	—	—	—	—	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
1,2,3-Trichloropropane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2,4-Trichlorobenzene	µg/kg	<	10.0	U,V	<	20.0	D,U,V	<	20.0	D,U,V	<	10.0	U,V	<	10.0	U,V	—	—	—	—	—	—	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
1,2,4-Trimethylbenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dibromo-3-chloropropane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dibromoethane (EDB)	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichlorobenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichloroethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichloropropane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3,5-Trimethylbenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3-Dichlorobenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3-Dichloropropane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,4-Dichlorobenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1-Chlorobutane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2,2-Dichloropropane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2-Butanone (MEK)	µg/kg	<	10.0	U,V	<	20.0	D,U,V	<	20.0	D,U,V	<	10.0	U,V	<	10.0	U,V	—	—	—	—	—	—	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
2-Chlorotoluene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2-Hexanone	µg/kg	<	5.00	U,V	<	10.0	D,U,V	<	10.0	D,U,V	<	5.00	U,V	<	5.00	U,V	—	—	—	—	—	—	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
2-Nitropropane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
4-Chlorotoluene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
4-Methyl-2-pentanone (MIBK)	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	2.78		E,V
Acetone	µg/kg	<	50.0	U,V	<	100	D,U,V	<	100	D,U,V	<	50.0	U,V	<	50.0	U,V	—	—	—	—	—	—	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Acrylonitrile	µg/kg	<	5.00	U,V	<	10.0	D,U,V	<	10.0	D,U,V	<	5.00	U,V	<	5.00	U,V	—	—	—	—	—	—	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Allyl Chloride	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Benzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromobenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromochloromethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromodichloromethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromoform	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromomethane	µg/kg	<	10.0	U,V	<	20.0	D,U,V	<	20.0	D,U,V	<	10.0	U,V	<	10.0	U,V	—	—	—	—	—	—	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Carbon Disulfide	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Carbon Tetrachloride	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloroacetonitrile	µg/kg	<	50.0	U,V	<	100	D,U,V	<	100	D,U,V	<	50.0	U,V	<	50.0	U,V	—	—	—	—	—	—	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Chlorobenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloroethane	µg/kg	<	10.0	U,V	<	20.0	D,U,V	<	20.0	D,U,V	<	10.0	U,V	<	10.0	U,V	—	—	—	—	—	—	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Chloroform	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloromethane	µg/kg	<	50.0	U,V	<	100	D,U,V	<	100	D,U,V	<	50.0	U,V	<	50.0	U,V	—	—	—	—	—	—	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
cis-1,2-Dichloroethene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
cis-1,3-Dichloropropene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Dibromochloromethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V

Table 21 : Summary of Laboratory Analyses of Soil Samples
Oak Grove Village, Missouri

Physical Location:		Closed Oak Grove Village Sewage Lagoon																								Sohn Property					
Sample ID:		SB-13			SB-13			Dup (SB-13)			SB-13			SB-14			SB-14			SB-14			SB-14			SB-15			SB-15		
Field Sample #:		0429813			0429815			0429814			0429816			0429817			0429820			0429819			0429818			0429825			0429826		
Sample Depth, feet:		0.0 - 1.0			7.0 - 8.0			7.0 - 8.0			15.0 - 16.0			0.0 - 1.0			4.5 - 5.0			11.5 - 12.0			14.5 - 15.0			1.0 - 2.0			7.0 - 8.0		
Sample Date:		25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04			25-Aug-04		
Parameter		Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
Dibromomethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Dichlorodifluoromethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Diethyl Ether	µg/kg	<	50.0	U,V	<	100	D,U,V	<	100	D,U,V	<	50.0	U,V	<	50.0	U,V	—	—	—	—	—	—	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Ethylbenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Ethylmethacrylate	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Hexachlorobutadiene	µg/kg	<	5.00	U,V	<	10.0	D,U,V	<	10.0	D,U,V	<	5.00	U,V	<	5.00	U,V	—	—	—	—	—	—	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Hexachloroethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Iodomethane	µg/kg	<	10.0	U,V	<	20.0	D,U,V	<	20.0	D,U,V	<	10.0	U,V	<	10.0	U,V	—	—	—	—	—	—	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Isopropylbenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
m&p-Xylenes	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methacrylonitrile	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methyl Acrylate	µg/kg	<	25.0	U,V	<	50.0	D,U,V	<	50.0	D,U,V	<	25.0	U,V	<	25.0	U,V	—	—	—	—	—	—	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V
Methylene Chloride	µg/kg	<	50.0	U,V	<	100	D,U,V	<	100	D,U,V	<	50.0	U,V	<	50.0	U,V	—	—	—	—	—	—	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Methylmethacrylate	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methyl-t-butyl Ether	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Naphthalene	µg/kg	<	10.0	U,V	<	20.0	D,U,V	<	20.0	D,U,V	<	10.0	U,V	<	10.0	U,V	—	—	—	—	—	—	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
n-Butylbenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Nitrobenzene	µg/kg	<	25.0	U,V	<	50.0	D,U,V	<	50.0	D,U,V	<	25.0	U,V	<	25.0	U,V	—	—	—	—	—	—	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V
n-Propylbenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
o-Xylene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Pentachloroethane	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
p-Isopropyltoluene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Propionitrile	µg/kg	<	50.0	U,V	<	100	D,U,V	<	100	D,U,V	<	50.0	U,V	<	50.0	U,V	—	—	—	—	—	—	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
sec-Butylbenzene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Styrene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
tert-Butylbenzene	µg/kg	<	5.00	U,V	<	10.0	D,U,V	<	10.0	D,U,V	<	5.00	U,V	<	5.00	U,V	—	—	—	—	—	—	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Tetrachlorethene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Tetrahydrofuran	µg/kg	<	10.0	U,V	<	20.0	D,U,V	<	20.0	D,U,V	<	10.0	U,V	<	10.0	U,V	—	—	—	—	—	—	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Toluene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Total Xylenes	µg/kg	<	5.00	U,V	<	10.0	D,U,V	<	10.0	D,U,V	<	5.00	U,V	<	5.00	U,V	—	—	—	—	—	—	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
trans-1,2-Dichloroethene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
trans-1,3-Dichloropropene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
trans-1,4-Dichloro-2-butene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Trichloroethene	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Trichlorofluoromethane	µg/kg	<	10.0	U,V	<	20.0	D,U,V	<	20.0	D,U,V	<	10.0	U,V	<	10.0	U,V	—	—	—	—	—	—	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Vinyl Chloride	µg/kg	<	2.50	U,V	<	5.00	D,U,V	<	5.00	D,U,V	<	2.50	U,V	<	2.50	U,V	—	—	—	—	—	—	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Moisture	%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 21 : Summary of Laboratory Analyses of Soil Samples
Oak Grove Village, Missouri

Parameter	Units	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
Physical Location:		Drum Investigation (NW Corner of Drum Pile)			Drum Investigation (SW Corner of Drum Pile)			Drum Investigation (NE Corner of Drum Pile)			Drum Investigation (NE Corner of Drum Pile)			Drum Investigation (North Center of Drum Pile)			Drum Investigation (Center of Drum Pile)			Drum Investigation (South Center of Drum Pile)		
Sample ID:		*SB-01			*SB-02			*SB-03			*Duplicate (SB-03)			*SB-04			*SB-05			*SB-06		
Field Sample #:		0502641			0502642			0502643			0502644			0502645			0502646			0502647		
Sample Depth, feet:		2.5 - 3.0			4.0 - 4.5			1.0 - 2.0			1.0 - 2.0			0.5 - 1.5			0.5 - 1.5			4.0 - 4.5		
Sample Date:		30-Mar-05			30-Mar-05			30-Mar-05			30-Mar-05			30-Mar-05			30-Mar-05			30-Mar-05		
Total Metals	***Units***																					
Chromium	µg/kg	12,300		V	21,400		V	18,800		V	15,900		V	12,900		V	28,800		V	21,600		V
Lead	µg/kg	19,900		V	49,300		V	22,800		V	30,500		V	34,900		V	167,000		V	28,800		V
TCLP Metals	***Units***																					
Lead	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<	0.10	U,V	—	—	—
Volatile Organic Compounds																						
1,1,1,2-Tetrachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,1-Trichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,2,2-Tetrachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1,2-Trichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,1-Dichloropropanone	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
1,1-Dichloropropene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2,3-Trichlorobenzene	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
1,2,3-Trichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2,4-Trichlorobenzene	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
1,2,4-Trimethylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dibromo-3-chloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dibromoethane (EDB)	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,2-Dichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3,5-Trimethylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3-Dichlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,3-Dichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1,4-Dichlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
1-Chlorobutane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2,2-Dichloropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2-Butanone (MEK)	µg/kg	<	10.0	U,V	18.1		E,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
2-Chlorotoluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
2-Hexanone	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
2-Nitropropane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
4-Chlorotoluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
4-Methyl-2-pentanone (MIBK)	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Acetone	µg/kg	<	50.0	U,V	157		V	<	50.0	U,V	<	50.0	U,V	96.2		E,V	<	50.0	U,V	<	50.0	U,V
Acrylonitrile	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Allyl Chloride	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Benzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromochloromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromodichloromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromoform	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Bromomethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Carbon Disulfide	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Carbon Tetrachloride	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloroacetonitrile	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Chlorobenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloroethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Chloroform	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Chloromethane	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
cis-1,2-Dichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
cis-1,3-Dichloropropene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Dibromochloromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V

Table 21 : Summary of Laboratory Analyses of Soil Samples
Oak Grove Village, Missouri

	Physical Location:	Drum Investigation (NW Corner of Drum Pile)			Drum Investigation (SW Corner of Drum Pile)			Drum Investigation (NE Corner of Drum Pile)			Drum Investigation (NE Corner of Drum Pile)			Drum Investigation (North Center of Drum Pile)			Drum Investigation (Center of Drum Pile)			Drum Investigation (South Center of Drum Pile)		
	Sample ID:	*SB-01			*SB-02			*SB-03			*Duplicate (SB-03)			*SB-04			*SB-05			*SB-06		
	Field Sample #:	0502641			0502642			0502643			0502644			0502645			0502646			0502647		
	Sample Depth, feet:	2.5 - 3.0			4.0 - 4.5			1.0 - 2.0			1.0 - 2.0			0.5 - 1.5			0.5 - 1.5			4.0 - 4.5		
	Sample Date:	30-Mar-05			30-Mar-05			30-Mar-05			30-Mar-05			30-Mar-05			30-Mar-05			30-Mar-05		
Parameter		Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q	Result	RL	Q
Dibromomethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Dichlorodifluoromethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Diethyl Ether	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Ethylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Ethylmethacrylate	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Hexachlorobutadiene	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Hexachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Iodomethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Isopropylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
m&p-Xylenes	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methacrylonitrile	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methyl Acrylate	µg/kg	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V
Methylene Chloride	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
Methylmethacrylate	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Methyl-t-butyl Ether	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Naphthalene	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
n-Butylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Nitrobenzene	µg/kg	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V	<	25.0	U,V
n-Propylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
o-Xylene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Pentachloroethane	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
p-Isopropyltoluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Propionitrile	µg/kg	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V	<	50.0	U,V
sec-Butylbenzene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Styrene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
tert-Butylbenzene	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
Tetrachlorethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Tetrahydrofuran	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Toluene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Total Xylenes	µg/kg	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V	<	5.00	U,V
trans-1,2-Dichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
trans-1,3-Dichloropropene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
trans-1,4-Dichloro-2-butene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Trichloroethene	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Trichlorofluoromethane	µg/kg	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V	<	10.0	U,V
Vinyl Chloride	µg/kg	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V	<	2.50	U,V
Moisture	%	20.5		V	18.3		V	20.2		V	21.1		V	28.4		V	22.6		V	10.0		V

Notes:

1. < : Denotes a sample value of less than the laboratory reporting limit.
2. — : No analysis performed.
3. RL : Reporting limit.
4. PQL : Practical quantitation limit.
4. Q : Qualifiers for data.
   - U : Undetected.
   - P : Analyte was present in blank at >1/2 reported value.
   - D : Sample was diluted during analysis.
   - V : Data has been verified.
   - E : Estimated value, detected below PQL.
5. Data source is Missouri Department of Natural Resources Enviromental Services Program report sheets.
6. * : Results reported on a "dry weight" basis.

Table 22 : Summary of Laboratory Analyses of Air Monitoring
La Jolla Spring Cave Complex
Stanton, Missouri

	Site ID:												
	Sample ID:	0321223	0321224	0321225	0321226	Duplicate (0321226)	0321227	0321236	0321237	0321238	0321239	0321240	0321241
	Lab ID:	0305140-01A	0305140-02A	0305140-03A	0305140-04A	0305140-04AA	0305140-05A	0310326-01A	0310326-02A	0310326-03A	0310326-04A	0310329-01A	0310329-02A
Parameter	Sample Date:	1-May-03	1-May-03	1-May-03	1-May-03	1-May-03	1-May-03	9-Oct-03	9-Oct-03	9-Oct-03	9-Oct-03	9-Oct-03	9-Oct-03
	Units												
Freon 12	uG/m^3	<4.5	24	22	26	26	<2.5	<4.2	12	10	19	6.2	9.6
Freon 114	uG/m^3	<6.4	<6.0	<6.0	<6.1	<6.1	<3.6	<6.0	<5.5	<5.7	<7.6	<6.2	<6.1
Chloromethane	uG/m^3	2.1	<1.8	<1.8	<1.8	<1.8	<1.0	<7.0	<6.5	<6.8	<9.0	<7.3	<7.2
Vinyl Chloride	uG/m^3	<2.3	<2.2	<2.2	<2.2	<2.2	<1.3	<2.2	<2.0	<2.1	<2.8	<2.3	<2.2
1,3-Butadiene	uG/m^3	<8.0	<7.6	<7.6	<7.7	<7.7	<4.5	<1.9	<1.7	<1.8	<2.4	<2.0	<1.9
Bromomethane	uG/m^3	<3.5	<3.3	<3.3	<3.4	<3.4	<2.0	<3.3	<3.0	<3.2	<4.2	<3.4	<3.4
Chloroethane	uG/m^3	<2.4	<2.2	<2.2	<2.3	<2.3	<1.3	<2.2	<2.1	<2.2	<2.9	<2.3	<2.3
Freon 11	uG/m^3	<5.1	200	210	270	260	<2.8	<4.8	120	95	200	35	88
Ethanol	uG/m^3	<6.8	<6.4	<6.4	<6.5	<6.5	<3.8	<6.4	<5.9	<6.2	<8.2	<6.7	27
Freon 113	uG/m^3	<7.0	9.0	9.7	12	12	<3.9	<6.5	<6.0	<6.3	8.3 J	<6.8	<6.7
1,1-Dichloroethene	uG/m^3	<3.6	<3.4	<3.4	<3.4	<3.4	<2.0	<3.4	<3.1	<3.2	<4.3	<3.5	<3.4
Acetone	uG/m^3	9.7	9.6	<8.1	<8.2	<8.2	<4.8	8.4	9.8	<7.8	<10	<8.4	<8.2
2-Propanol	uG/m^3	<8.9	<8.4	<8.4	<8.5	<8.5	<5.0	<8.4	<7.7	<8.0	<11	<8.7	<8.5
Carbon Disulfide	uG/m^3	<11	<11	<11	<11	<11	<6.3	<11	<9.8	<10	<14	<11	<11
3-Chloropropene	uG/m^3	—	—	—	—	—	—	—	—	—	—	—	—
Methylene Chloride	uG/m^3	<3.2	<3.0	<3.0	<3.0	<3.0	<1.8	<3.0	<2.7	<2.8	<3.8	<3.1	<3.0
Methyl tert-butyl ether	uG/m^3	<13	<12	<12	<12	<12	<7.3	<12	<11	<12	<16	<13	<12
trans-1,2-Dichloroethene	uG/m^3	<14	<14	<14	<14	<14	<8.0	<14	<12	<13	<17	<14	<14
Hexane	uG/m^3	<13	<12	<12	<12	<12	<7.2	<3.0	<2.8	<2.9	<3.8	<3.1	<3.1
1,1-Dichloroethane	uG/m^3	<3.7	<3.4	<3.4	<3.5	<3.5	<2.0	<3.4	<3.2	<3.3	<4.4	<3.6	<3.5
2-Butanone (Methyl Ethyl Ketone)	uG/m^3	<11	<10	<10	<10	<10	<6.0	<10	<9.3	<9.6	<13	<10	<10
cis-1,2-Dichloroethene	uG/m^3	<3.6	8.3	5.3	13	13	<2.0	<3.4	11	7.5	20	3.9	8.2
Tetrahydrofuran	uG/m^3	<11	<10	<10	<10	<10	<6.0	<10	<9.3	<9.6	<13	<10	<10
Chloroform	uG/m^3	<4.4	<4.2	<4.2	<4.2	<4.2	<2.5	<4.2	<3.8	<4.0	<5.3	11	<4.2
1,1,1-Trichloroethane	uG/m^3	<5.0	<4.6	<4.6	<4.7	<4.7	<2.8	<4.6	<4.3	<4.5	<6.0	<4.8	<4.7
Cyclohexane	uG/m^3	<12	<12	<12	<12	<12	<7.0	<2.9	<2.7	<2.8	<3.8	<3.1	<3.0
Carbon Tetrachloride	uG/m^3	<5.7	<5.4	<5.4	<5.5	<5.5	<3.2	<5.4	<5.0	<5.1	<6.9	<5.6	<5.5
2,2,4-Trimethylpentane	uG/m^3	—	—	—	—	—	—	—	—	—	—	—	—
Benzene	uG/m^3	<2.9	<2.7	<2.7	<2.8	<2.8	<1.6	<2.7	<2.5	<2.6	<3.5	<2.8	<2.8
1,2-Dichloroethane	uG/m^3	<3.7	<3.4	<3.4	<3.5	<3.5	<2.0	<3.4	<3.2	<3.3	<4.4	<3.6	<3.5
Heptane	uG/m^3	<15	<14	<14	<14	<14	<8.3	<3.5	<3.2	<3.4	<4.5	<3.6	<3.6
Trichloroethene	uG/m^3	<4.9	1,000	1,100	1,400	1,400	<2.7	<4.6	1,100	900	1,700	340	840
1,2-Dichloropropane	uG/m^3	<4.2	<3.9	<3.9	<4.0	<4.0	<2.3	<3.9	<3.6	<3.8	<5.0	<4.1	<4.0
1,4-Dioxane	uG/m^3	<13	<12	<12	<12	<12	<7.3	<12	<11	<12	<16	<13	<12
Bromodichloromethane	uG/m^3	<24	<23	<23	<23	<23	<14	<5.7	<5.3	<5.5	<7.3	<6.0	<5.8
cis-1,3-Dichloropropene	uG/m^3	<4.1	<3.9	<3.9	<3.9	<3.9	<2.3	<3.9	<3.6	<3.7	<5.0	<4.0	<3.9
4-Methyl-2-pentanone	uG/m^3	<15	<14	<14	<14	<14	<8.3	<14	<13	<13	<18	<14	<14
Toluene	uG/m^3	<3.4	<3.2	<3.2	<3.3	<3.3	<1.9	<3.2	<3.0	<3.1	<4.1	<3.4	<3.3
trans-1,3-Dichloropropene	uG/m^3	<4.1	<3.9	<3.9	<3.9	<3.9	<2.3	<3.9	<3.6	<3.7	<5.0	<4.0	<3.9
1,1,2-Trichloroethane	uG/m^3	<5.0	<4.6	<4.6	<4.7	<4.7	<2.8	<4.6	<4.3	<4.5	<6.0	<4.8	<4.7
Tetrachloroethene	uG/m^3	<6.2	<5.8	<5.8	7.0	6.8	<3.4	<5.8	<5.3	<5.6	<7.4	<6.0	<5.9
2-Hexanone	uG/m^3	<15	<14	<14	<14	<14	<8.3	<14	<13	<13	<18	<14	<14
Dibromochloromethane	uG/m^3	<31	<29	<29	<30	<30	<17	<7.3	<6.7	<7.0	<9.3	<7.6	<7.4
1,2-Dibromoethane (EDB)	uG/m^3	<7.0	<6.6	<6.6	<6.7	<6.7	<3.9	<6.6	<6.0	<6.3	<8.4	<6.8	<6.7
Chlorobenzene	uG/m^3	<4.2	<3.9	<3.9	<4.0	<4.0	<2.3	<3.9	<3.6	<3.8	<5.0	<4.1	<4.0

Table 22 : Summary of Laboratory Analyses of Air Monitoring
La Jolla Spring Cave Complex
Stanton, Missouri

	Site ID:												
	Sample ID:	0321223	0321224	0321225	0321226	Duplicate (0321226)	0321227	0321236	0321237	0321238	0321239	0321240	0321241
Parameter	Lab ID: / Sample Date:	0305140-01A 1-May-03	0305140-02A 1-May-03	0305140-03A 1-May-03	0305140-04A 1-May-03	0305140-04AA 1-May-03	0305140-05A 1-May-03	0310326-01A 9-Oct-03	0310326-02A 9-Oct-03	0310326-03A 9-Oct-03	0310326-04A 9-Oct-03	0310329-01A 9-Oct-03	0310329-02A 9-Oct-03
Ethyl Benzene	uG/m^3	<3.9	<3.7	<3.7	<3.8	<3.8	<2.2	<3.7	<3.4	<3.6	<4.7	<3.9	<3.8
m,p-Xylene	uG/m^3	<4.0	<3.7	<3.7	<3.8	<3.8	<2.2	<3.7	<3.4	<3.6	<4.7	<3.9	<3.8
o-Xylene	uG/m^3	<4.0	<3.7	<3.7	<3.8	<3.8	<2.2	<3.7	<3.4	<3.6	<4.7	<3.9	<3.8
Styrene	uG/m^3	<3.9	<3.6	<3.6	<3.7	<3.7	<2.2	<3.6	<3.4	<3.5	<4.6	<3.8	<3.7
Bromoform	uG/m^3	<38	<35	<35	<36	<36	<21	<35	<32	<34	<45	<37	<36
Cumene	uG/m^3	—	—	—	—	—	—	<4.2	<3.9	<4.0	<5.4	<4.4	<4.3
1,1,2,2-Tetrachloroethane	uG/m^3	<6.2	<5.9	<5.9	<6.0	<6.0	<3.5	<5.9	<5.4	<5.6	<7.5	<6.1	<6.0
Propylbenzene	uG/m^3	—	—	—	—	—	—	<4.2	<3.9	<4.0	<5.4	<4.4	<4.3
4-Ethyltoluene	uG/m^3	<18	<17	<17	<17	<17	<10	<17	<15	<16	<21	<17	<17
1,3,5-Trimethylbenzene	uG/m^3	<4.5	<4.2	<4.2	<4.3	<4.3	<2.5	<4.2	<3.9	<4.0	<5.4	<4.4	<4.3
1,2,4-Trimethylbenzene	uG/m^3	<4.5	<4.2	<4.2	<4.3	<4.3	<2.5	<4.2	<3.9	<4.0	<5.4	<4.4	<4.3
1,3-Dichlorobenzene	uG/m^3	<5.5	<5.1	<5.1	<5.2	<5.2	<3.0	<5.1	<4.7	<4.9	<6.6	<5.3	<5.2
1,4-Dichlorobenzene	uG/m^3	<5.5	<5.1	<5.1	<5.2	<5.2	<3.0	<5.1	<4.7	<4.9	<6.6	<5.3	<5.2
alpha-Chlorotoluene	uG/m^3	<4.7	<4.4	<4.4	<4.5	<4.5	<2.6	<4.4	<4.1	<4.2	<5.6	<4.6	<4.5
1,2-Dichlorobenzene	uG/m^3	<5.5	<5.1	<5.1	<5.2	<5.2	<3.0	<5.1	<4.7	<4.9	<6.6	<5.3	<5.2
1,2,4-Trichlorobenzene	uG/m^3	<27	<25	<25	<26	<26	<15	<25	<23	<24	<32	<26	<26
Hexachlorobutadiene	uG/m^3	<39	<36	<36	<37	<37	<22	<36	<34	<35	<47	<38	<37
Chloromethane	uG/m^3	2.1	<1.8	<1.8	<1.8	<1.8	<1.0	<7.0	<6.5	<6.8	<9.0	<7.3	<7.2
Vinyl Acetate	uG/m^3	<13	<12	<12	<12	<12	<7.2	<12	<11	<12	<15	<12	<12
Propylene	uG/m^3	<6.3	<5.9	<5.9	<6.0	<6.0	<3.5	—	—	—	—	—	—

Table 22 : Summary of Laboratory Analyses of Air Monitoring
La Jolla Spring Cave Complex
Stanton, Missouri

Parameter	Site ID:												Pavilion/ Parking Lot	Ball Room	Lassie (2 Mile Stretch)
	Sample ID:	0321242	0321243	0410050	Duplicate (0410050)	0410051	0410052	0410053	0410054	0410055	0410056	0410057	0501728	0501729	0501730
	Lab ID:	0310329-03A	0310329-04A	0402204-01A	0402204-01AA	0402204-02A	0402204-03A	0402204-04A	0402204-05A	0402204-06A	0402204-07A	0402204-08A	0501424-01A	0501424-02A	0501424-03A
	Sample Date:	9-Oct-03	9-Oct-03	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	20-Jan-05	20-Jan-05	20-Jan-05
	Units														
Freon 12	uG/m^3	16	<2.5	<4.0	<4.0	7.2	5.4	5.1	6.6	4.2	<6.5	<2.5	<3.4	4.8	<4.4
Freon 114	uG/m^3	<11	<3.6	<5.7	<5.7	<5.4	<6.1	<6.4	<6.1	<5.4	<9.2	<3.6	<4.8	<6.0	<6.2
Chloromethane	uG/m^3	<13	<4.2	<6.8	<6.8	<6.4	<7.2	<7.5	<7.2	<6.4	<11	<4.2	<5.7	<7.1	<7.4
Vinyl Chloride	uG/m^3	<4.0	<1.3	<2.1	<2.1	<2.0	<2.2	<2.3	<2.2	<2.0	<3.4	<1.3	<1.8	<2.2	<2.3
1,3-Butadiene	uG/m^3	<3.5	<1.1	<1.8	<1.8	<1.7	<1.9	<2.0	<1.9	<1.7	<2.9	<1.1	<1.5	<1.9	<2.0
Bromomethane	uG/m^3	<6.1	<2.0	<3.2	<3.2	<3.0	<3.4	<3.5	<3.4	<3.0	<5.1	<2.0	<2.7	<3.3	<3.5
Chloroethane	uG/m^3	<4.2	<1.3	<2.2*	<2.2*	<2.0*	<2.3*	<2.4*	<2.3*	<2.0*	<3.5*	<1.3*	<1.8	<2.2	<2.4
Freon 11	uG/m^3	160	<2.8	<4.6	<4.6	<4.3	<4.9	<5.1	<4.9	<4.3	<7.4	<2.8	<3.9	5.8	9.5
Ethanol	uG/m^3	<12	<3.8	<6.2	<6.2	12	<6.5	<6.8	<6.5	16	<9.9	<3.8	<5.2	27	<6.7
Freon 113	uG/m^3	<12	<3.9	<6.3	<6.3	<5.9	<6.7	<7.0	<6.7	<5.9	<10	<3.9	<5.3	<6.6	<6.8
1,1-Dichloroethene	uG/m^3	<6.2	<2.0	<3.2	<3.2	<3.1	<3.4	<3.6	<3.4	<3.1	<5.2	<2.0	<2.8	<3.4	<3.5
Acetone	uG/m^3	<15	<4.8	<7.8	<7.8	12	11	<8.6	<8.2	19	<12	<4.8	<6.6	10	<8.5
2-Propanol	uG/m^3	<15	<5.0	<8.0	<8.0	<7.6	<8.5	<8.9	<8.5	15	<13	<5.0	<6.8	<8.4	<8.8
Carbon Disulfide	uG/m^3	<20	<6.3	<10	<10	<9.6	<11	<11	<11	<9.6	<16	<6.3	<2.2	<2.7	<2.8
3-Chloropropene	uG/m^3	—	—	—	—	—	—	—	—	—	—	—	<8.7	<11	<11
Methylene Chloride	uG/m^3	<5.5	<1.8	<2.8	<2.8	<2.7	<3.0	<3.2	<3.0	<2.7	<4.6	<1.8	<2.4	<3.0	<3.1
Methyl tert-butyl ether	uG/m^3	<23	<7.3	<12	<12	<11	<12	<13	<12	<11	<19	<7.3	<2.5	<3.1	<3.2
trans-1,2-Dichloroethene	uG/m^3	<25	<8.0	<13	<13	<12	<14	<14	<14	<12	<21	<8.0	<2.8	<3.4	<3.5
Hexane	uG/m^3	<5.6	<1.8	<2.9	<2.9	<2.7	<3.1	<3.2	<3.1	<2.7	<4.6	<1.8	<2.4	<3.0	<3.2
1,1-Dichloroethane	uG/m^3	<6.4	<2.0	<3.3	<3.3	<3.1	<3.5	<3.7	<3.5	<3.1	<5.3	<2.0	<2.8	<3.5	<3.6
2-Butanone (Methyl Ethyl Ketone)	uG/m^3	<18	<6.0	<9.6	<9.6	<9.1	<10	<11	<10	<9.1	<16	<6.0	<2.0	2.6	3.4
cis-1,2-Dichloroethene	uG/m^3	15	<2.0	<3.2	<3.2	<3.1	<3.4	<3.6	<3.4	<3.1	<5.2	<2.0	<2.8	<3.4	<3.5
Tetrahydrofuran	uG/m^3	<18	<6.0	<9.6	<9.6	<9.1	<10	<11	<10	<9.1	<16	<6.0	<2.0	<2.5	<2.6
Chloroform	uG/m^3	<7.7	<2.5	<4.0	<4.0	<3.8	<4.2	<4.4	<4.2	<3.8	<6.4	<2.5	<3.4	<4.2	<4.4
1,1,1-Trichloroethane	uG/m^3	<8.6	<2.8	<4.5	<4.5	<4.2	<4.7	<5.0	<4.7	<4.2	<7.2	<2.8	<3.8	<4.7	<4.9
Cyclohexane	uG/m^3	<5.4	<1.7	<2.8	<2.8	<2.6	<3.0	<3.1	<3.0	<2.6	<4.5	<1.7	<2.4	<2.9	<3.1
Carbon Tetrachloride	uG/m^3	<9.9	<3.2	<5.1	<5.1	<4.9	<5.5	<5.7	<5.5	<4.9	<8.3	<3.2	<4.4	<5.4	<5.6
2,2,4-Trimethylpentane	uG/m^3	—	—	—	—	—	—	—	—	—	—	—	<3.2	<4.0	<4.2
Benzene	uG/m^3	<5.0	<1.6	<2.6	<2.6	<2.5	<2.8	<2.9	<2.8	<2.5	<4.2	<1.6	<2.2	<2.7	<2.8
1,2-Dichloroethane	uG/m^3	<6.4	<2.0	<3.3	<3.3	<3.1	<3.5	<3.7	<3.5	<3.1	<5.3	<2.0	<2.8	<3.5	<3.6
Heptane	uG/m^3	<6.4	<2.1	<3.4	<3.4	<3.2	<3.6	<3.7	<3.6	<3.2	<5.4	<2.1	<2.8	<3.5	<3.7
Trichloroethene	uG/m^3	1,500	<2.7	<4.4	<4.4	4.9	18	23	5.1	5.2	7.8	<2.7	<3.7	5.2	22
1,2-Dichloropropane	uG/m^3	<7.3	<2.3	<3.8	<3.8	<3.6	<4.0	<4.2	<4.0	<3.6	<6.1	<2.3	<3.2	<4.0	<4.1
1,4-Dioxane	uG/m^3	<23	<7.3	<12	<12	<11	<12	<13	<12	<11	<19	<7.3	<10	<12	<13
Bromodichloromethane	uG/m^3	<10	<3.4	<5.5	<5.5	<5.2	<5.8	<6.1	<5.8	<5.2	<8.8	<3.4	<4.6	<5.7	<6.0
cis-1,3-Dichloropropene	uG/m^3	<7.2	<2.3	<3.7	<3.7	<3.5	<3.9	<4.1	<3.9	<3.5	<6.0	<2.3	<3.2	<3.9	<4.1
4-Methyl-2-pentanone	uG/m^3	<26	<8.3	<13	<13	<13	<14	<15	<14	<13	<22	<8.3	<2.8	<3.5	<3.7
Toluene	uG/m^3	<5.9	<1.9	<3.1	<3.1	<2.9	<3.3	<3.4	<3.3	<2.9	<5.0	<1.9	<2.6	<3.2	<3.4
trans-1,3-Dichloropropene	uG/m^3	<7.2	<2.3	<3.7	<3.7	<3.5	<3.9	<4.1	<3.9	<3.5	<6.0	<2.3	<3.2	<3.9	<4.1
1,1,2-Trichloroethane	uG/m^3	<8.6	<2.8	<4.5	<4.5	<4.2	<4.7	<5.0	<4.7	<4.2	<7.2	<2.8	<3.8	<4.7	<4.9
Tetrachloroethene	uG/m^3	<11	<3.4	<5.6	<5.6	<5.2	<5.9	<6.2	<5.9	<5.2	<8.9	<3.4	<4.7	<5.8	<6.1
2-Hexanone	uG/m^3	<26	<8.3	<13	<13	<13	<14	<15	<14	<13	<22	<8.3	<11	<14	<15
Dibromochloromethane	uG/m^3	<13	<4.3	<7.0	<7.0	<6.6	<7.4	<7.7	<7.4	<6.6	<11	<4.3	<5.9	<7.3	<7.6
1,2-Dibromoethane (EDB)	uG/m^3	<12	<3.9	<6.3	<6.3	<5.9	<6.7	<7.0	<6.7	<5.9	<10	<3.9	<5.3	<6.6	<6.9
Chlorobenzene	uG/m^3	<7.2	<2.3	<3.8	<3.8	<3.6	<4.0	<4.2	<4.0	<3.6	<6.0	<2.3	<3.2	<3.9	<4.1

Table 22 : Summary of Laboratory Analyses of Air Monitoring
La Jolla Spring Cave Complex
Stanton, Missouri

Parameter	Site ID:												Pavilion/ Parking Lot	Ball Room	Lassie (2 Mile Stretch)
	Sample ID:	0321242	0321243	0410050	Duplicate (0410050)	0410051	0410052	0410053	0410054	0410055	0410056	0410057	0501728	0501729	0501730
	Lab ID:	0310329-03A	0310329-04A	0402204-01A	0402204-01AA	0402204-02A	0402204-03A	0402204-04A	0402204-05A	0402204-06A	0402204-07A	0402204-08A	0501424-01A	0501424-02A	0501424-03A
	Sample Date:	9-Oct-03	9-Oct-03	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	4-Feb-04	20-Jan-05	20-Jan-05	20-Jan-05
Ethyl Benzene	uG/m^3	<6.8	<2.2	<3.6	<3.6	<3.4	<3.8	<3.9	<3.8	<3.4	<5.7	<2.2	<3.0	<3.7	<3.9
m,p-Xylene	uG/m^3	<6.8	<2.2	<3.6	<3.6	<3.4	<3.8	<4.0	<3.8	<3.4	<5.7	<2.2	<3.0	<3.7	<3.9
o-Xylene	uG/m^3	<6.8	<2.2	<3.6	<3.6	<3.4	<3.8	<4.0	<3.8	<3.4	<5.7	<2.2	<3.0	<3.7	<3.9
Styrene	uG/m^3	<6.7	<2.2	<3.5	<3.5	<3.3	<3.7	<3.9	<3.7	<3.3	<5.6	<2.2	<3.0	<3.6	<3.8
Bromoform	uG/m^3	<65	<21	<34	<34	<32	<36	<38	<36	<32	<54	<21	<7.2	<8.8	<9.2
Cumene	uG/m^3	<7.7	<2.5	<4.0	<4.0	<3.8	<4.3	<4.5	<4.3	<3.8	<6.5	<2.5	<3.4	<4.2	<4.4
1,1,2,2-Tetrachloroethane	uG/m^3	<11	<3.5	<5.6	<5.6	<5.3	<6.0	<6.2	<6.0	<5.3	<9.0	<3.5	<4.8	<5.9	<6.1
Propylbenzene	uG/m^3	<7.7	<2.5	<4.0	<4.0	<3.8	<4.3	<4.5	<4.3	<3.8	<6.5	<2.5	<3.4	<4.2	<4.4
4-Ethyltoluene	uG/m^3	<31	<10	<16	<16	<15	<17	<18	<17	<15	<26	<10	<3.4	<4.2	<4.4
1,3,5-Trimethylbenzene	uG/m^3	<7.7	<2.5	<4.0	<4.0	<3.8	<4.3	<4.5	<4.3	<3.8	<6.5	<2.5	<3.4	<4.2	<4.4
1,2,4-Trimethylbenzene	uG/m^3	<7.7	<2.5	<4.0	<4.0	<3.8	<4.3	<4.5	<4.3	<3.8	<6.5	<2.5	<3.4	<4.2	<4.4
1,3-Dichlorobenzene	uG/m^3	<9.5	<3.0	<4.9	<4.9	<4.6	<5.2	<5.5	<5.2	<4.6	<7.9	<3.0	<4.2	<5.1	<5.4
1,4-Dichlorobenzene	uG/m^3	<9.5	<3.0	<4.9	<4.9	<4.6	<5.2	<5.5	<5.2	<4.6	<7.9	<3.0	<4.2	<5.1	<5.4
alpha-Chlorotoluene	uG/m^3	<8.2	<2.6	<4.2	<4.2	<4.0	<4.5	<4.7	<4.5	<4.0	<6.8	<2.6	<3.6	<4.4	<4.6
1,2-Dichlorobenzene	uG/m^3	<9.5	<3.0	<4.9	<4.9	<4.6	<5.2	<5.5	<5.2	<4.6	<7.9	<3.0	<4.2	<5.1	<5.4
1,2,4-Trichlorobenzene	uG/m^3	<47	<15	<24	<24	<23	<26	<27	<26	<23	<39	<15	<21	<25	<26
Hexachlorobutadiene	uG/m^3	<67	<22	<35	<35	<33	<37	<39	<37	<33	<56	<22	<30	<36	<38
Chloromethane	uG/m^3	<13	<4.2	<6.8	<6.8	<6.4	<7.2	<7.5	<7.2	<6.4	<11	<4.2	—	—	—
Vinyl Acetate	uG/m^3	<22	<7.2	<12	<12	<11	<12	<13	<12	<11	<18	<7.2	—	—	—
Propylene	uG/m^3	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Notes:

1. < : Denotes a sample value of less than the laboratory reporting limit.
2. — : No analysis performed.
3. uG/m^3 : Micrograms per cubic meter.
4. * : Non-detected compound associated with low bias in the CCV.
5. J : Estimated value.

Table 22 : Summary of Laboratory Analyses of Air Monitoring
La Jolla Spring Cave Complex
Stanton, Missouri

Parameter	Units	Jungle Room	Theater Room	Gift Shop	Loot Rock	Trip Blank
	Site ID:	Jungle Room	Theater Room	Gift Shop	Loot Rock	Trip Blank
	Sample ID:	0501731	0501732	0501733	0501734	0501735
	Lab ID:	0501424-04A	0501424-05A	0501424-06A	0501424-07A	0501424-08A
	Sample Date:	20-Jan-05	20-Jan-05	20-Jan-05	20-Jan-05	20-Jan-05
Freon 12	uG/m^3	<4.2	<4.5	<4.4	<4.2	<2.5
Freon 114	uG/m^3	<5.9	<6.4	<6.2	<6.0	<3.5
Chloromethane	uG/m^3	<6.9	<7.6	<7.4	<7.1	<4.1
Vinyl Chloride	uG/m^3	<2.1	<2.3	<2.3	<2.2	<1.3
1,3-Butadiene	uG/m^3	<1.8	<2.0	<2.0	<1.9	<1.1
Bromomethane	uG/m^3	<3.3	<3.6	<3.5	<3.3	<1.9
Chloroethane	uG/m^3	<2.2	<2.4	<2.4	<2.2	<1.3
Freon 11	uG/m^3	9.7	5.6	5.3	7.1	<2.8
Ethanol	uG/m^3	<6.3	<6.9	35	<6.4	<3.8
Freon 113	uG/m^3	<6.4	<7.0	<6.8	<6.6	<3.8
1,1-Dichloroethene	uG/m^3	<3.3	<3.6	<3.5	<3.4	<2.0
Acetone	uG/m^3	11	<8.7	<8.5	<8.1	<4.8
2-Propanol	uG/m^3	<8.2	<9.0	<8.8	<8.4	<4.9
Carbon Disulfide	uG/m^3	<2.6	<2.8	<2.8	<2.7	<1.6
3-Chloropropene	uG/m^3	<10	<11	<11	<11	<6.3
Methylene Chloride	uG/m^3	<2.9	<3.2	<3.1	<3.0	<1.7
Methyl tert-butyl ether	uG/m^3	<3.0	<3.3	<3.2	<3.1	<1.8
trans-1,2-Dichloroethene	uG/m^3	<3.3	<3.6	<3.5	<3.4	<2.0
Hexane	uG/m^3	<3.0	<3.2	<3.2	<3.0	<1.8
1,1-Dichloroethane	uG/m^3	<3.4	<3.7	<3.6	<3.5	<2.0
2-Butanone (Methyl Ethyl Ketone)	uG/m^3	<2.5	7.3	4.0	<2.5	<1.5
cis-1,2-Dichloroethene	uG/m^3	<3.3	<3.6	<3.5	<3.4	<2.0
Tetrahydrofuran	uG/m^3	<2.5	<2.7	<2.6	<2.5	<1.5
Chloroform	uG/m^3	<4.1	<4.5	<4.4	<4.2	<2.4
1,1,1-Trichloroethane	uG/m^3	<4.6	<5.0	<4.9	<4.7	<2.7
Cyclohexane	uG/m^3	<2.9	<3.1	<3.1	<2.9	<1.7
Carbon Tetrachloride	uG/m^3	<5.3	<5.8	<5.6	<5.4	<3.1
2,2,4-Trimethylpentane	uG/m^3	<3.9	<4.3	<4.2	<4.0	<2.3
Benzene	uG/m^3	<2.7	<2.9	<2.8	<2.7	<1.6
1,2-Dichloroethane	uG/m^3	<3.4	<3.7	<3.6	<3.5	<2.0
Heptane	uG/m^3	<3.4	<3.7	<3.7	<3.5	<2.0
Trichloroethene	uG/m^3	24	<4.9	<4.8	9.8	<2.7
1,2-Dichloropropane	uG/m^3	<3.9	<4.2	<4.1	<4.0	<2.3
1,4-Dioxane	uG/m^3	<12	<13	<13	<12	<7.2
Bromodichloromethane	uG/m^3	<5.6	<6.1	<6.0	<5.7	<3.4
cis-1,3-Dichloropropene	uG/m^3	<3.8	<4.2	<4.1	<3.9	<2.3
4-Methyl-2-pentanone	uG/m^3	<3.4	<3.7	<3.7	<3.5	<2.0
Toluene	uG/m^3	<3.2	<3.4	<3.4	<3.2	<1.9
trans-1,3-Dichloropropene	uG/m^3	<3.8	<4.2	<4.1	<3.9	<2.3
1,1,2-Trichloroethane	uG/m^3	<4.6	<5.0	<4.9	<4.7	<2.7
Tetrachloroethene	uG/m^3	<5.7	<6.2	<6.1	<5.8	<3.4
2-Hexanone	uG/m^3	<14	<15	<15	<14	<8.2
Dibromochloromethane	uG/m^3	<7.2	<7.8	<7.6	<7.3	<4.2
1,2-Dibromoethane (EDB)	uG/m^3	<6.4	<7.0	<6.9	<6.6	<3.8
Chlorobenzene	uG/m^3	<3.9	<4.2	<4.1	<3.9	<2.3

Table 22 : Summary of Laboratory Analyses of Air Monitoring
La Jolla Spring Cave Complex
Stanton, Missouri

	Site ID:	Jungle Room	Theater Room	Gift Shop	Loot Rock	Trip Blank
	Sample ID:	0501731	0501732	0501733	0501734	0501735
	Lab ID:	0501424-04A	0501424-05A	0501424-06A	0501424-07A	0501424-08A
Parameter	Sample Date:	20-Jan-05	20-Jan-05	20-Jan-05	20-Jan-05	20-Jan-05
Ethyl Benzene	uG/m^3	<3.6	<4.0	<3.9	<3.7	<2.2
m,p-Xylene	uG/m^3	<3.6	<4.0	<3.9	<3.7	<2.2
o-Xylene	uG/m^3	<3.6	<4.0	<3.9	<3.7	<2.2
Styrene	uG/m^3	<3.6	<3.9	<3.8	<3.6	<2.1
Bromoform	uG/m^3	<8.7	<9.4	<9.2	<8.8	<5.2
Cumene	uG/m^3	<4.1	<4.5	<4.4	<4.2	<2.4
1,1,2,2-Tetrachloroethane	uG/m^3	<5.8	<6.3	<6.1	<5.9	<3.4
Propylbenzene	uG/m^3	<4.1	<4.5	<4.4	<4.2	<2.4
4-Ethyltoluene	uG/m^3	<4.1	<4.5	<4.4	<4.2	<2.4
1,3,5-Trimethylbenzene	uG/m^3	<4.1	<4.5	<4.4	<4.2	<2.4
1,2,4-Trimethylbenzene	uG/m^3	<4.1	<4.5	<4.4	<4.2	<2.4
1,3-Dichlorobenzene	uG/m^3	<5.0	<5.5	<5.4	<5.1	<3.0
1,4-Dichlorobenzene	uG/m^3	<5.0	<5.5	<5.4	<5.1	<3.0
alpha-Chlorotoluene	uG/m^3	<4.3	<4.7	<4.6	<4.4	<2.6
1,2-Dichlorobenzene	uG/m^3	<5.0	<5.5	<5.4	<5.1	<3.0
1,2,4-Trichlorobenzene	uG/m^3	<25	<27	<26	<25	<15
Hexachlorobutadiene	uG/m^3	<36	<39	<38	<36	<21
Chloromethane	uG/m^3	—	—	—	—	—
Vinyl Acetate	uG/m^3	—	—	—	—	—
Propylene	uG/m^3	—	—	—	—	—

Notes:

1. < : Denotes a sample value of less than the laboratory reporting limit.
2. — : No analysis performed.
3. uG/m^3 : Micrograms per cubic meter.
4. * : Non-detected compound associated with low bias in the CCV.
5. J : Estimated value.

APPENDIX G

SELECT TABLES AND FIGURES FROM THE POST-PHASE II RI

Figure 2	Soil and Tree Core Sampling Map 2000-2006 (Recreated from Figure 2 of the Post-Phase II Remedial Investigation Report)
Figure 3	Residential, Municipal, and Monitoring Well Locations
Figure 6	Location of Highway AF Tree Core Samples
Figure 13	Location of Highway 185 S Abandoned Drum Burial Site
Figure 14	Location of Blanton Soil Borings
Figure 15	Location of Highway 185 Garage Soil Borings
Table 4-1	Groundwater Sample Results Collected in June 2006 for Hwy AF Area
Table 4-2	Groundwater Sample Results Collected in October 2006 for Hwy AF Area
Table 4-3	AF-P Residential Well
Table 4-4	Hwy AF, OGV Sewage Lagoon, and Abandoned Drum Burial Sites Tree Core Samples
Table 4-5	Portable GC Results for Landfill (MW-1) and VFW (MW-3) Wells
Table 4-6	Portable GC Results for MW-1, MW-3, MW-4, and MW-5 Wells
Table 4-7	Highway 185 Garage GW Sample Results on June 19 and 21, 2006
Table 4-8	Portable GC Results for MW-4 Well Drill Cuttings
Table 4-9	Groundwater Sample Results Collected on July 28 and August 3, 2006 for MW-5 Well
Table 4-10	Groundwater Sample Results Collected on August 4, 2006 for MW-5 Well
Table 4-11	Portable GC Results for MW-5 Well Drill Cuttings
Table 4-12	Portable GC Results for Blanton Soil Borings
Table 4-13	Blanton Soil Boring Sample Results Collected on March 23, 2006
Table 4-14	Portable GC Results for Highway 185 Garage Soil Borings
Table 4-15	Highway 185 Garage Soil Boring Sample Results Collected on April 13, 2006
Table 4-16	Wal-Mart Soil Boring Sample Results Collected on November 7 and 8, 2006
Table 4-17	Ditch Witch Soil Boring Sample Results Collected on August 14 and 15, 2006
Table 4-18	Additional Ditch Witch Soil Boring Sample Results collected on September 26, 2006
Table 4-19	Winsel Creek Soil Boring Results Collected on September 26, 2006
Table 4-20	Winsel Creek Surface Water Sample Results collected on September 26, 2006
Table 4-22	Summary of OGV02 DNR Sampling

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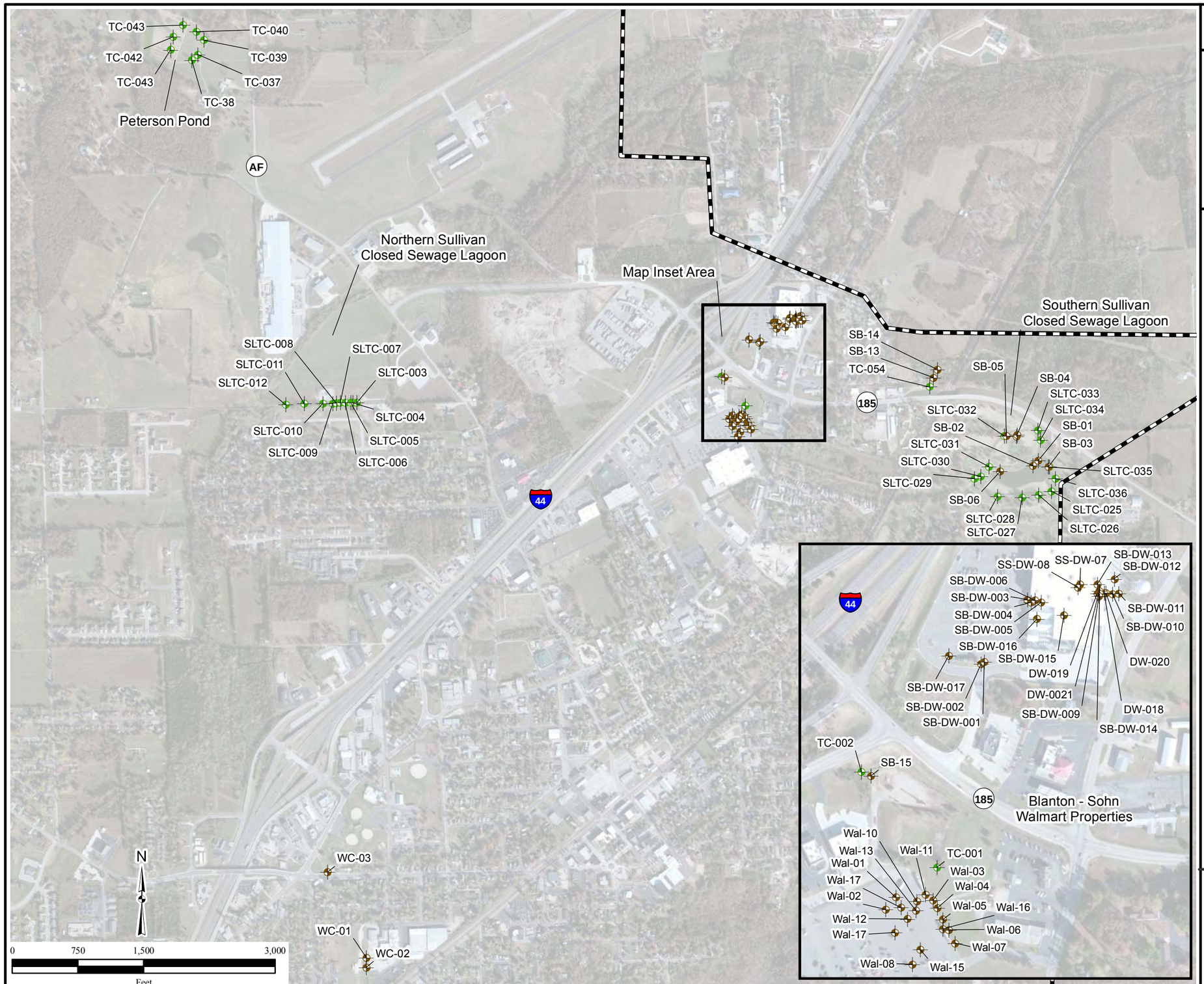
Figure 2
Missouri Department of Natural Resources Soil and Tree Core Sampling Map 2000 - 2006



Legend

- Soil Sample
- Tree Core Sample
- Operable Unit (OU)

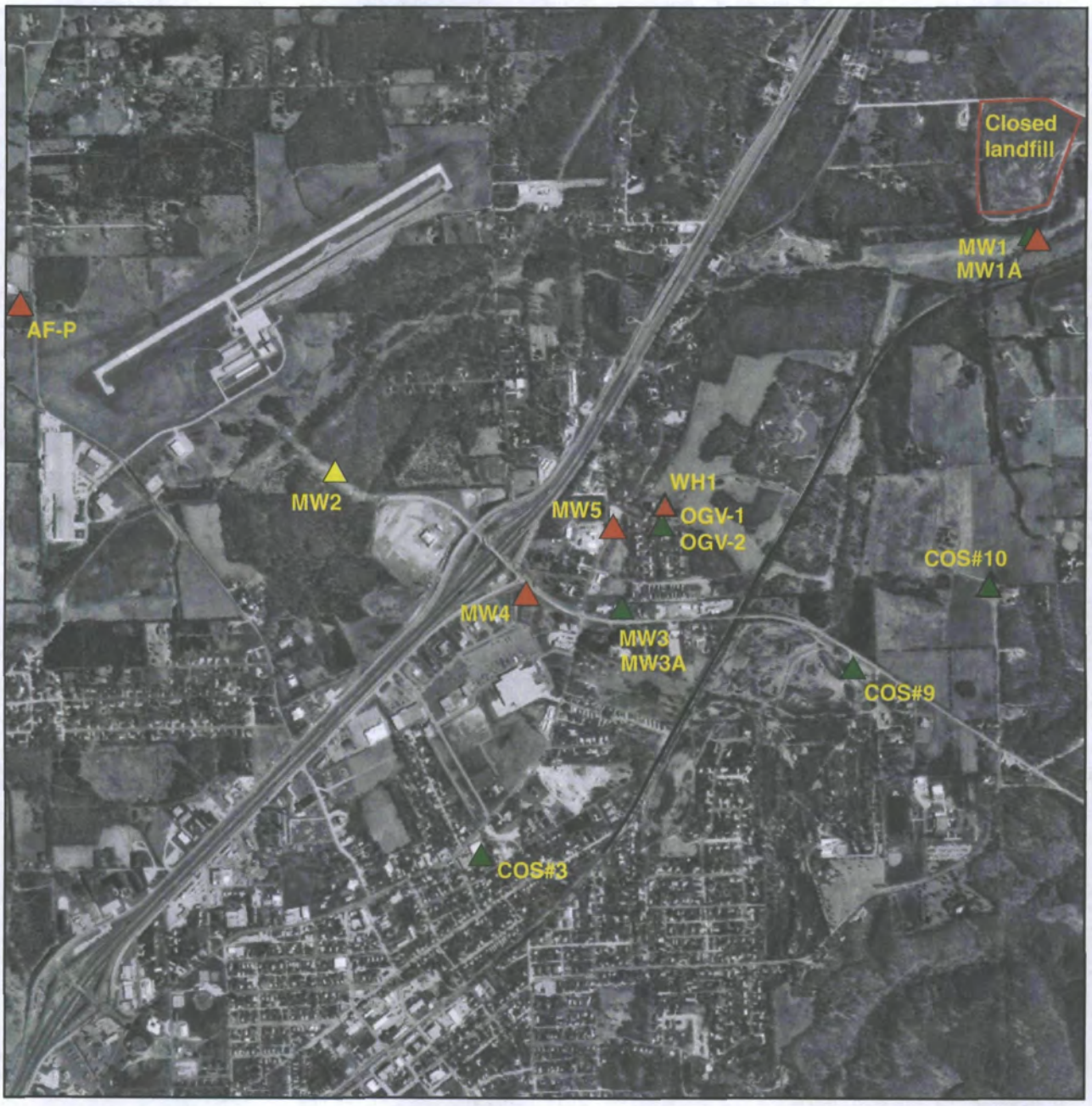
Notes:

Recreated from Figure 2 of the Post-Phase II Remedial Investigation Report (MDNR, 2007).

Wal-17 was shown in two locations on the original figure. Both are included.

\\Gst-srv-01\HGLGIS\Oak_Grove_Village_MSIW\DER\
(X)DNR_Soil_Tree_Core_Sampling_Locs.mxd
7/12/2012 ST, QC: 3/1/2012 PD
Source: HGL, ESRI

HGL HydroGeoLogic, Inc



Deep well (public-supply or montioring well)

Shallow well (domestic or montioring well)

Partially completed monitoring well

0 1,000 2,000 3,000 4,000 5,000 Feet

Figure 3: Residential, Municipal, and Monitoring Well Locations, Post-Phase II RI, Oak Grove Village Well Site, OU1, Oak Grove Village, Missouri,

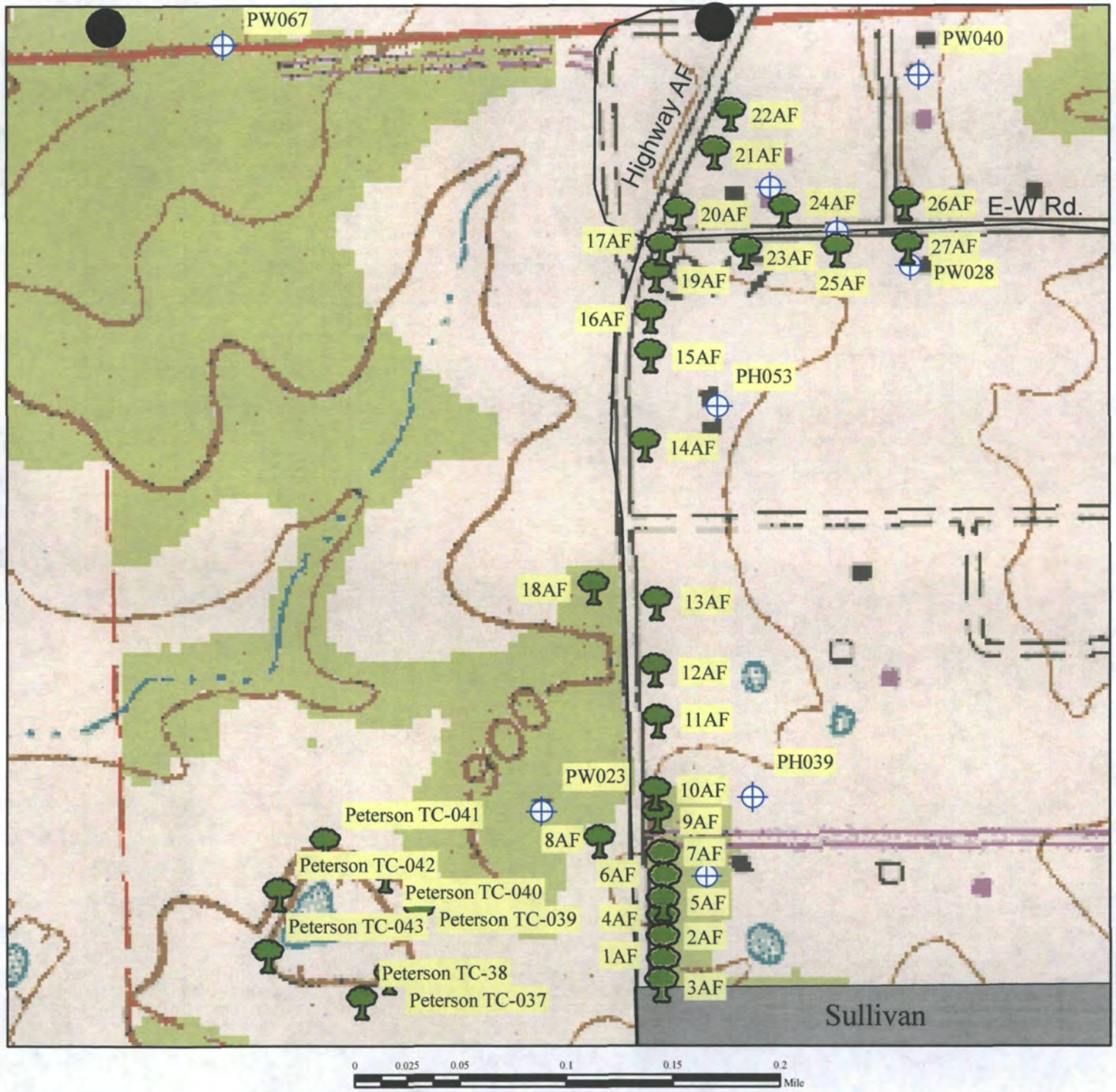


Figure 6: Location of Highway AF Tree Core Samples, Post-Phase II Remedial Investigation
Oak Grove Village Well Site, OU1
Oak Grove Village, Missouri
Franklin County

Legend
- Tree Core Sample Location
- Private Drinking Water Wells

Map Created in March 2007 by Valerie Wilder and named Val Map 7.
Edited June 6, 2007 by Shelly Jackson. This map is locatated at M/Superfund/Oak_Grove_Village/Figure_6_AF_EW_TreeCore.mxd

Base Maps: Digital Raster Graphic 1:24,000 USGS Topgraphic Map, 7.5 Minute Series

Although data sets used to create this map have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials. Tree Core Locations along Highway AF and East-West Road are approximate locations.

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Division of Environmental Quality
Hazardous Waste Program

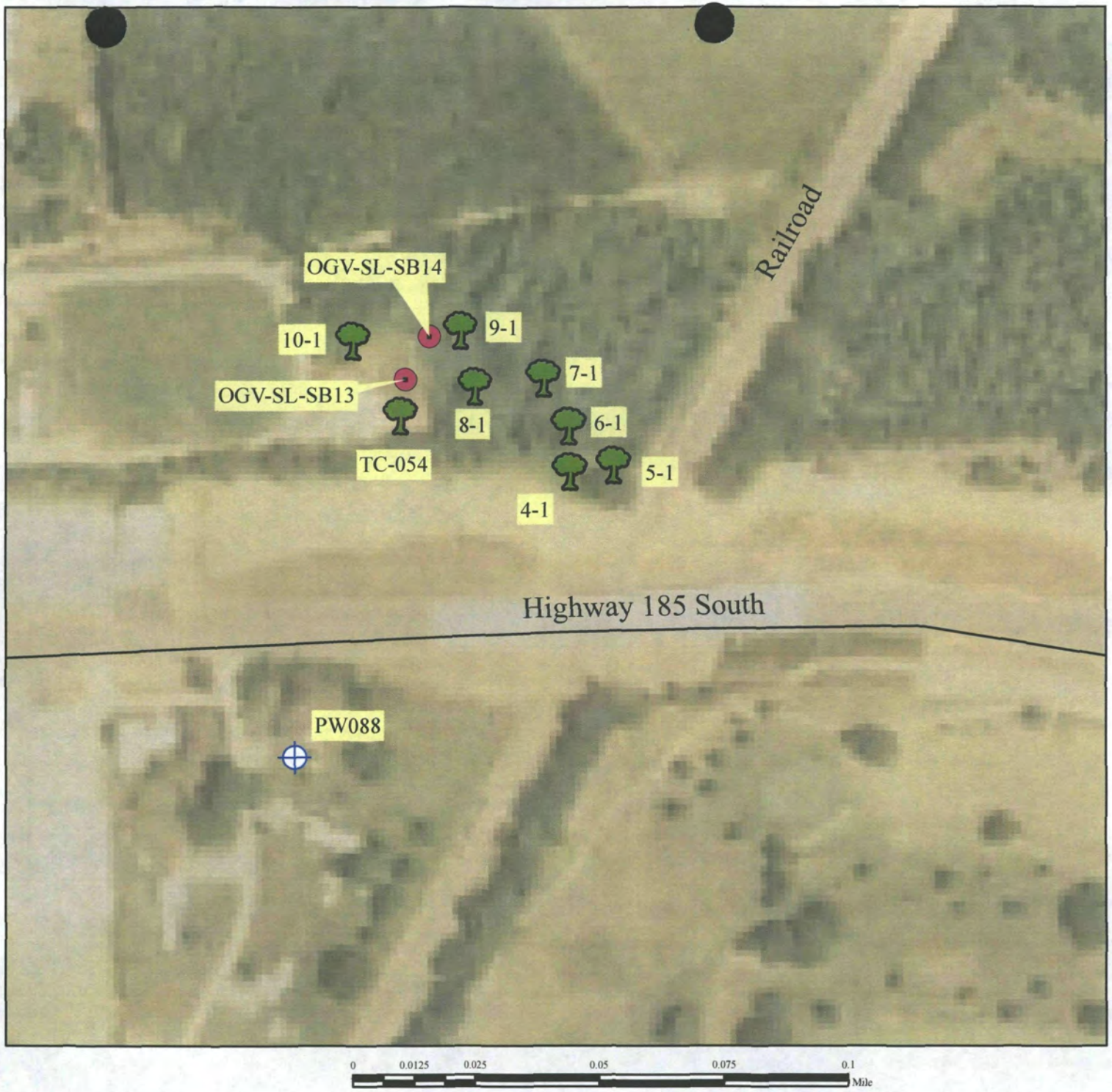

Figure 13: Location [illegible] Highway 185 S
Abandoned Drum Burial Site
Tree Core Samples, Post-Phase II
Remedial Investigation
Oak Grove Village Well Site, OU1
Oak Grove Village, Missouri
Franklin County

Legend
- Tree Core Sample Location
- Private Drinking Water Wells

Map Created in March 2007 by Valerie Wilder and named Val Map 7.
Edited June 6, 2007 by Shelly Jackson. This map is locatated at M/Superfund/Oak_Grove_Village/Figure_13_Hwy185S_TreeCore.mxd

Base Maps: Digital Raster Graphic 1:24,000 USGS Topgraphic Map, 7.5 Minute Series

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Division of Environmental Quality
Hazardous Waste Program

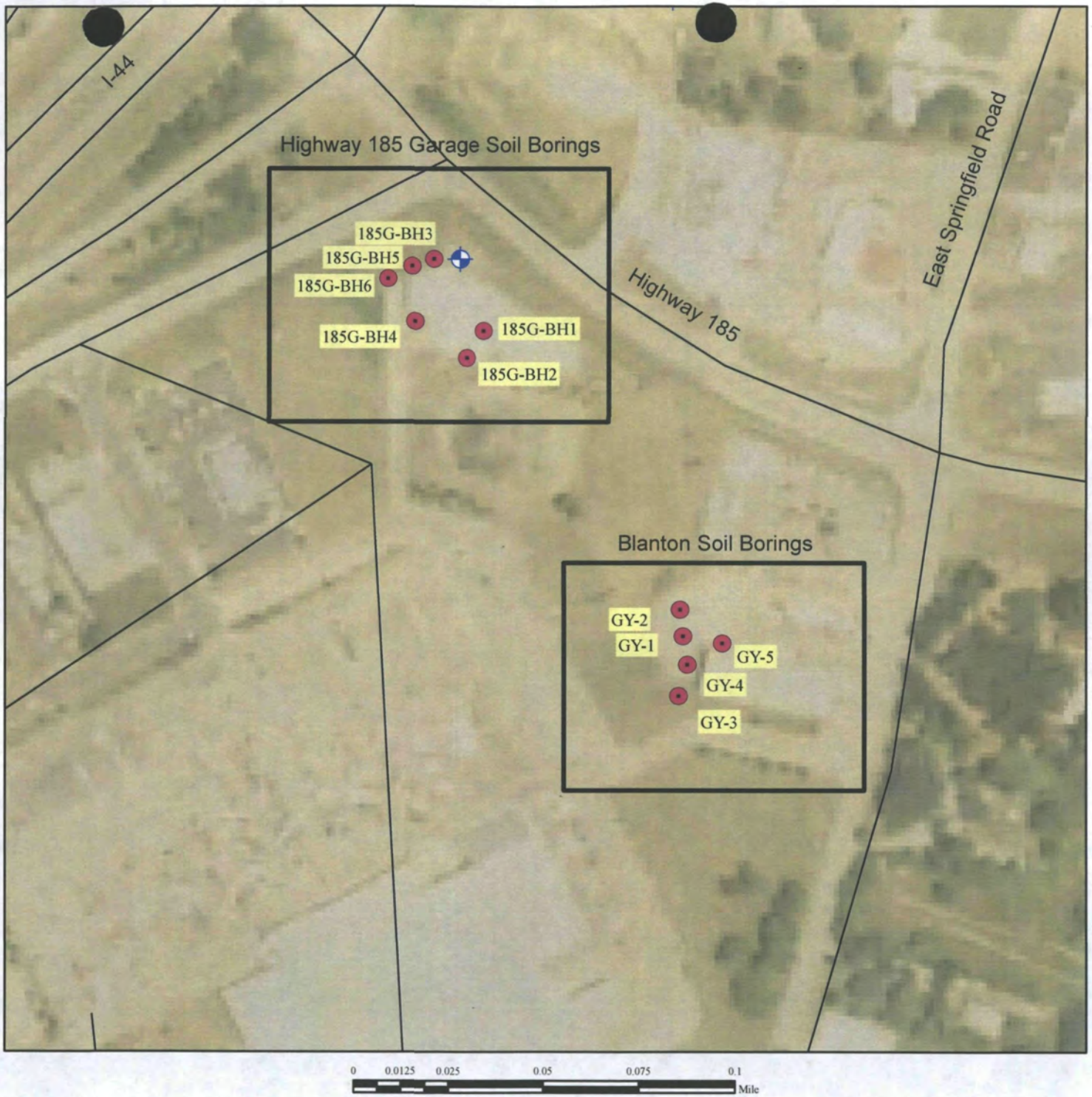

Figure 14: Location of Blanton Soil Borings
Figure 15: Location of Highway 185 Garage Soil Borings
Oak Grove Village Well Site, OU1
Oak Grove Village, Missouri
Franklin County

Legend
- Soil Boring Location
- Monitoring Well

Map Created in March 2007 by Valerie Wilder and named Val Map 7.
Edited June 6, 2007 by Shelly Jackson. This map is locatated at M/Superfund/Oak_Grove_Village/Figures_14_and_15.mxd

Base Maps: Digital Raster Graphic 1:24,000 USGS Topgraphic Map, 7.5 Minute Series

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Missouri Department of Natural Resources
Division of Environmental Quality
Hazardous Waste Program

Table 4-1: Groundwater Sample Results Collected in June 2006 for Hwy AF Area
Oak Grove Village Well Site, OU1, Franklin County, Missouri

- All values listed in parts per billion (ug/l) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.

Sample ID	PW023	PH040	PH038	PH039	PH053	PW027	PW028	PH041	PH054	PH054	PH015	PW067	PH011	SCDM[2]		EPA PRG[4]	MO WQS[5]
Laboratory Number	0606127	0606128	0606129	0606130	0606131	0606132	0606133	0606156	0606157	0606158	0606159	0606160	0606165	MCL	SL		
Volatile Organic Compounds (VOCs)																	
Trichloroethene (TCE)	1.17	.29 (e)	<.25	<.25	.3 (e)	.46 (e)	.58	1.25	<.25	<.25	2.42	3.83	1.98	5	7.7	0.028	5
Trichlorofluoromethane	<.25	<.25	<.25	<.25	<.25	<.25	<.25	.26 (e)	<.25	<.25	<.25	<.25	.47 (e)	NL	11000	1300	NL

[1] Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

[2] SCDM - Superfund Chemical Data Matrix January 2004, Maximum Contaminant Level (MCL) for drinking water, and lowest of reference dose and cancer risk screening levels (SL) for groundwater/surface water pathway drinking water.

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, tap water

[5] MO WQS - Missouri Water Quality Standards, groundwater/drinking water use catagories, Missouri Code of State Regulations, 10 CSR 20-7.031, October 31, 1999.

e - Estimated value, detected below PQL

Table 4-2: Groundwater Sample Results Collected in October 2006 for Hwy AF Area
Oak Grove Village Well Site, OU1, Franklin County, Missouri

- All values listed in parts per billion (ug/l) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.

Sample ID	PW023	PH040	PH038	PH039	PH058	PH053	PH011	PH054	PH015	PW027	PW027 dup	PW028	PW067	SCDM[2]		EPA PRG[4]	MO WQS[5]
Laboratory Number	0610231	0610233	0610238	0610239	0610240	0610241	0610242	0610243	0610244	0610246	0610247	0610248	0610249	MCL	SL		
Volatile Organic Compounds (VOCs)																	
1,2,4-Trichlorobenzene	.25 (e)	<.25	<.25	<.25	<.25	<.25	<.25	<.25	<.25	<.25	<.25	<.25	<.25	70	360	7.2	70
Trichloroethene (TCE)	.94	.31 (e)	<.25	<.25	1.11	<.25	1.78	<.25	1.67	.37 (e)	.35 (e)	.44 (e)	2.65	5	7.7	0.028	5

[1] Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

[2] SCDM - Superfund Chemical Data Matrix January 2004, Maximum Contaminant Level (MCL) for drinking water, and lowest of reference dose and cancer risk screening levels (SL) for groundwater/surface water pathway drinking water.

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, tap water

[5] MO WQS - Missouri Water Quality Standards, groundwater/drinking water use catagories, Missouri Code of State Regulations, 10 CSR 20-7.031, October 31, 1999.

e - Estimated value, detected below PQL

Table 4-3: AF-P Residential Well. Estimated concentrations of selected volatile organic compounds (VOCs) detected by the portable gas-chromatograph in water samples from domestic well AF-P (highway AF area).

[PCE, tetrachloroethene; TCE, trichloroethene; cis-DCE, cis-1,2-dichlroethene; E-Benzene, ethylbenzene; ug/kg, micrograms per kilogram]
[<, less than reporting limit; a, probable false peak because of numerous hydrocarbon peaks in chromatogram]

Location	Depth (ft)	Collection Date	Time	PCE ug/kg	TCE ug/kg	cis DCE ug/kg	Benzene ug/kg	Toluene ug/kg	Xylene ug/kg	E-Benzene ug/kg
Well AF-P	190	02/06/06	1226	<.2	**1.2**	<.2	<.2	<.2	<.2	<.2
Well AF-P	222	02/06/06	1323	<.2	**1.5**	**0.2**	<.2	<.2	<.2	<.2
Well AF-P	262	02/06/06	1413	<.2	**1.2**	**0.2**	<.2	<.2	<.2	<.2
Well AF-P	297	02/06/06	1506	<.2	**1.2**	**0.3**	<.2	<.2	<.2	<.2
Well AF-P	324	02/06/06	1609	<.2	**1.2**	**0.3**	<.2	<.2	<.2	**1.3**
Well AF-P	190	02/14/06	1301	<.2	**1.6**	<.2	<.2	**0.3**	<.2	<.2
Well AF-P	206	02/14/06	1348	<.2	**1.5**	<.2	<.2	<.2	<.2	<.2
Well AF-P	240	02/14/06	1446	<.2	**1.6**	**0.2**	<.2	<.2	<.2	<.2
Well AF-P	283	02/14/06	1525	<.2	**1.6**	<.2	<.2	<.2	<.2	<.2
Well AF-P	320	02/14/06	1617	<.2	**1.6**	**0.7**	<.2	<.2	<.2	<.2
Well AF-P	Faucet	02/14/06	1700	<.2	**2.0**	<.2	<.2	<.2	<.2	<.2

Table 4-4: Hwy AF, closed OGV Sewage Lagoon, and Abandoned Drum Burial sites Tree Core Samples. *Estimated concentrations of selected volatile organic compounds (VOCs) detected* by the portable gas-chromatograph in tree-core samples collected by DGLS.

[PCE, tetrachloroethene; TCE, trichloroethene; cis-DCE, cis-1,2-dichlroethene; ug/kg, micrograms per kilogram]

[<, less than reporting limit; a, probable false peak because of numerous hydrocarbon peaks in chromatogram]

LOCATION	Date	Time	Lattitude	Longitiude	PCE ug/kg	TCE ug/kg	cis DCE ug/kg	Benzene ug/kg	Toluene ug/kg
1-1	09/27/05	1000			<.5	<.5	<.5	<.5	<.5
1-2	09/27/05	1000			<.5	<.5	<.5	<.5	<.5
2-1	09/27/05	1035			<.5	<.5	<.5	<.5	<.5
3-1	09/27/05	1030			<.5	<.5	<.5	<.5	<.5
4-1	09/27/05	1130			<.5	<.5	<.5	<.5	<.5
5-1	09/27/05	1140			<.5	<.5	<.5	<.5	<.5
6-1	09/27/05	1145			<.5	<.5	<.5	<.5	<.5
7-1	09/27/05	1150			<.5	<.5	<.5	<.5	<.5
8-1	09/27/05				<.5	<.5	<.5	<.5	<.5
1 AF	10/19/05	1005			<.5	<.5	<.5	<.5	<.5
2 AF	10/19/05	1015			<.5	<.5	<.5	<.5	<.5
3 AF	10/19/05	1025			<.5	<.5	<.5	<.5	<.5
4 AF	10/19/05	1035			<.5	<.5	<.5	<.5	<.5
5 AF	10/19/05	1040			<.5	<.5	<.5	<.5	<.5
6 AF	10/19/05	1045			<.5	<.5	<.5	<.5	<.5
7 AF	10/19/05	1102			<.5	<.5	<.5	<.5	<.5
8 AF	10/19/05	1108			<.5	<.5	<.5	<.5	<.5
9 AF	10/19/05	1115			<.5	<.5	<.5	<.5	<.5
10 AF	10/19/05	1123			<.5	<.5	**0.51**	<.5	**0.41**
11 AF	10/19/05	1130			<.5	<.5	<.5	<.5	<.5
12 AF	10/19/05	1305			<.5	<.5	<.5	<.5	<.5
13 AF	10/19/05	1320			<.5	<.5	<.5	<.5	<.5
14 AF	10/19/05	1323			<.5	<.5	<.5	<.5	<.5
15 AF	10/19/05	1328			<.5	<.5	<.5	<.5	<.5
16 AF	10/19/05	1334			<.5	<.5	<.5	<.5	<.5
17 AF	10/19/05	1341			<.5	<.5	<.5	<.5	**2.30**
18 AF	10/19/05	1354			<.5	<.5	**1.10**	<.5	<.5
19 AF	10/20/05	0918			<.5	<.5	<.5	<.5	<.5
20 AF	10/20/05	0936			<.5	<.5	<.5	<.5	<.5
21 AF	10/20/05	0946			<.5	**0.08**	<.5	<.5	**0.30**
22 AF	10/20/05	0955			<.5	<.5	<.5	<.5	<.5
23 AF	10/20/05	1005			<.5	<.5	<.5	<.5	<.5
24 AF	10/20/05	1011			<.5	<.5	<.5	0.110	<.5
25 AF	10/20/05	1018			<.5	<.5	**2.00**	<.5	<.5
26 AF	10/20/05	1025			<.5	<.5	<.5	<.5	<.5
27 AF	10/20/05	1031			<.5	<.5	<.5	<.5	<.5

Table 4-5: Portable GC Results for Landfill (MW-1) and VFW (MW-3) Wells. Estimated concentrations of selected volatile organic compounds (VOCs) detected by the portable gas-chromatograph in water samples using a downhole point sampler in the Landfill well and VFW well. 0.173648178

[PCE, tetrachloroethene; TCE, trichloroethene; cis-DCE, cis-1,2-dichlroethene; E-Benzene, ethylbenzene; ug/kg, micrograms per kilogram]

[<, less than reporting limit]

LOCATION	Depth	Date	Time	PCE ug/kg	TCE ug/kg	cis DCE ug/kg	Benzene ug/kg	Toluene ug/kg	Xylene ug/kg	E-Benzene ug/kg
OGV-Landfill Well	185	12/13/05	1445	<.2	**1.03**	**0.46**	<.2	<.2	<.2	<.2
OGV-Landfill Well (d)	185	12/13/05	1445	<.2	**1.01**	**0.49**	<.2	<.2	<.2	<.2
OGV-Landfill Well	185	12/16/05	0944	<.2	**0.9**	**0.43**	<.2	<.2	<.2	<.2
OGV-Landfill Well (d)	185	12/16/05	0944	<.2	**1.1**	**0.49**	<.2	<.2	<.2	<.2
OGV-Landfill Well (d)	250	12/16/05	1108	<.2	**0.82**	<.2	<.2	<.2	<.2	<.2
OGV-Landfill Well (d)	250	12/16/05	1130	<.2	**0.55**	<.2	<.2	<.2	<.2	<.2
OGV-Landfill Well	415	12/16/05	1155	<.2	<.2	<.2	<.2	<.2	<.2	<.2
OGV-Landfill Well	415	12/16/05	1115	<.2	<.2	<.2	<.2	<.2	<.2	<.2
OGV-Landfill Well	480	12/16/05	1247	<.2	<.2	<.2	<.2	<.2	<.2	<.2
OGV-Landfill Well (r)	480	12/16/05	1250	<.2	<.2	<.2	<.2	<.2	<.2	<.2
OGV-VFW Well	225	12/20/05	1023	<.2	<.2	<.2	<.2	**0.21**	<.2	<.2
OGV-VFW Well (d)	225	12/20/05	1023	<.2	<.2	<.2	<.2	**0.18**	<.2	<.2
OGV-VFW Well	300	12/20/05	1115	<.2	<.2	<.2	<.2	**0.16**	<.2	<.2
OGV-VFW Well (d)	300	12/20/05	1115	<.2	<.2	<.2	<.2	**0.14**	<.2	<.2
OGV-VFW Well	425	12/20/05	1208	<.2	<.2	<.2	<.2	**0.28**	<.2	<.2
OGV-VFW Well (d)	425	12/20/05	1250	<.2	<.2	<.2	<.2	**0.33**	<.2	<.2
OGV-VFW Well	525	12/20/05	1311	<.2	<.2	<.2	<.2	**0.37**	<.2	<.2
OGV-VFW Well (d)	525	12/20/05	1311	<.2	<.2	<.2	<.2	**0.33**	<.2	**0.61**

(d) duplicate analysis of sample

(r) replicate sample from point sampler

** Samples collected using a mt sopris downhole point sampler from open borehole under ambient (non-pumping conditions. Wells had surface casing only at the time of this sampling (landfill well XXX ft steel casing; VFW well XXX 6-in. steel casing).

*** Sample times for duplicate sample may not agree because USGS times represent time point sampler opened downhole compared to DGLS whom used time that vial was filled from sampler at the surface.

Table 4-6: Portable GC Results for MW-1, MW-3, MW-4, and MW-5 Wells. Estimated concentrations of selected volatile organic compounds (VOCs) detected by the portable gas-chromatograph and VOC concentrations in laboratory samples from monitoring wells during the post-RI investigation.

[PCE, tetrachloroethene; TCE, trichloroethene; cis-DCE, cis-1,2-dichlroethene; E-Benzene, ethylbenzene; ug/kg, micrograms per kilogram]

[<, less than reporting limit; J, estimated concentration below the reporting limit]

LOCATION	Depth	Date	Time	PCE ug/kg	TCE ug/kg	cis DCE ug/kg	Benzene ug/kg	Toluene ug/kg	Xylene ug/kg	E-Benzene ug/kg
MW1 (Landfill well)	349-505	04/26/06	1100	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW1 (Landfill well)	349-505	04/26/06	1245	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW1 (Landfill well)	349-505	04/26/06	1415	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW1 (Landfill well) [a]	349-505	04/26/06	1545	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW1A (Landfill annulus)	104-280	04/27/06	1025	**0.1 J**	**0.8**	<.2	**0.1 J**	<.2	<.2	<.2
MW1A (Landfill annulus)	104-280	04/27/06	1050	**0.1 J**	**0.8**	<.2	**0.1 J**	<.2	<.2	<.2
MW1A (Landfill annulus)	104-280	04/27/06	1145	**0.1 J**	**0.6**	<.2	**0.1 J**	<.2	<.2	<.2
MW1A (Landfill annulus) [a]	104-280	04/27/06	1200	**0.1 J**	**0.7**	<.2	**0.1 J**	<.2	<.2	<.2
MW3 (VFW well)	327-580	04/24/06	1320	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW3 (VFW well)	327-580	04/29/06	1300	<.2	<.2	<.2	**16.4**	<.2	<.2	<.2
MW3 (VFW well)	327-580	05/02/06	0730	<.2	<.2	<.2	**18.8**	<.2	<.2	<.2
MW3 (VFW well)	327-580	05/09/06	0715	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW3 (VFW well)	327-580	05/09/06	0715	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW3 (VFW well)	327-580	05/11/06	0930	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW3 (VFW well) [a]	327-580	05/12/06	1030	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW3 (VFW well)	327-580	10/17/06	1000	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW3 (VFW well)	327-580	10/17/06	1230	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW3 (VFW well)	327-580	10/17/06	1330	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW3 (VFW well) [a]	327-580	10/17/06	1425	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW4 (185 garage well) [b]	160-225	09/11/06	1020	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW4 (185 garage well)	160-225	10/17/06	1100	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW4 (185 garage well)	160-225	10/17/06	1145	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW4 (185 garage well)	160-225	10/17/06	1245	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW4 (185 garage well)	160-225	10/17/06	1330	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW4 (185 garage well) [b]	160-225	10/17/06	1415	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW5 (Ditch Witch)	178-240	09/11/06	1410	<.2	<.2	<.2	<.2	<.2	<.2	<.2
MW5 (Ditch Witch) [c]	178-240	10/30/06	1415	<.2	<.2	<.2	<.2	<.2	<.2	<.2

[a] Laboratory samples collected by USGS on 4-26-06 and 4-27-06 from MW1 and MW1A and transferred to DGLS for submittal to MDNR laboratory.
[b] Laboratory sample collected by USGS on 5/12/06 at 1030 and 10/17/06 at 1530 by USGS and transferred to DGLS for submittal to MDNR laboratory.
[c] Laboratory sample collected by USGS on 09/11/06 @ 1020 and on 10/17/06 at 1500 and transferred to DGLS for transmittal to MDNR laboratory.

Table 4-7: Highway 185 Garage GW Sample Results Collected on June 19 and 21, 2006
Oak Grove Vilaage Well Site, OU1, Franklin County, Missouri

- All values listed in parts per billion (ug/l) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.

Sample ID	Bailer	5 min.	1 min.	SCDM[2]		EPA PRG[4]	MO WQS[5]
Laboratory Number	**0602387**	**0602388**	**0602389**	**MCL**	**SL**		
Volatile Organic Compounds (VOCs)							
1,2,4-Trimethylbenzene	.3 (e)	<.25	<.25	NL	NL	12	NL
Ethylbenzene	.36 (e)	<.25	<.25	700	3700	1300	700
Toluene	.73	.34 (e)	.43 (e)	1000	7300	720	1000

[2] SCDM - Superfund Chemical Data Matrix January 2004, Maximum Contaminant Level (MCL) for drinking water, and lowest of reference dose and cancer risk screening levels (SL) for groundwater/surface water pathway drinking water.

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, tap water

[5] MO WQS - Missouri Water Quality Standards, groundwater/drinking water use catagories, Missouri Code of State Regulations, 10 CSR 20-7.031, October 31, 1999.

e - Estimated value, detected below PQL

Table 4-8: Portable GC Results for MW-4 well Drill Cuttings. Estimated concentrations of selected volatile organic compounds (VOCs) detected by the portable gas-chromatograph in drill cuttings and ground-water samples during the installation and completion of monitoring well MW4 (185 garage).

[PCE, tetrachloroethene; TCE, trichloroethene; cis-DCE, cis-1,2-dichlroethene; E-Benzene, ethylbenzene; ug/kg, micrograms per kilogram]

[<, less than reporting limit; note reporitng limits raised due to interferrences from heavy hydrocarbons on drill string]

			Sample Interval											
LOCATION	Media	Feature	Top	Bottom	Date	Time	Method	PCE ug/kg	TCE ug/kg	cis DCE ug/kg	Benzene ug/kg	Toluene ug/kg	Xylene ug/kg	E-Benzene ug/kg
MW4 (185 Garage)	CU	BH	10	10	06/02/06	--	SP	<10	<10	**96a**	**1.4**	**3.2**	<1	<1
MW4 (185 Garage)	CU	BH	15	15	06/02/06	--	SP	<10	<10	**18.2a**	**5.9**	<1	<1	<1
MW4 (185 Garage)	CU	BH	20	20	06/02/06	--	SP	<10	<10	**88.9a**	**2.9**	<1	<1	<1
MW4 (185 Garage)	CU	BH	25	25	06/02/06	--	SP	<10	<10	**166a**	**3.4**	**9.1**	<1	<1
MW4 (185 Garage)	CU	BH	35	35	06/06/06	--	bl	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	40	40	06/06/06	--	SP	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	40	40	06/06/06	--	SP	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	70	70	06/07/06	--	SP	<10	<10	**19.8a**	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	85	85	06/07/06	--	SP	<10	<10	**24.4a**	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	100	100	06/08/06	--	SP	<10	<10	<1	**2.5**	**2.3**	<1	<1
MW4 (185 Garage)	CU	BH	90	90	06/08/06	--	SP	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	120	120	06/13/06	--	SP	<10	<10	<1	**5.5**	**1.9**	<1	<1
MW4 (185 Garage)	CU	BH	130	130	06/13/06	--	SP	<10	<10	<1	**1.4**	<1	<1	<1
MW4 (185 Garage)	CU	BH	135	135	06/14/06	--	SP	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	140	140	06/14/06	--	SP	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	145	145	06/14/06	--	SP	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	GW	BH	130	130	06/14/06	--	SP	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	150	150	06/15/06	--	SP	<10	<10	<1	<1	**<1**	<1	<1
MW4 (185 Garage)	CU	BH	155	155	06/15/06	--	SP	<10	<10	<1	**5.8**	**2.2**	<1	<1
MW4 (185 Garage)	Cu	BH	160	160	06/15/06	--	SP	<10	<10	<1	**4.7**	**1.**	<1	<1
MW4 (185 Garage)	CU	BH	165	165	06/15/06	--	SP	<10	<10	<1	**3.8**	**1.4**	<1	<1
MW4 (185 Garage)	GW	BH	150	150	06/15/06	--	SP	<10	<10	<1	**1.4**	<1	<1	<1
MW4 (185 Garage)	CU	BH	170	170	06/16/06	--	SP	<10	<10	<1	**4.5**	**1.9**	<1	<1
MW4 (185 Garage)	GW	BH	170	170	06/16/06	--	SP	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	180	180.00	06/20/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	190	190.00	06/20/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	200	200.00	06/20/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	GW	BH	180	180.00	06/20/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	210	210.00	06/21/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	215	215.00	06/21/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	CU	BH	225	225.00	06/21/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW4 (185 Garage)	GW	BH	210	210.00	06/21/06	--	BL	<10	<10	<1	<1	<1	<1	<1

a concentration reported but probable inteferrence with numerous hydrocarbons from drill cable.

Table 4-9: Groundwater Sample Results Collected on July 28 and August 3, 2006 for MW-5 well
Oak Grove Village Well Site, OU1, Franklin County, Missouri

- All values listed in parts per billion (ug/l) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.

Sample ID	50 ft	75 ft	142 ft	170 ft	SCDM[2]		EPA PRG[4]	MO WQS[5]
Laboratory Number	**0602390**	**0602391**	**0602392**	**0602430**	**MCL**	**SL**		
Volatile Organic Compounds (VOCs)								
Acetone	<10.0	19.2 (e)	<10.0	12.1 (e)	NL	33000	5500	NL
Chloroform	<.5	.61 (e)	<.5	<.5	80	360	0.17	100
Ethylbenzene	<.5	<.5	.53 (e)	<.5	700	3700	1300	700
p-Isopropyltoluene (p-Cymene)	<.5	<.5	1.18	<.5	NL	NL	NL	NL
Toluene	<.5	<.5	.99 (e)	.98 (e)	1000	7300	720	1000

[1] Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

[2] SCDM - Superfund Chemical Data Matrix January 2004, Maximum Contaminant Level (MCL) for drinking water, and lowest of reference dose and cancer risk screening levels (SL) for groundwater/surface water pathway drinking water.

4 EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, tap water

[5] MO WQS - Missouri Water Quality Standards, groundwater/drinking water use catagories, Missouri Code of State Regulations, 10 CSR 20-7.031, October 31, 1999.

e - Estimated value, detected below PQL

Table 4-10: Groundwater Sample Results Collected on August 4, 2006 for MW-5 well
Oak Grove Village Well Site OU1, Franklin County, Missouri

- All values listed in parts per billion (ug/l) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.

Sample ID	155 ft	SCDM[2]		EPA PRG[4]	MO WQS[5]
Laboratory Number	0602400	MCL	SL		
Volatile Organic Compounds (VOCs)					
Acetone	13.7 (e)	NL	33000	5500	NL

[1] Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

[2] SCDM - Superfund Chemical Data Matrix January 2004, Maximum Contaminant Level (MCL) for drinking water, and lowest of reference dose and cancer risk screening levels (SL) for groundwater/surface water pathway drinking water.

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, tap water

[5] MO WQS - Missouri Water Quality Standards, groundwater/drinking water use catagories, Missouri Code of State Regulations, 10 CSR 20-7.031, October 31, 1999.

e - Estimated value, detected below PQL

Table 4-11: Portable GC Results for MW-5 well Drill Cuttings. Estimated concentrations of selected volatile organic compounds (VOCs) detected by the portable gas-chromatographin drill cuttings and ground-water samples during the installation and completion of monitoring well MW5 (Ditch Witch).

[PCE, tetrachloroethene; TCE, trichloroethene; cis-DCE, cis-1,2-dichlroethene; E-Benzene, ethylbenzene; ug/kg, micrograms per kilogram]

[<, less than reporting limit; note reporitng limits raised due to interferrences from heavy hydrocarbons on drill string]

			Sample Interval											
LOCATION	Media	Feature	Top	Bottom	Date	Time	Method	PCE ug/kg	TCE ug/kg	cis DCE ug/kg	Benzene ug/kg	Toluene ug/kg	Xylene ug/kg	E-Benzene ug/kg
MW5 (Ditch)	CU	BH	15	15	07/25/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	20	20	07/25/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	25	25	07/25/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	30	30	07/25/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	35	35	07/25/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	GW	BH	35	35	07/26/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	45	45	07/26/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	50	50	07/26/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	55	55	07/26/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	60	60	07/28/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	65	65	07/28/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	70	70	07/28/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	75	75	07/28/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	85	85	07/28/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	95	95	07/31/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	105	105	07/31/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	115	115	08/01/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	125	125	08/01/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	135	135	08/02/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	140	140	08/02/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	GW	BH	142	142	08/03/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	145	145	08/03/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	150	150	08/03/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	155	155	08/03/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	GW	BH	155	155	08/04/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	165	165	08/04/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	170	170	08/04/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	175	175	08/07/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	180	180	08/07/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	185	185	08/07/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	185	185	08/07/06	--	BL	<10	<10	<1	<1	<1	<1	<1

MW5 (Ditch)	CU	BH	190	190	08/07/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	195	195	08/07/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	GW	BH	200	200	09/01/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	210	210	09/01/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	220	220	09/01/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	GW	BH	220	220	09/05/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	230	230	09/05/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	CU	BH	240	240	09/05/06	--	BL	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	GW	MW	178	240	09/11/06	1410	SP	<10	<10	<1	<1	<1	<1	<1
MW5 (Ditch)	GW	MW	178	240	09/11/06	1140	SP	<10	<10	<1	<1	<1	<1	<1

Table 4-12: Portable GC Results for Blanton Soil Borings. Estimated concentrations of selected volatile organic compounds (VOCs) detected by the portable gas-chromatograph in soil samples from property 1 (Goodyear).

[PCE, tetrachloroethene; TCE, trichloroethene; cis-DCE, cis-1,2-dichlroethene; E-Benzene, ethylbenzene; ug/kg, micrograms per kilogram]
[<, less than reporting limit; a, probable false peak because of numerous hydrocarbon peaks in chromatogram]

Location	Depth (ft)	Media	Collection Date	PCE ug/kg	TCE ug/kg	cis DCE ug/kg	Benzene ug/kg	Toluene ug/kg	Xylene ug/kg	E-Benzene ug/kg
Hole #1	2	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #1	2	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #1	4	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #1	6	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #1	8	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #1	10	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #1	12	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #1	16	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #2	6	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #2	6	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #2	6	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #2	6	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #2	10	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #2	12	soil	03/23/06	<1	<1	**83a**	**288.**	<1	<1	<1
Hole #3	12	soil	03/23/06	<1	**219a**	**36a**	**9.**	**324.**	<1	<1
Hole #4	2	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #4	6	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #4	6	soil	03/23/06	<1	<1	<1	<1	<1	<1	<1
Hole #4	10	soil	03/23/06	<1	**89.4a**	**1.8a**	**16.8**	**158.**	<1	<1
Hole #4	14	soil	03/23/06	<1	**77.9a**	**59[a]**	**57.4**	**121.**	<1	<1
Hole #5	3.8	soil	03/23/06	<1	**1a**	**276a**	<1	2.8	<1	<1
Hole #5	3.8	soil	03/23/06	<1	<1	**32.8a**	<1	<1	<1	<1
Hole #5	6	soil	03/23/06	<1	<1	**272a**	<1	<1	<1	<1
Hole #5	6	soil	03/23/06	<1	<1	**14.1a**	<1	<1	<1	<1

a Probable false detection because of interference from numerous hydrocarbon peaks in chromatogram and identification unreliable.
*Note shaded sample had substantial hydrocarbon interference.

Table 4-13: Blanton Soil Boring Sample Results Collected on March 23, 2006
Oak Grove Village Well Site, OU1, Franklin County, Missouri

- All values listed in parts per million (mg/kg) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.

Sample ID	N. of	N. of	N. of	25' N.	25' N.	SW side	Back	Back	Loading	Loading	Dock	SCDM[2]	EPA PRG[4]		
Sample ID cont., ft	Pad	Pad	Pad	of G4-1	of Slab	of back	of bldg	of bldg	Dock	Dock	@ 6'		Res.	Ind.	Migrn to GW
Laboratory Number	0600071	0600072	0600075	0600078	0600080	0600081	0600083	0600084	0600086	0600087	0600088				
Volatile Organic Compounds (VOCs)															
1,2,4-Trimethylbenzene	<.0025	<.0025	<.0025	<.0025	<.0025	.00261 (e)	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	NL	52	170	NL
acetone	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	.11	<.25 (i)	<.05	70000	14000	54000	16
Benzene	<.0025	<.0025	<.0025	<.0025	<.0025	.0077	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	12	0.64	1.4	0.03
Ethylbenzene	<.0025	<.0025	<.0025	<.0025	<.0025	.0115	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	7800	400	400	13
Isopropylbenzene (Cumene)	<.0025	<.0025	<.0025	<.0025	<.0025	.0146	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	7800	570	2000	NL
Methyl tertiary-butyl ether (MTBE)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	.00521	.0348	<.0125 (i)	<.0025	NL	32	70	NL
n-Butylbenzene	<.0025	<.0025	<.0025	<.0025	<.0025	.0165	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	NL	240	240	NL
n-Propylbenzene (Isocumene)	<.0025	<.0025	<.0025	<.0025	<.0025	.0522	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	NL	240	240	NL
Naphthalene	<.0125	<.0125	<.0125	<.0125	<.0125	.0225 (e)	<.0125	<.0125	<.0125	<.0625 (i)	<.0125	3100	56	190	84
sec-Butylbenzene	<.0025	<.0025	<.0025	<.0025	<.0025	.00576	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	NL	220	220	NL

[2] SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential and industrial use, and migration to groundwater soil benchmarks (dilution/attenuation factor = 20).

e - Estimated value, detected below PQL

i - PQL elevated due to sample dilution

Table 4-14: Portable GC Results for Highway 185 Garage Soil Borings. Estimated concentrations of selected volatile organic compounds (VOCs) detected by the portable gas-chromatograph in soil samples from property 2 (185 Garage).

[PCE, tetrachloroethene; TCE, trichloroethene; cis-DCE, cis-1,2-dichlroethene; E-Benzene, ethylbenzene; ug/kg, micrograms per kilogram]
[<, less than reporting limit; a, probable false peak because of numerous hydrocarbon peaks in chromatogram]

LOCATION	Date	Depth	PCE ug/kg	TCE ug/kg	cis DCE ug/kg	Benzene ug/kg	Toluene ug/kg	Xylene ug/kg	E-Benzene ug/kg
185 gar, hole2, sample 1	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole2, sample 1	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole2, sample 2	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole2, sample 2	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole3, sample 1	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole3, sample 1	04/13/06		**4.3**	<1	<1	<1	<1	<1	<1
185 gar, hole3, sample 1	04/13/06		**4.7**	<1	1.	<1	<1	<1	<1
185 gar, hole3, sample 2	04/13/06		<1	<1	5.	<1	<1	<1	<1
185 gar, hole3, sample 2	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole3, sample 3	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole3, sample 3	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole4, sample 1	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole4, sample 1	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole4, sample 2	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole4, sample 2	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole5, sample 1	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole5, sample 1	04/13/06		3.8	<1	<1	<1	<1	<1	<1
185 gar, hole5, sample 2	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole5, sample 2	04/13/06		<1	<1	1.	<1	<1	<1	<1
185 gar, hole6, sample 1	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole6, sample 1	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole6, sample 2	04/13/06		<1	<1	<1	<1	<1	<1	<1
185 gar, hole6, sample 2	04/13/06		<1	<1	<1	<1	<1	<1	<1

Table 4-15: Highway 185 Garage Soil Boring Sample Results Collected on April 13, 2006
Oak Grove Village Well Site, OU1, Franklin County, Missouri

- All values listed in parts per million (mg/kg) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.

Sample ID	BH1-1	BH1-2	BH2-1	BH2-2	BH3-1	BH3-2	BH3-3	BH4-1	BH5-1	BH5-2	BH6-1	BH6-2	BH4-2	SCDM[2]	EPA PRG[4]		
Depth of Sample, in or ft	0'-4'	5'	0'-4'	4'-7'	0'-4'	4'-8'	8'-12'	0'-4'	0'-4'	4'-5'	0'-4'	4'-7'	7'-8'		Res.	Ind.	Migrn to GW
Laboratory Number	0604001	0604002	0604003	0604004	0604005	0604006	0604007	0604008	0604009	0604010	0604011	0604012	0604013				
Volatile Organic Compounds (VOCs)																	
1,2,4-Trimethylbenzene	<.0025	<.0025	<.0025	.0026 (e)	<.0025	<.0025	<.005 (i)	<.0025	<.005 (i)	<.0025	<.005 (i)	<.005 (i)	<.005 (i)	NL	52	170	NL
Benzene	<.0025	<.0025	.00317 (e)	.00507	<.0025	.00341 (e)	<.005 (i)	.0025 (e)	<.005 (i)	<.0025	<.005 (i)	<.005 (i)	<.005 (i)	12	0.64	1.4	0.03
Ethylbenzene	<.0025	<.0025	.00281 (e)	.00529	<.0025	<.0025	<.005 (i)	.00254 (e)	<.005 (i)	<.0025	<.005 (i)	<.005 (i)	<.005 (i)	7800	400	400	13
Methyl tertiary-butyl ether (MTBE)	<.0025	<.0025	<.0025	<.0025	<.0025	.00989	<.005 (i)	<.0025	<.005 (i)	<.0025	<.005 (i)	<.005 (i)	<.005 (i)	NL	32	70	NL
Toluene	.00631	.00876	.0166	.0291	.00431 (e)	.0185	.00921 (e)	.0139	.014	.011	.0171	<.005 (i)	<.005 (i)	16000	520	520	12
Xylenes (Total)	<.005	<.005	.00692 (e)	.0127	<.005	.00535 (e)	<.01 (i)	.00639 (e)	.011 (e)	.0057 (e)	<.01 (i)	<.01 (i)	<.01 (i)	16000	270	420	210

[2] SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential and industrial use, and migration to groundwater soil benchmarks (dilution/attenuation factor = 20).

e - Estimated value, detected below PQL

i - PQL elevated due to sample dilution

Table 4-16: Wal-Mart Soil Boring Sample Results Collected on November 7 and 8, 2006
Oak Grove Village Well Site, OU1, Franklin County, Missouri

- All values listed in parts per million (mg/kg) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.
- NA denotes not analyzed

Sample ID	WAL-1	WAL-2	DUP	WAL-4	WAL-3	WAL-5	WAL-6	WAL-7	WAL-15	WAL-10	WAL-11	WAL-12	WAL-13	WAL-14	WAL-17	WAL-16	WAL-8	SCDM[2]	EPA PRG[4]		
Depth of Sample, in or ft	8'-9'	21'-22'		11'-12'	3'-4'	7'-8'	13'-14'	11'-12'	12'-13'	6'-7'	3'-4'	18'-19'	6'-7'	4'-5'	13'-14'	10'-11'	14'-15'		Res.	Ind.	Migrn to GW
Laboratory Number	0608036	0608037	0608038	0608039	0608040	0608041	0608042	0608043	0608044	0608045	0608046	0608047	0608048	0608049	0608050	0608051	0610347				
Metals																					
Chromium, total	30.2	24.3	74.3	33.5	70.4	21.1	33.1	41.2	21.7	26.7	57.9	56.3	55.0	37.2	44.9	39.1	36.2	230	210	450	38
Lead	6.25	7.53	8.75	1.91	8.58	3.21	3.06	6.55	2.84	13.2	7.88	14.7	10.1	14.1	24.3	14.0	5.67	NL	400	750	NL
Volatile Organic Compounds (VOCs)																					
1,2,4-Trimethylbenzene	<.0025	<.0025	<.0025	<.0025	.00433 (e)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	NL	52	170	NL
acetone	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.25 (i)	<.05	<.05	<.05	<.05	.0956 (e)	<.05	70000	14000	54000	16
carbon disulfide	<.0025	.00378 (e)	.0035 (e)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	<.0025	<.0025	<.0025	.00298 (e)	<.0025	7800	360	720	32
Ethylbenzene	<.0025	<.0025	<.0025	<.0025	.00909	<.0025	<.0025	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	7800	400	400	13
Methylene chloride	<.05	<.05	<.05	<.05	.108	<.05	<.05	<.05	<.05	<.05	<.25 (i)	<.05	<.05	<.05	<.05	<.05	<.05	85	9.1	21	0.02
Methylmethacrylate	<.0025	<.0025	.0101	<.0025	.0274	.00634	<.0025	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	NL	2200	2700	NL
p-Isopropyltoluene (p-Cymene)	<.0025	<.0025	<.0025	<.0025	.00452 (e)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	NL	NL	NL	NL
Tetrachloroethene (PCE)	<.0025	<.0025	<.0025	<.0025	.0299	<.0025	.00416 (e)	<.0025	<.0025	<.0025	<.0125 (i)	<.0025	.00264 (e)	<.0025	<.0025	.0236	<.0025	12	0.48	1.3	0.06
Toluene	<.0025	<.0025	.01	<.0025	.0809	.00628	.0109	<.0025	<.0025	.00914	.0142 (e)	.00686	.00855	.00683	<.0025	.0504	<.0025	16000	520	520	12
Xylenes (Total)	<.005	<.005	<.005	<.005	.028	<.005	<.005	<.005	<.005	<.005	<.025 (i)	<.005	<.005	<.005	<.005	<.005	<.005	16000	270	420	210

[2] SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential and industrial use, and migration to groundwater soil benchmarks (dilution/attenuation factor = 20).

e - Estimated value, detected below PQL

i - PQL elevated due to sample dilution

Table 4-17: Ditch Witch Soil Boring Sample Results Collected on August 14 and 15, 2006
Oak Grove Village Well Site, OU1, Franklin County, Missouri

- All values listed in parts per million (mg/kg) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.
- NA denotes not analyzed

Sample ID	SB-01	SB-02	SB-17	SB-03	Dup	SB-04	SB-06	SB-16	SB-15	SB-05	SB-07	SB-13	SB-08	SB-14	SB-09	SB-10	SB-11	SB-12	SCDM[2]	EPA PRG[4]		
Depth of Sample, in or ft	12'	16'-17'	14'	8.5'-9.5'		10'-11'	5'-6'	10'	13'-14'	3'-4'	7'-8'	11'-12'	5'-6'	7'-8'	2'-3'	6'-7'	7'-8'	7'-8'		Res.	Ind.	Migrn to GW
Laboratory Number	0603023	0603024	0603025	0603026	0603027	0603028	0603029	0603030	0603031	0603032	0603033	0603034	0603035	0603036	0603037	0603038	0603039	0603040				
Metals																						
Chromium, total	23.7	24.4	31.1	NA	NA	NA	NA	NA	23.8	30.5	48.7	55.4	51.7	56.6	38.4	53.6	50.4	NA	230	210	450	38
Lead	5.87	3.89	18.9	NA	NA	NA	NA	NA	2.78	12.7	11.4	10.3	21.8	9.17	12.6	9.41	18.4	NA	NL	400	750	NL
Volatile Organic Compounds (VOCs)																						
1,2,4-Trimethylbenzene	<.0025	.0364	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	.112	<.0025	<.0025	<.0025	NL	52	170	NL
1,3,5-Trimethylbenzene	<.0025	.0118	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.025 (i)	<.0025	<.0025	<.0025	NL	21	70	NL
1,4-Dichlorobenzene	<.0025	.0166	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.025 (i)	<.0025	<.0025	<.0025	27	3.4	7.9	2
acetone	<.05	<.05	.0529 (e)	<.05	<.05	<.05	<.05	<.05	<.05	.0893 (e)	<.05	<.05	<.05	<.05	<.5 (i)	<.05	<.05	<.05	70000	14000	54000	16
carbon disulfide	<.0025	.00937	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.025 (i)	<.0025	<.0025	<.0025	7800	360	720	32
Chlorobenzene	<.0025	.0454	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.025 (i)	<.0025	<.0025	<.0025	1600	150	530	1
Isopropylbenzene (Cumene)	<.0025	.00301 (e)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.025 (i)	<.0025	<.0025	<.0025	7800	570	2000	NL
Methyl tertiary-butyl ether (MTBE)	<.0025	<.0025	<.0025	.038	.041	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.025 (i)	<.0025	<.0025	<.0025	NL	32	70	NL
n-Butylbenzene	<.0025	.0214	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.025 (i)	<.0025	<.0025	<.0025	NL	240	240	NL
n-Propylbenzene (Isocumene)	<.0025	.00859	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.025 (i)	<.0025	<.0025	<.0025	NL	240	240	NL
p-Isopropyltoluene (p-Cymene)	<.0025	.00897	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.025 (i)	<.0025	<.0025	<.0025	NL	NL	NL	NL
sec-Butylbenzene	<.0025	.00932	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.025 (i)	<.0025	<.0025	<.0025	NL	220	220	NL
Tetrachloroethene (PCE)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	.118	<.0025	<.0025	<.0025	12	0.48	1.3	0.06
Trichloroethene (TCE)	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	<.0025	.199	<.0025	<.0025	<.0025	58	0.053	0.11	0.06
Petroleum Hydrocarbons																						
No. 2 Diesel	<13.2	<14.7	<12.3	NA	NA	NA	NA	NA	<13.0	22.0 (e)	<13.7	<14.2	<13.6	<13.7	<13.3	<13.4	<13.1	NA	NL	NL	NL	NL
TPH-ORO	<13.2	<14.7	<12.3	NA	NA	NA	NA	NA	<13.0	<12.4	<13.7	<14.2	<13.6	<13.7	330.0	<13.4	<13.1	NA	NL	NL	NL	NL

[2] SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential and industrial use, and migration to groundwater soil benchmarks (dilution/attenuation factor = 20).

e - Estimated value, detected below PQL

i - PQL elevated due to sample dilution

Table 4-18: Additional Ditch Witch Soil Boring Sample Results Collected on September 26, 2006
Oak Grove Village Well Site, OU1, Franklin County, Missouri

- All values listed in parts per million (mg/kg) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.
- NA denotes not analyzed

Sample ID	SB-18	SB-19	SB-20	SB-21	Trip Blank	SCDM[2]	EPA PRG[4]		
Depth of Sample, in or ft	4'-5'	4'-5'	4'-5'				Res.	Ind.	Migrn to GW
Laboratory Number	0608009	0608010	0608011	0608012	0608016				
Metals									
Chromium, total	28.9	38.9	19.2	21.2	52.1	230	210	450	38
Lead	13.7	75.5	10.4	12.5	14.6	NL	400	750	NL
Volatile Organic Compounds (VOCs)									
1,2,4-Trimethylbenzene	<.0025	.0267	<.0025	<.0025	<.0025	NL	52	170	NL
1,3,5-Trimethylbenzene	<.0025	.00551	<.0025	<.0025	<.0025	NL	21	70	NL
Benzene	<.0025	.0142	<.0025	<.0025	<.0025	12	0.64	1.4	0.03
cis-1,2-dichloroethene	<.0025	.105	<.0025	<.0025	<.0025	780	43	150	0.4
Ethylbenzene	<.0025	.00636	<.0025	<.0025	<.0025	7800	400	400	13
Isopropylbenzene (Cumene)	<.0025	.00405 (e)	<.0025	<.0025	<.0025	7800	570	2000	NL
Methyl tertiary-butyl ether (MTBE)	<.0025	00642	<.0025	<.0025	<.0025	NL	32	70	NL
n-Butylbenzene	<.0025	.00689	<.0025	<.0025	<.0025	NL	240	240	NL
n-Propylbenzene (Isocumene)	<.0025	.00584	<.0025	<.0025	<.0025	NL	240	240	NL
Naphthalene	<.0125	.0142 (e)	<.0125	<.0125	<.0125	3100	56	190	84
Tetrachloroethene (PCE)	<.0025	.0169	<.0025	<.0025	<.0025	12	0.48	1.3	0.06
Toluene	<.0025	.00343 (e)	<.0025	<.0025	<.0025	16000	520	520	12
trans-1,2-dichloroethene	<.0025	.00305 (e)	<.0025	<.0025	<.0025	1600	69	230	0.7
Trichloroethene (TCE)	<.0025	.153	.00486 (e)	<.0025	<.0025	58	0.053	0.11	0.06
Xylenes (Total)	<.005	.013	<.005	<.005	<.005	16000	270	420	210

[2] SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential and industrial use, and migration to groundwater soil benchmarks (dilution/attenuation factor = 20).

e - Estimated value, detected below PQL

Table 4-19 : Winsel Creek Soil Boring Results Collected on September 26, 2006
Oak Grove Village Well Site, OU1, Franklin County, Missouri

- All values listed in parts per million (mg/kg) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.

Sample ID	WC-1	WC-2	WC-3	Trip Blank	SCDM[2]	EPA PRG[4]		
Depth of Sample, in or ft	8'-10'	8'-10'	17'-18.5'			Res.	Ind.	Migrn to GW
Laboratory Number	0608013	0608014	0608015	0608016				
Metals								
Chromium, total	36.0	42.3	128.0	52.1	230	210	450	38
Lead	25.8	20.3	18.6	14.6	NL	400	750	NL

[2] SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential and industrial use, and migration to groundwater soil benchmarks (dilution/attenuation factor = 20).

Table 4-20: Winsel Creek Surface Water Sample Results Collected on September 26, 2006
Oak Grove Village Well Site, OU1, Franklin County, Missouri

- All values listed in parts per billion (ug/l) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.
- NA denotes not analyzed

Sample ID	Trip Blank	WC Outfall	SCDM[2]			MO WQS[3]			
Laboratory Number	**0603041**	**0603044**	**MCL**	**SC**	**CMC/CCC**	**DW / GW**	**Aq. Life**	**Fish Consmp**	**Irr. / Lvstock**
Metals									
Chromium, total	NA	3.08	100	110	NL	100	42	NL	100
Chromium, total, dissolved	NA	1.69	100	180	74	100	42	NL	100
Volatile Organic Compounds (VOCs)									
1,2,3-Trichlorobenzene	.54 (e)	<.5	NL	NL	NL	NL	NL	NL	NL
1,2,4-Trichlorobenzene	<.25	.44 (e)	70	360	NL	70	NL	940	NL
Hexachlorobutadiene	.28 (e)	<.25	NL	1.1	NL	0.45	NL	50	NL
n-Butylbenzene	.26 (e)	.25 (e)	NL	NL	NL	NL	NL	NL	NL
Naphthalene	<.5	.6 (e)	NL	1500	NL	20	NL	NL	NL

[2] SCDM - Superfund Chemical Data Matrix, January 28, 2004, maximum contaminant level (MCL), lowest of reference dose and cancer risk screening concentrations (SC) for groundwater/surface water pathway, drinking water , and lower of criteria maximum concentration and criteria continuous concentration (CMC/CCC).

[3] MO WQS - Missouri Water Quality Standards, benchmarks for drinking water, groundwater, protection of aquatic life, fish consumption, irrigation/livestock watering use categories, Missouri Code of State Regulations, 10 CSR 20-7.031, October 31, 1999.

e - Estimated value, detected below PQL

Table 4-22: Summary of OGV02 DNR Sampling
Post-Phase II Remedial Investigation
Oak Grove Village Well Site, OU1
Oak Grove Village, Missouri

Date	Pumping Rate (gpm)	Time Pumped before Sampling	TCE (µg/l)	Cis-1,2-DCE (µg/l)	CFC-11 (µg/l)
May 2005	150	About 1½ hours	60.0	1.04	ND
July 2005	125	Over 3 hours	119	2.27	0.97
October 2005	150	Over 3 hours	60.1	1.38	0.54
June 2006	125	Over 3 hours	76.2	1 57	1.39
October 2006	125	About ½ hour	7.35	0.34	ND

APPENDIX H

USGS LETTER REPORTS AND ANALYTICAL RESULTS

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POTENTIAL SOURCE AREA INVESTIGATIONS

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United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Missouri Water Science Center
1400 Independence Road
Mail Stop 100
Rolla, Missouri 65401

RECEIVED
MAR 06 2012
SUPERFUND DIVISION

March 2, 2012

Tonya Howell
U.S. Environmental Protection Agency
Region 7, Superfund Program
901 North 5th Street
Kansas City, Kansas 66101

Dear Tonya,

This administrative letter report presents soil and tree-core sample data collected by the U.S. Geological Survey (USGS) Missouri Water Science Center (MWSC) at several sites in Sullivan and Oak Grove Village, Missouri. These data were collected by the USGS as part of an investigation by the USGS for the U.S. Environmental Protection Agency (USEPA) to close data gaps identified at Operable Unit One (OU1) of the Oak Grove Village Superfund site. The data contained in this report were collected to evaluate sites as potential sources of trichloroethene (TCE) in groundwater at the Oak Grove Village OU1. Data were collected under a Field Sampling Plan (FSP) prepared by the USGS titled "Field Sampling Plan for the Characterization of Disturbed Areas and Installation and Borehole Logging of Monitoring Wells and Sullivan Well 11 – Oak Grove Village Site, Operable Unit 1", dated June 4, 2010. Data collection activities were covered in the Quality Assurance Project Plan (QAPP) prepared by the USGS titled "Quality Assurance Project Plan For The Characterization of Disturbed Areas and Installation and Borehole Logging of Monitoring Wells and Sullivan Well 11 – Oak Grove Village Site, Operable Unit 1", dated June 4, 2010.

The USEPA has not issued a final Record of Decision (ROD) or Remedial Action (RA) for OU1 and TCE continues to affect several public- and domestic-supply wells. The FSP identified several data gaps which would need to be filled before a final ROD could be issued for OU1, including the evaluation of additional potential source areas of TCE in groundwater. Some of the USEPA investigations have been directed at ruling out potential source areas of TCE in groundwater, which include several former manufacturing facilities and possible old dump sites. The FSP identified seven additional potential source

areas (Areas 1 through 7; fig. 1) as data gaps; data were collected for this report from all sites except Area 7, which is not included in this report. An additional potential source area (Area 8; fig. 1) was identified after the FSP was completed, and data were collected from it for this report. A brief description of each area is given in table 1.

Table 1. Description of potential source areas of TCE in groundwater

Area	Description
Area 1	Former machine shop and welding shop
Area 2	Probable soil borrow area
Area 3	Old household dump
Area 4	Sewer junction box, disturbed soil area
Area 5	Old household dump
Area 6	Trucking facility
Area 7	Disturbed soil area
Area 8	Site of 1965 rail tank car spill of unknown liquid

Background

The solvent TCE was detected during routine monitoring of public-supply wells in Oak Grove Village and Sullivan, Missouri in the 1980s. Since the initial detection, further monitoring of public-supply and area domestic wells has resulted in a complex pattern of TCE detections in groundwater with most public-supply wells inside the City of Sullivan having detectable levels of TCE at some point in time and domestic wells north and east of the city having scattered TCE detections. The largest TCE concentrations [in excess of 40 micrograms per liter (ug/L)] have been detected in the Oak Grove Village wells OGV-1 (abandoned) and OGV-2 and city of Sullivan well COS-2 (fig. 1). Previous investigations conducted by the Missouri Department of Natural Resources (MDNR) and USEPA have identified the former Ramsey facility, a USEPA Resource Conservation and Recovery Act (RCRA) site, as a source of TCE contamination at Sullivan well COS-2 (fig. 1). The source of TCE in other wells has not yet been identified.

Objective

The purpose of this investigation was to evaluate the selected potential source areas of TCE in groundwater. Results from this investigation would be used to retain or remove these areas from the candidate list of potential TCE source areas, thereby filling these data gaps identified in the FSP.

General Methodology

Seven potential source areas (Areas 1 through 7) of TCE in groundwater were identified as disturbed areas in historic (1965, and 1972) aerial photographs (figs. 2, and 3) or through information from residents. Interviews with local residents and Oak Grove Village and Sullivan city employees provided information regarding the historic use of these sites. An additional potential source area (Area 8) was identified from old newspaper accounts and interviews.

Tree-core samples were collected at seven sites (Areas 1 through 6, and 8; no work was done on Area 7). Tree coring is normally conducted prior to soil borings and is considered a first screening tool which can be used to guide the location of subsequent soil borings; soil borings can confirm or negate the significance of tree core volatile organic compound (VOC) detections. The primary VOC target compound was TCE, with tetrachloroethene (PCE) a secondary target. Tree coring was done according to methods described in Schumacher and others (2004) and listed in the QAPP. Tree-core samples were collected during the summer months when trees were actively transpiring to optimize the detection of TCE.

Soil samples were collected at Areas 1, 2, 3, 5, and 8 using a truck- or tractor-mounted "Geoprobe" ™ direct-push drill rig or a backhoe. Continuous soil cores were collected from the Geoprobe boreholes and processed as described in the FSP, using a 1.5-inch (in) by 4-foot (ft) long core tube with a disposable acetate sleeve to prevent cross contamination between core runs. After removal from the subsurface, the liner containing the soil core was sliced open to expose the soil, samples were collected for VOC scanning using the MWSC field gas chromatograph (GC; normally from several locations for each borehole), the cores were described in a Geologist's log, and in most cases the cores were photographed. Field GC samples were collected by inserting a plastic syringe into the soil, extracting about a 5 gram (gm) sample and placing it in a 40 milliliter (mL) vial filled with 20 mL of deionized water. For backhoe trenches, samples were collected in a similar manner using a plastic syringe inserted into the side of the trench.

Tree-core and field GC soil samples were field screened for the presence of VOCs using the MWSC GC. Tree-core samples were analyzed at room temperature using the headspace method described in Schumacher and others (2004) and the QAPP. Tree-core sample results are expressed as parts per billion by volume of headspace (ppbV). Field GC soil samples were shaken, heated to approximately 50 degrees

Celsius for at least 40 minutes, and an aliquot of the headspace was removed using a gas-tight syringe and injected into the MWSC GC according to methods described in the QAPP. The reporting limit ranged from 20 to 67 micrograms per kilogram (ug/kg) depending on the volume of the sample headspace injection, which ranged from 30 to 100 microliters (uL). Because the unit of measurement for soil samples is different than for tree-core samples, field GC values for soil samples cannot be compared with field GC values for tree-core samples, which are larger numbers. Any TCE or PCE identified at any concentration by the field GC is considered a tentative identification for both tree-core and soil samples. TCE and PCE tentatively identified by the field GC below the reporting limit for soil samples are considered an estimate and are designated with "E" in table 2.

Soil samples for laboratory analysis were collected immediately after the field GC samples were collected. Laboratory samples were collected from the core or the side of a trench using a stainless steel spoon or spatula, and the blunt end of a plastic 60-cubic centimeter (cc) syringe was used to tightly pack the soil into a 4-ounce (oz) glass jar. These samples were chilled and submitted to the contract laboratory for analysis by EPA method 8260. For some sites, laboratory samples were collected at the rate of about one laboratory sample per 2 boreholes or trench; for other sites at least one laboratory sample was collected from each borehole, and after reviewing the geologic logs and the results of the field GC screening, samples were selected for submittal to the laboratory. The laboratory target compounds were TCE, PCE, cis-1,2-dichloroethene (cis-DCE), trans-1,2-dichloroethene (trans-DCE), vinyl chloride, benzene, and toluene.

Area 1

Area 1 is the site a former machine shop and welding shop where TCE could have been used. This location also is between 3 public-supply wells where TCE has been detected (OGV-2, COS-9, and COS-10; fig. 1), and is north of Highway 185 and west of the Burlington Northern-Santa Fe Railroad (BNSF) tracks. The 1965 and 1972 aerial photographs (figs. 2 and 3) show that area is disturbed.

Six tree-core screening samples were collected on July 6 and July 8, 2010 from the north side of Area 1 (fig. 4). No trees were present on the other sides of the site or in the interior of the site. No TCE or PCE was detected by the field GC in any of the samples (table 3).

Twelve borings were completed in Area 1 on July 29 and 30, 2010. These borings were completed in two approximately east-west transects of 6 borings each, with spacing between borings ranging from about 30

to about 60 ft (fig. 4). The borings were completed to refusal, which ranged from 2.4 to 7.9 ft (table 4). Fourteen samples were collected from these 12 borings for field screening by the field GC. No TCE or PCE was detected in any of these 14 samples (table 2). Six samples were collected from 6 borings for laboratory analysis. Two laboratory samples were from an interval in the core that contained a field GC sample; four laboratory samples were from an interval in the core just below a field GC sample. There were no detections of TCE, PCE, or any other target compound in any of the laboratory samples (table 2).

Area 2

Area 2 is a disturbed area north of Highway 185 and east of the BNSF tracks, east of Area 1 and, like Area 1, is between 3 public-supply wells where TCE has been detected (OGV-2, COS-9, and COS-10; fig. 1). The area is shown as disturbed in the 1965 and 1972 aerial photographs (figs. 2 and 3); while completing soil borings it appeared that this site probably was a soil borrow area.

Seven tree-core screening samples were collected on July 12, 2010 along the north and east sides of Area 2 (fig. 5). No trees were present on the other sides of the site or in the interior of the site. TCE was tentatively identified by the field GC in 3 samples up to 776 ppbV (table 3).

Twelve borings were completed in Area 1 from July 15 to July 29, 2010. These borings were completed in two approximately east-west transects of 6 borings each, with spacing between borings ranging from about 35 to about 125 ft (fig. 5). The borings were completed to refusal, which ranged from 1.9 to 4.8 ft (table 4). Seventeen samples were collected from these 12 borings for field screening by the field GC. No TCE or PCE was detected in any of these 17 samples (table 2). Six samples were collected from 6 borings for laboratory analysis. Four laboratory samples were from an interval in the core that contained a field GC sample; two laboratory samples were from an interval in the core just below a field GC sample. There were no detections of TCE, PCE, or any other target compound in any of the laboratory samples (table 2).

Area 3

Area 3 is located west of the BNSF tracks (fig. 1). It has been used by the landowner as a dump and contains various household items. It may have been an old, dry pond.

Six tree-core screening samples were collected on July 8, 2010 (fig. 6). No TCE or PCE was detected by the field GC in any of the samples (table 3).

A backhoe was used on October 5, 2010 to excavate 6 trenches, or pits, to a maximum depth of 4 ft (table 4; fig. 6). Nine field GC samples were collected from these 6 trenches for field screening. TCE was tentatively identified in one sample at 0.4 ug/kg (estimated). Three soil samples were submitted for laboratory analysis; each was from the same depth as a field GC sample, including the one with the tentative identification of TCE. There were no detections of TCE, PCE, or any other target compound in the three laboratory samples (table 2).

Area 4

Area 4 is an area of disturbed soil west of the BNSF tracks (fig. 1). A site inspection showed that this is a sewer junction box.

Four tree-core screening samples were collected on July 8 and August 2, 2010 (fig. 7). No TCE or PCE was detected by the field GC in any of the samples (table 3). No soil samples were collected from Area 4 for either the field GC screening or laboratory analysis.

Area 5

Area 5 is an old household dump site in a wooded area and contains various household items (fig. 1). Some of the trash appears to have been used to fill shallow ravines.

Eight tree-core screening samples were collected on July 22 and August 3, 2010 (fig. 8). No TCE or PCE was detected by the field GC in any of the samples (table 3).

A backhoe was used on October 5, 2010 to excavate 6 trenches, or pits, to a maximum depth of 4 ft (table 4; fig. 8). Nine field GC samples were collected from these 6 trenches for field screening. TCE was tentatively identified in one sample at 0.4 ug/kg (estimated). Three soil samples were submitted for laboratory analysis; each was from the same depth as a field GC sample. There were no detections of TCE, PCE, or any other target compound in the three laboratory samples (table 2).

Area 6

Area 6 is a former trucking facility on the east side of Old Highway 66 (fig. 1), and is also presently used as a trucking facility. A structure at the site is visible in the 1965 and 1972 aerial photographs (figs. 2 and 3).

Twenty-four tree-core screening samples were collected from trees north and east of the property (fig. 9) on July 6 and July 8, 2010. TCE was tentatively identified by the field GC in 5 samples up to 674 ppbV (table 3). The landowner denied permission for the USGS to collect soil samples.

Area 7

Area 7 has not been investigated to-date

Area 8

Area 8 was not originally included in the FSP. During the course of their investigation, the USEPA learned from area residents that a train derailment involving several dozen cars occurred inside the city of Sullivan sometime in the 1960s or 1970s. A former employee of a downtown business recalled that one of cars involved in the derailment was a tanker car that overturned and a strong-smelling liquid was discharged onto the land surface and flowed down a ditch leading northwest from the tracks. The USEPA requested information on any known derailments within a several mile radius of the city of Sullivan in a 104E letter to the BNSF in 2010. The BNSF response indicated that the railroad had no specific records of derailments in this area, perhaps because those records no longer existed (through mergers and acquisitions) but they did provide detailed track maps. A subsequent search of local sources turned up a photograph and associated article of a derailment in the April, 1965 issue of the Sullivan, Missouri Weekly Shopper (fig. 10). The location of the derailment in the photograph is consistent with recollections from several area residents. While it was not anticipated that the derailment is associated with the TCE in groundwater, due diligence required that this location be investigated and ruled-out as a possible TCE source area. A review of the 1965 photograph of the derailment, a March 31, 2009 track map provided by BNSF, and interviews with area residents and city officials indicated that the derailment occurred between Church Street and Center Street on what probably was at the time railroad right-of-way and sidings on the south and north side of the tracks. In the 1965 photograph (fig. 10), there appear to be three tank cars at the derailment site, one intact on a siding south of the main tracks (car 1), one having two smaller tanks lying nearly perpendicular across the main track with one tank lying across what appears to be a siding on the north side of the main track near a small ditch running to the northwest (car 2), and possibly a third tank car (car 3) appearing to be upright or on its side lying across the siding on the south side of the tracks (fig. 10) Cars 2 and 3 were the primary concerns for this investigation.

The site investigation was conducted in two phases: the first phase of the investigation was soil and tree-core sampling from June 6 through June 9, 2011 that was limited to property outside the BNSF right-of-way. Later, after preparing a BNSF Contractor Safety Action Plan, dated November 17, 2011, and with a

BNSF flagger, additional soil borings were competed on December 7-8, 2012 mostly on BNSF right-of-way north and south of the tracks, to sample soil closer to the site of the spill than was possible in June, 2011.

Nineteen tree-core screening samples were collected on June 9, 2011. Whereas many of the soil borings were located along the storm sewer running northwest from the track, which replaced the open ditch that carried the spilled liquid from the tank car(s) in 1965, only two tree-core samples were collected from this area due to the limited number of trees there. Most of the tree-core samples were collected from trees to the northwest across Modern Street and a few along a ditch south of the tracks (fig.11). No TCE or PCE were detected by the field GC in any of the tree-core samples (table 3).

Seventeen borings were completed in Area 8 north of the BNSF tracks on June 6 and June 7, 2011 (fig. 11). Most of these were drilled on either side of a storm-water sewer running northwest from the track. Most of the other borings were located along a transect parallel to and north of the tracks, with borings spaced about 25-ft apart (fig. 11). Borings were drilled to refusal which ranged from 5.7 to 13.5 ft deep (table 4). Sixty-three samples were collected from these 17 borings for field screening by the field GC. TCE was tentatively identified by the field GC in two samples from one borehole: 166.4 ug/kg and 245.2 ug/kg from borehole OGV-A8-BH07. TCE and PCE were not detected in any of the other 61 field GC samples (table 2). Four samples were submitted for laboratory analysis: two from the same borehole in which the field GC had tentatively identified TCE, but at slightly different depths than the field GC samples. There were no detections of TCE, PCE, or any other target compound in any of the four laboratory samples (table 2).

After securing permission from the BNSF and after preparing a BNSF Contractor Safety Action Plan, a second phase of soil-sample collection took place on December 7-8, 2012 mostly on BNSF right-of-way north and south of the tracks. Soil borings were competed every 25 ft along 3 transects parallel to the railway tracks, with 2 lines (B and C) north of the tracks and one line (A) south of the tracks (fig. 11). Twenty-three borings were completed: 8 each in lines A and B, and 7 in line C. The zero point of lines A and B started at the southeast corner of a MFA building, a portion of which is on the BNSF right-of-way. Line A was 8 ft south of the railroad track centerline. Line B was 16 ft north of the track centerline. Line C, the borings of which were offset 12.5 ft from the borings of line B, was 33 ft north of the track centerline. All but two borings (OGV-A8-B02 which was advanced to 12 ft, and OGV-A8-B06, which was advanced to 7.5 ft at refusal) of lines B and C were advanced to 8 ft (table 4). Borings on Line A alternated between 4 ft and 8 ft deep to complete the drilling quickly, as the BNSF had only a 2-hour

window between trains. In addition, three borings were drilled outside the BNSF right-of-way with a hand auger in a ditch south of the track through which spilled liquid could have moved in 1965 (boreholes OGV-A8-D01, -D02, and -D03) to a maximum depth of 3.0 ft (fig. 11; table 4). Also, two boreholes (OGV-A8-BH17 and OGV-A8-BH18) were completed off the BNSF right-of-way near borehole OGV-A8-BH07 where TCE had been tentatively identified by the field GC screening in June, 2011 (two laboratory samples collected from OGV-A8-BH07 in June, 2011 did not have any detections of TCE or any other target compound, but the depth intervals of these samples were slightly different that the depths of the field GC samples).

TCE was the only target compound for the field GC screening samples collected in December, 2011 because a different assay was used by the field GC than in June, 2011. For the boreholes on the BNSF right-of-way, 88 samples were collected for field screening using the field GC. TCE was tentatively identified in 8 field GC samples from 6 borings with a maximum concentration of 49.9 ug/kg (estimated; table 2). Seven samples from boreholes on the BNSF right-of-way were submitted for laboratory analysis; 4 of the 7 laboratory samples were from borings where TCE was tentatively identified by the field GC, and 2 of the 7 laboratory sample intervals overlapped the depth of a field GC sample detection (table 2). TCE was not detected in any of the 7 laboratory samples. PCE was detected in 5 laboratory samples. The largest PCE concentration was 9.4 ug/kg; PCE in the other 4 samples was less than the laboratory reporting limit of 5.4 ug/kg (table 2). There were no laboratory detections of cis-DCE, trans-DCE, vinyl chloride, benzene, or toluene (table 2).

Three samples were collected for field screening by the field GC from the three hand-augered borings completed off the BNSF right of way in the ditch south of the tracks in December, 2011. TCE was not detected in any of these 3 samples, and no samples were submitted for laboratory analysis (table 2).

Fourteen samples were collected for field GC screening from the 2 borings (OGV-A8-BH17 and OGV-A8-BH18) that were drilled in December, 2011 off the BNSF right-of-way near borehole OGV-A8-BH07 where TCE had been tentatively identified by the field GC screening in June, 2011. TCE was tentatively identified in 2 of these 14 samples from the same borehole (OGV-A8-BH17) at a maximum concentration of 33.7 ug/kg (estimated; table 2). Four samples from these two boreholes were submitted for laboratory analysis, including two with sample intervals that overlapped the field GC samples with tentatively identified TCE. TCE was not identified in any of these 4 laboratory samples. PCE was detected at a maximum concentration of 1.1 ug/kg (below the reporting limit) in 3 laboratory samples from the same borehole (OGV-A8-BH17; table 2).

Laboratory Sample Quality Control

Four duplicate samples were submitted to the laboratory, one each from Area 1, Area 2, Area 3, and Area 8. These samples were collected from the same material at the same location as the regular sample, in the same manner, and at the same time (the duplicate collection time was recorded as 1 minute later that the regular sample time to differentiate the two samples). There were no detections of TCE, PCE, or any other target compound in the four laboratory duplicate samples or in the associated regular laboratory samples. The reporting limit differed slightly in a few cases (table 2).

Laboratory Data Reports

Laboratory soil sample results were reported to the USGS in six separate analytical reports from the contract laboratory. These analytical reports are included in abbreviated form in an addendum to this report. Only that portion of each analytical report that contains analytical results is included; complete reports containing laboratory data are not included because of size limitations, but are available and can be sent to the USEPA. Some of the reports contain results for samples unrelated to this report that were shipped to the laboratory with the soil samples for this report.

References

Schumacher, J.G., Struckhoff, G.C., and Burken, J.G., 2004, Assessment of subsurface chlorinated solvent contamination using tree cores at the Front Street site and a former dry cleaning facility at the Riverfront Superfund Site, New Haven, Missouri, 1999–2003: U.S. Geological Survey Scientific Investigations Report 2004-5049, 35 p.

If you have any questions, please email me at dmugel@usgs.gov or call me at 573-308-3680, or John Schumacher at jschu@usgs.gov or 573-308-3678.

Sincerely,

Doug Mugel

Doug Mugel
Hydrologist

Explanation

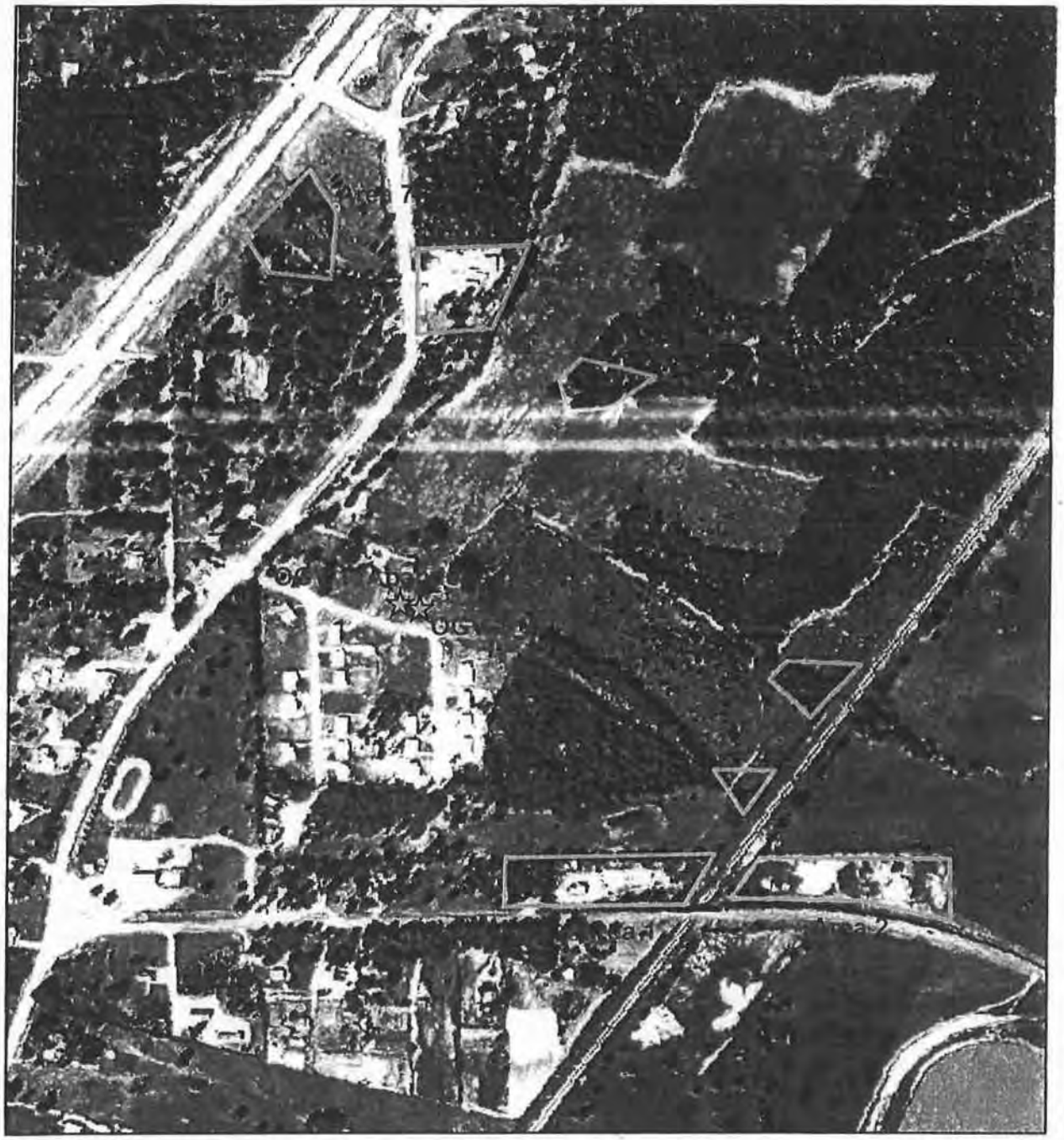
☆ **Public-Supply Well**

▭ **Potential Source Area**

0 1

Miles

Figure 1. Location of Potential Source Areas, Public-Supply Wells, and the Ramsey Facility RCRA Site, Oak Grove Village, Missouri, Superfund Site, Operable Unit 1.



Explanation

1965

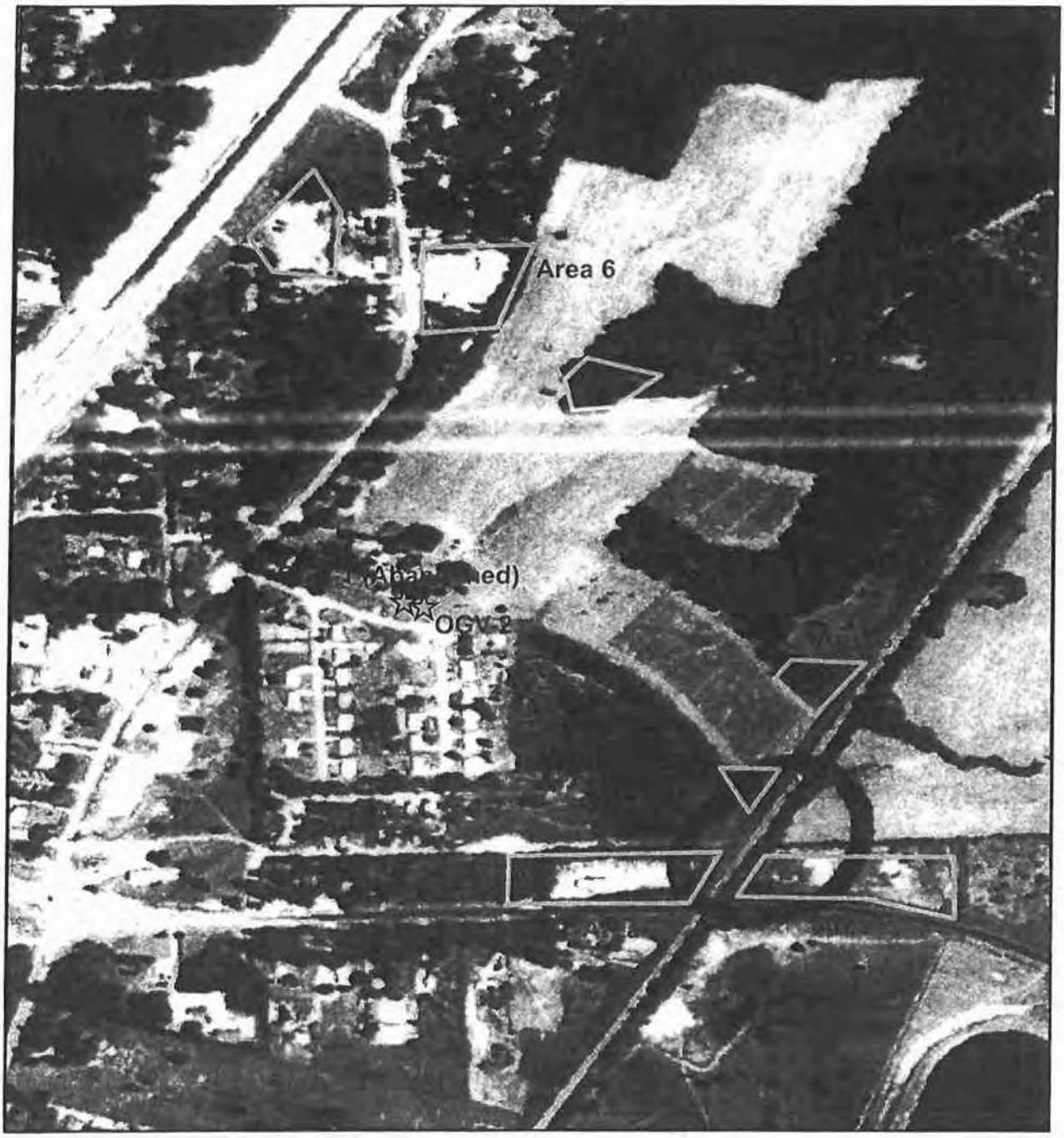
☆ Public-Supply Well

Potential Source Area

0 1,500

Feet

Figure 2. Location of Potential Source Areas of TCE in Groundwater, 1965 Aerial Photograph



Explanation

1972

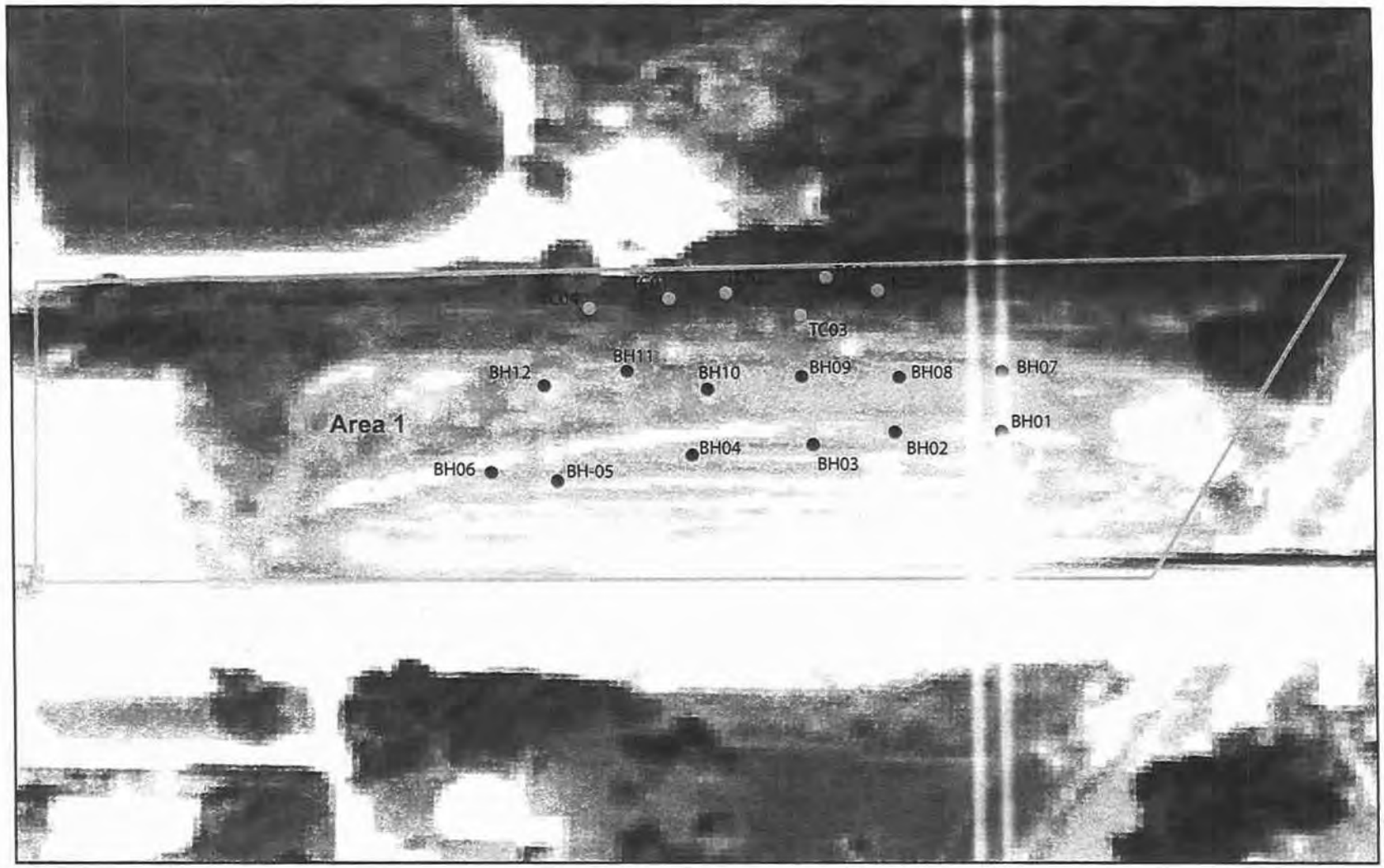
☆ Public-Supply Well

Potential Source Area

0 1,500

Feet

Figure 3. Location of Potential Source Areas of TCE in Groundwater, 1972 Aerial Photograph



Explanation

TC01 Tree-core sample location and identifier (OU1-A01-XXXX)

BH01 Boring location and identifier (OGV-A1-XXXX)

0 40 80 160 240 320

Feet

Figure 4. Location of soil boreholes and tree-core samples, Area1

Explanation

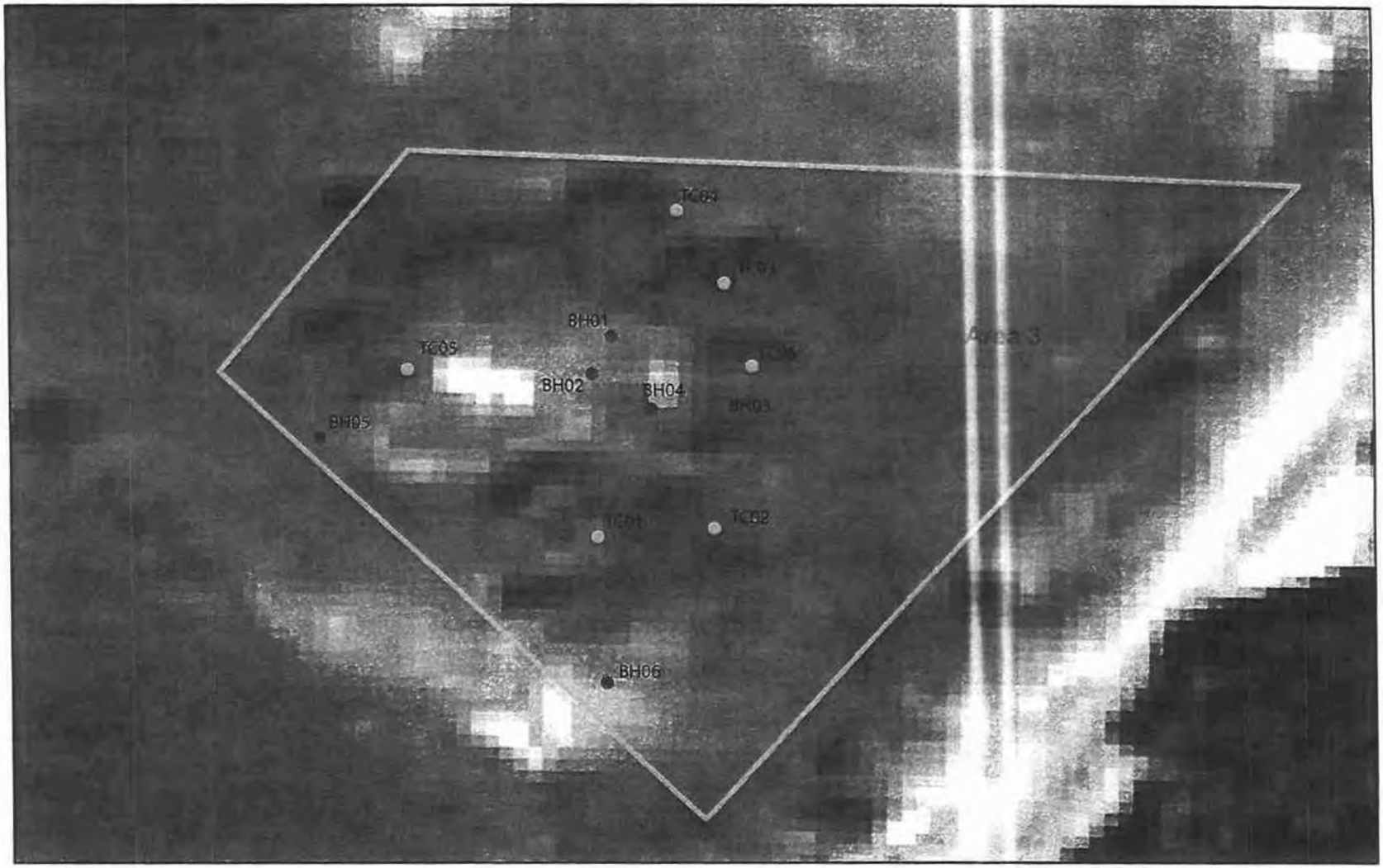
TC01 Tree-core sample location and identifier (OU1-A02-XXXX)

BH01 Boring location and identifier (OGV-A2-XXXX)

0 45 90 180 270 360

Feet

Figure 5. Location of soil boreholes and tree-core samples, Area2



Explanation

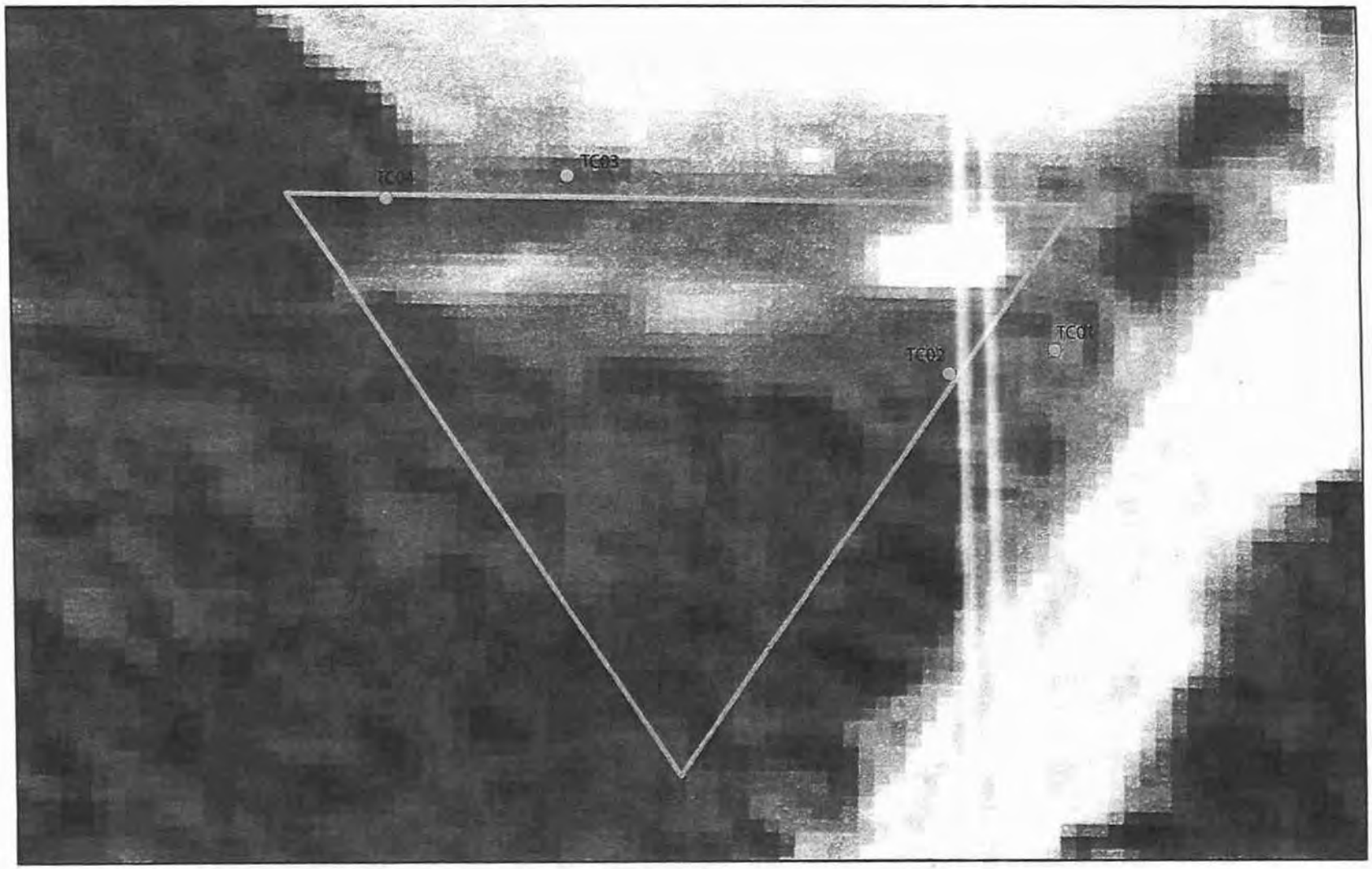
TC01 Tree-core sample location and identifier (OU1-A03-XXXX)

BH01 Boring location and identifier (OGV-A3-XXXX)

0 20 40 80 120 160

Feet

Figure 6. Location of soil boreholes and tree-core samples, Area 3



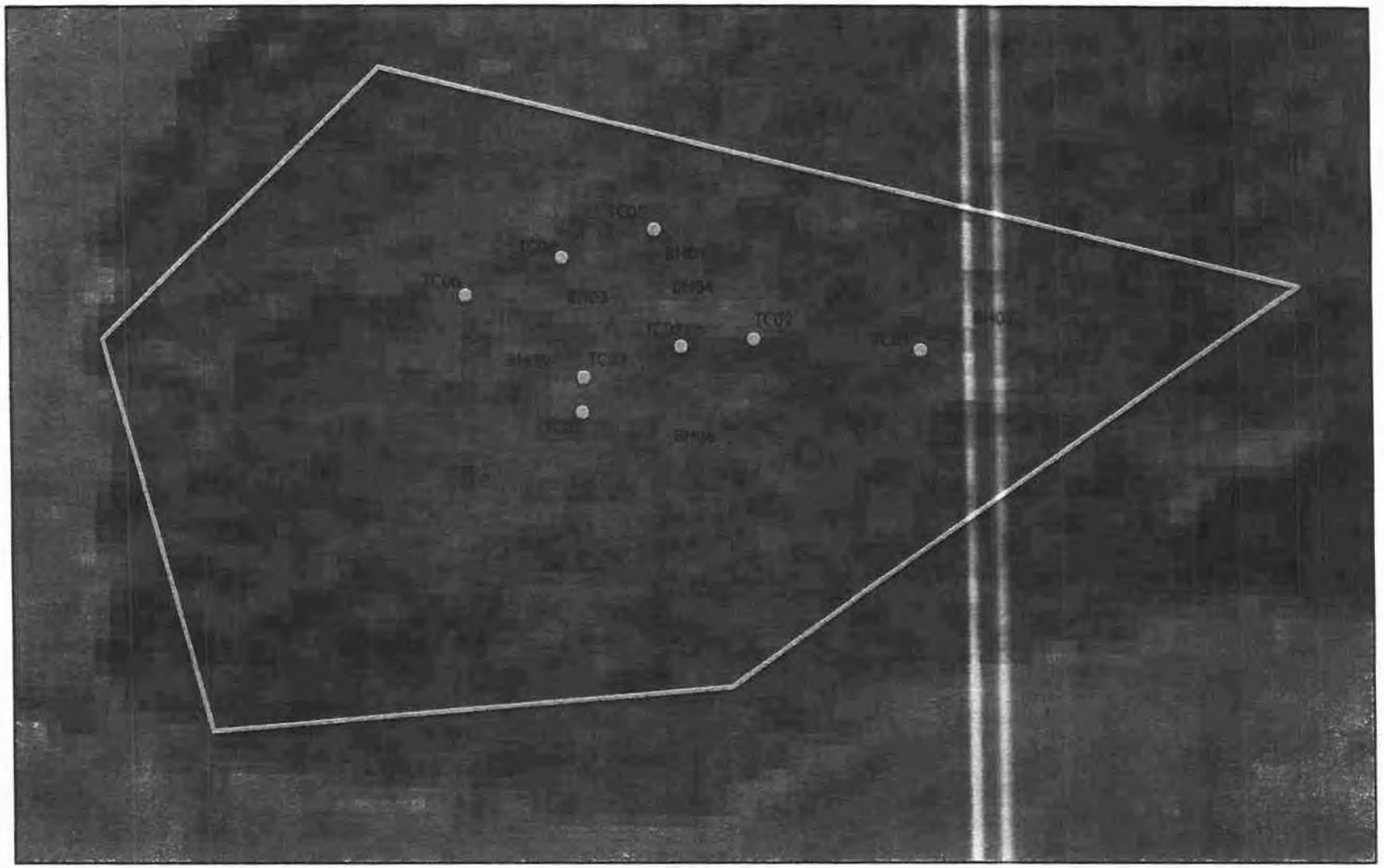
Explanation

TC01 Tree-core sample location and identifier (OU1-A04-XXXX)

0 15 30 60 90 120

Feet

Figure 7. Location of tree-core samples, Area 4



Explanation

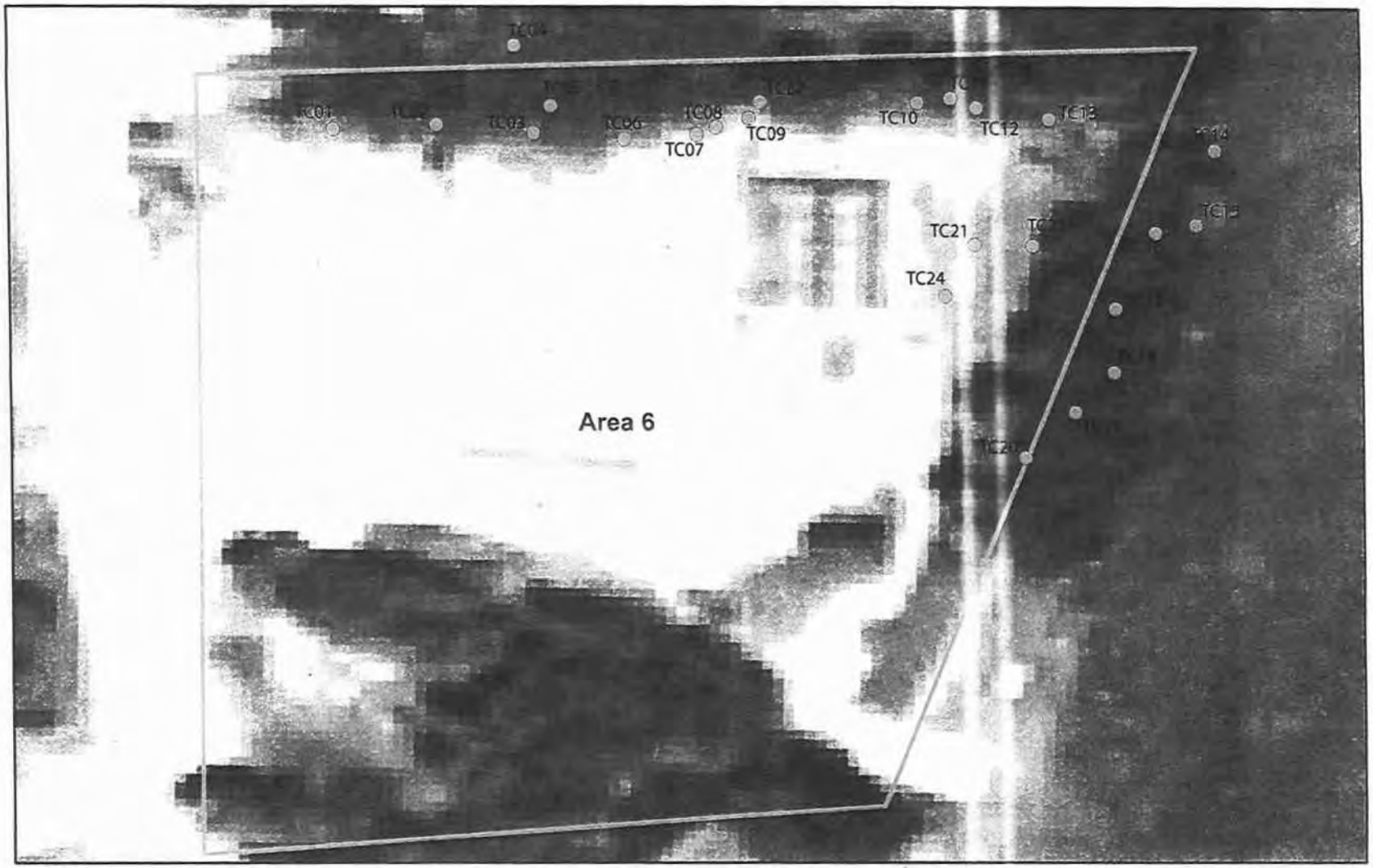
TC01 Tree-core sample location and identifier (OU1-A05-XXXX)

BH01 Boring location and identifier (OGV-A5-XXXX)

0 20 40 80 120 160

Feet

Figure 8. Location of soil boreholes and tree-core samples, Area 5



Explanation

TC01 Tree-core sample location and identifier (OU1-A06-XXXX)

0 25 50 100 150 200

Feet

Figure 9. Location of tree-core samples, Area 6

An aerial view of the 33 Frisco railroad cars that were derailed in Sullivan last week.

Figure 10. Aerial photograph from the April, 1965 issue of the Sullivan Weekly Shopper of a train derailment in Sullivan, Missouri. View is looking generally south.

Explanation

TC01 Tree-core sample location and identifier (OU1-A08-XXXX)

BH01 Boring location and identifier (OGV-A8-XXXX)

0 50 100 200 300 400

Feet

Figure 11. Location of soil boreholes and tree-core samples, Area 8

Table 2. Field gas chromatograph and laboratory results for soil samples collected from potential trichloroethene (TCE) source areas, Oak Grove Village Operable Unit 1 [GC; gas chromatograph; TCE, trichloroethene; PCE, tetrachloroethene; cis-DCE, cis-1,2-dichloroethene; trans-DCE, trans-1,2-dichloroethene; ft, feet; mm/dd/yyyy, month/day/year; uL, microliters; ug/kg, micrograms per kilogram; <, less than; –, no data; E, estimated value for detection below the reporting limit for field GC results; J, estimated value for detection below the reporting limit for laboratory results]

	Field GC Results							Laboratory Results										
Boring Number	Sample Depth (ft)	Sample Date (mm/dd/yyyy)	Sample Time	Injection volume (uL)	Reporting limit[1] (ug/kg)	TCE (ug/kg)	PCE (ug/kg)	Sample Top (ft)	Sample Bottom (ft)	Sample Time	Sample type	TCE (ug/kg)	PCE (ug/kg)	cis-DCE (ug/kg)	trans-DCE (ug/kg)	Vinyl Chloride (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)
Area1																		
OGV-A1-BH01	4.0	7/30/2010	0944	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A1-BH01	7.0	7/30/2010	1040	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A1-BH02	4.0	7/30/2010	1052	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A1-BH02	7.0	7/30/2010	1055	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A1-BH03	4.0	7/30/2010	1111	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A1-BH04	4.0	7/30/2010	1128	100	20	<20	<20	5.7	6.0	1137	regular	<5.0	<5.0	<2.5	<2.5	<5.0	<5.0	<5.0
OGV-A1-BH05	3.2	7/30/2010	1223	100	20	<20	<20	2.7	3.2	1150	regular	<6.4	<6.4	<3.2	<3.2	<6.4	<6.4	<6.4
OGV-A1-BH06	3.0	7/30/2010	1237	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A1-BH07	2.0	7/29/2010	1228	100	20	<20	<20	2.2	2.6	1234	regular	<5.4	<5.4	<2.7	<2.7	<5.4	<5.4	<5.4
OGV-A1-BH08	2.0	7/29/2010	1242	100	20	<20	<20	2.6	3.0	1246	regular	<5.1	<5.1	<2.5	<2.5	<5.1	<5.1	<5.1
OGV-A1-BH09	4.7	7/29/2010	1310	100	20	<20	<20	4.2	4.7	1312	regular	<5.1	<5.1	<2.5	<2.5	<5.1	<5.1	<5.1
OGV-A1-BH10	5.0	7/29/2010	1335	100	20	<20	<20	6.4	6.8	1340	regular	<4.9	<4.9	<2.5	<2.5	<4.9	<4.9	<4.9
								6.4	6.8	1341	duplicate	<4.8	<4.8	<2.4	<2.4	<4.8	<4.8	<4.8
OGV-A1-BH11	4.0	7/30/2010	0853	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A1-BH12	2.0	7/30/2010	0910	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
Area 2																		
OGV-A2-BH01	2.0	7/15/2010	1325	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A2-BH01	3.3	7/15/2010	1327	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A2-BH02	1.5	7/15/2010	1415	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A2-BH03	2.0	7/15/2010	1437	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A2-BH03	3.8	7/15/2010	1436	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A2-BH04	3.5	7/27/2010	1440	100	20	<20	<20	3.2	3.7	1445	regular	<04.7	<04.7	<2.3	<2.3	<04.7	<04.7	<04.7
OGV-A2-BH05	2.0	7/27/2010	1505	100	20	<20	<20	2.4	2.8	1510	regular	<05.7	<05.7	<2.8	<2.8	<05.7	<05.7	<05.7
OGV-A2-BH06	4.0	7/29/2010	1016	100	20	<20	<20	3.6	4.0	1025	regular	<4.7	<4.7	<2.4	<2.4	<4.7	<4.7	<4.7
OGV-A2-BH07	2.0	7/15/2010	1346	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A2-BH07	3.2	7/15/2010	1340	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A2-BH08	2.5	7/15/2010	1405	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–

	Field GC Results							Laboratory Results										
Boring Number	Sample Depth (ft)	Sample Date (mm/dd/yyyy)	Sample Time	Injection volume (uL)	Reporting limit[1] (ug/kg)	TCE (ug/kg)	PCE (ug/kg)	Sample Top (ft)	Sample Bottom (ft)	Sample Time	Sample type	TCE (ug/kg)	PCE (ug/kg)	cis-DCE (ug/kg)	trans-DCE (ug/kg)	Vinyl Chloride (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)
OGV-A2-BH09	2.0	7/15/2010	1450	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A2-BH09	4.0	7/15/2010	1453	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A2-BH09	4.5	7/15/2010	1455	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A2-BH10	2.0	7/27/2010	1205	100	20	<20	<20	1.8	2.0	1206	regular	<5.4	<5.4	<2.7	<2.7	<5.4	<5.4	<5.4
OGV-A2-BH11	4.0	7/29/2010	0930	100	20	<20	<20	4.4	4.8	0940	regular	<4.8	<4.8	<2.4	<2.4	<4.8	<4.8	<4.8
								4.4	4.8	0941	duplicate	<4.8	<4.8	<2.4	<2.4	<4.8	<4.8	<4.8
OGV-A2-BH12	4.0	7/29/2010	1000	100	20	<20	<20	3.6	4.0	1002	regular	<5.7	<5.7	<2.9	<2.9	<5.7	<5.7	<5.7
Area 3																		
OGV-A3-T01	2.0	10/5/2010	1350	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A3-T01	4.0	10/5/2010	1355	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A3-T02	2.0	10/5/2010	1328	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A3-T02	4.0	10/5/2010	1330	100	20	0.4 E	<20	4.0	4.0	1330	regular	<4.8	<4.8	<2.4	<2.4	<4.8	<4.8	<4.8
OGV-A3-T03	2.4	10/5/2010	1415	100	20	<20	<20	2.4	2.4	1415	regular	<5.4	<5.4	<2.7	<2.7	<5.4	<5.4	<5.4
OGV-A3-T04	2.0	10/5/2010	1440	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A3-T05	2.8	10/5/2010	1517	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A3-T06	2.0	10/5/2010	1455	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A3-T06	3.8	10/5/2010	1600	100	20	<20	<20	3.8	3.8	1600	regular	<5.0	<5.0	<2.5	<2.5	<5.0	<5.0	<5.0
								3.8	3.8	1601	duplicate	<4.8	<4.8	<2.4	<2.4	<4.8	<4.8	<4.8
Area 5																		
OGV-A5-T01	2.0	10/5/2010	1018	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A5-T01	3.5	10/5/2010	1015	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A5-T02	2.5	10/5/2010	1050	100	20	<20	<20	2.5	2.5	1050	regular	<5	<5	<2.5	<2.5	<5	<5	<5
OGV-A5-T03	2.0	10/5/2010	1109	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A5-T03	3.5	10/5/2010	1114	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A5-T04	3.0	10/5/2010	1142	100	20	<20	<20	3.0	3.0	1142	regular	<5.2	<5.2	<2.6	<2.6	<5.2	<5.2	<5.2
OGV-A5-T05	2.0	10/5/2010	1159	100	20	0.4 E	<20	–	–	–		–	–	–	–	–	–	–
OGV-A5-T05	4.0	10/5/2010	1200	100	20	<20	<20	4.0	4.0	1200	regular	<5.5	<5.5	<2.8	<2.8	<5.5	<5.5	<5.5
OGV-A5-T06	3.5	10/5/2010	1225	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
Area 8																		
OGV-A8-BH01	2.2	6/6/2011	1206	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH01	3.9	6/6/2011	1204	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH01	4.5	6/6/2011	1212	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH01	7.0	6/6/2011	1210	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH02	3.0	6/6/2011	1314	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–

	Field GC Results							Laboratory Results											
Boring Number	Sample Depth (ft)	Sample Date (mm/dd/yyyy)	Sample Time	Injection volume (uL)	Reporting limit[1] (ug/kg)	TCE (ug/kg)	PCE (ug/kg)	Sample Top (ft)	Sample Bottom (ft)	Sample Time	Sample type	TCE (ug/kg)	PCE (ug/kg)	cis-DCE (ug/kg)	trans-DCE (ug/kg)	Vinyl Chloride (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)
OGV-A8-BH02	3.7	6/6/2011	1306	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH02	7.0	6/6/2011	1317	100	20	<20	<20	6.8	7.2	1321	regular	<5.5	<5.5	<2.7	<2.7	<5.5	<5.5	<5.5
OGV-A8-BH02	9.0	6/6/2011	1325	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH03	4.0	6/6/2011	1341	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH03	7.3	6/6/2011	1352	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH03	9.3	6/6/2011	1406	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH04	3.8	6/6/2011	1520	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH04	7.2	6/6/2011	1527	100	20	<20	<20	6.8	7.0	1525	regular	<5.4	<5.4	<2.7	<2.7	<5.4	<5.4	<5.4
								6.8	7.0	1526	duplicate	<5.5	<5.5	<2.8	<2.8	<5.5	<5.5	<5.5
OGV-A8-BH04	9.5	6/6/2011	1541	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH04	10.5	6/6/2011	1539	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH05	2.0	6/7/2011	0900	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH05	3.9	6/7/2011	0856	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH05	7.0	6/7/2011	0904	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH05	10.0	6/7/2011	0908	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH06	2.0	6/7/2011	0810	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH06	3.8	6/7/2011	0805	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH06	6.8	6/7/2011	0815	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH06	8.6	6/7/2011	0820	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH06	9.8	6/7/2011	0822	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH06	12.4	6/7/2011	0838	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH07	2.7	6/7/2011	0934	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH07	3.9	6/7/2011	0930	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH07	6.8	6/7/2011	0940	100	20	166.4	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH07	8.2	6/7/2011	0951	100	20	<20	<20	8.1	8.7	958	regular	<5.4	<5.4	<2.7	<2.7	<5.4	<5.4	<5.4
OGV-A8-BH07	9.7	6/7/2011	0947	100	20	245.2	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH07	11.1	6/7/2011	0956	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH07	13.0	6/7/2011	1003	100	20	<20	<20	12.0	12.7	1015	regular	<5.4	<5.4	<2.7	<2.7	<5.4	<5.4	<5.4
OGV-A8-BH08	1.2	6/7/2011	1022	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH08	3.9	6/7/2011	1019	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH08	9.4	6/7/2011	1029	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH09	2.0	6/7/2011	1122	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH09	4.0	6/7/2011	1120	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH09	6.8	6/7/2011	1124	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH10	2.4	6/7/2011	1150	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH10	3.5	6/7/2011	1146	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH10	7.0	6/7/2011	1151	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH10	11.5	6/7/2011	1230	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH11	3.5	6/7/2011	1353	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH11	5.0	6/7/2011	1400	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH11	11.0	6/7/2011	1410	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH12	2.0	6/7/2011	1243	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–

	Field GC Results							Laboratory Results										
Boring Number	Sample Depth (ft)	Sample Date (mm/dd/yyyy)	Sample Time	Injection volume (uL)	Reporting limit[1] (ug/kg)	TCE (ug/kg)	PCE (ug/kg)	Sample Top (ft)	Sample Bottom (ft)	Sample Time	Sample type	TCE (ug/kg)	PCE (ug/kg)	cis-DCE (ug/kg)	trans-DCE (ug/kg)	Vinyl Chloride (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)
OGV-A8-BH12	4.0	6/7/2011	1238	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH13	4.0	6/6/2011	1048	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH13	7.0	6/6/2011	1059	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH13	8.0	6/6/2011	1112	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH13B	3.9	6/7/2011	1315	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH13B	5.8	6/7/2011	1326	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH13B	8.0	6/7/2011	1334	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH13B	9.0	6/7/2011	1324	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH14	3.9	6/6/2011	1120	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH14	5.8	6/6/2011	1127	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH14	7.4	6/6/2011	1135	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH14	10.0	6/6/2011	1145	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH14	10.7	6/6/2011	1154	100	20	<20	<20											
OGV-A8-BH15	3.7	6/6/2011	1503	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH15	5.2	6/6/2011	1512	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH16	4.0	6/6/2011	1429	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH16	6.8	6/6/2011	1450	100	20	<20	<20	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH17	4.0	12/8/2011	1435	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH17	6.0	12/8/2011	1432	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH17	7.0	12/8/2011	1446	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH17	8.0	12/8/2011	1429	30	67	33.7 E	–	7.5	8.0	1431	regular	<5.3	1.1 J	<2.7	<2.7	<5.3	<5.3	<5.3
OGV-A8-BH17	9.0	12/8/2011	1449	20	100	<20	–	9.0	9.5	1451	regular	<5.1	.62 J	<2.6	<2.6	<5.1	<5.1	<5.1
OGV-A8-BH17	10.0	12/8/2011	1454	20	100	<20	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH17	11.0	12/8/2011	1446	20	100	26.6 E	–	10.5	11.0	1447	regular	<5.5	.74 J	<2.8	<2.8	<5.5	<5.5	<5.5
OGV-A8-BH17	12.0	12/8/2011	1443	20	100	<20	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH18	6.0	12/8/2011	1526	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH18	7.0	12/8/2011	1524	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH18	8.0	12/8/2011	1522	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH18	9.0	12/8/2011	1537	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH18	10.5	12/8/2011	1535	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-BH18	12.0	12/8/2011	1530	30	67	<67	–	11.6	12.0	1534	regular	<4.9	<4.9	<2.5	<2.5	<4.9	<4.9	<4.9
OGV-A8-A01	2.0	12/8/2011	1200	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A01	4.0	12/8/2011	1159	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A01	6.0	12/8/2011	1207	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A01	8.0	12/8/2011	1203	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A02	2.0	12/8/2011	1217	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A02	4.0	12/8/2011	1214	100	20	17.2 E	–	3.5	4.0	1216	regular	<5.4	1.4 J	<2.7	<2.7	<5.4	<5.4	<5.4
OGV-A8-A03	2.0	12/8/2011	1224	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A03	4.0	12/8/2011	1223	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A03	6.0	12/8/2011	1230	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A03	8.0	12/8/2011	1225	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A04	2.0	12/8/2011	1242	50	40	<40	–	–	–	–		–	–	–	–	–	–	–

	Field GC Results							Laboratory Results										
Boring Number	Sample Depth (ft)	Sample Date (mm/dd/yyyy)	Sample Time	Injection volume (uL)	Reporting limit[1] (ug/kg)	TCE (ug/kg)	PCE (ug/kg)	Sample Top (ft)	Sample Bottom (ft)	Sample Time	Sample type	TCE (ug/kg)	PCE (ug/kg)	cis-DCE (ug/kg)	trans-DCE (ug/kg)	Vinyl Chloride (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)
OGV-A8-A04	4.0	12/8/2011	1241	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A05	2.0	12/8/2011	1257	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A05	4.0	12/8/2011	1249	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A05	6.0	12/8/2011	1256	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A05	8.0	12/8/2011	1252	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A06	2.0	12/8/2011	1305	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A06	4.0	12/8/2011	1301	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A07	2.0	12/8/2011	1315	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A07	4.0	12/8/2011	1314	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A07	6.0	12/8/2011	1321	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A07	8.0	12/8/2011	1320	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A08	2.0	12/8/2011	1322	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-A08	4.0	12/8/2011	1328	50	40	<40	–	3.5	4.0	1328	regular	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4
OGV-A8-B01	2.0	12/8/2011	1041	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B01	4.0	12/8/2011	1039	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B01	6.0	12/8/2011	1044	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B01	8.0	12/8/2011	1040	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B02	2.0	12/8/2011	1011	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B02	4.0	12/8/2011	1010	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B02	6.0	12/8/2011	1014	100	20	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B02	8.0	12/8/2011	1013	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B02	10.0	12/8/2011	1023	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B02	12.0	12/8/2011	1022	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B03	2.0	12/8/2011	0952	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B03	4.0	12/8/2011	0950	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B03	6.0	12/8/2011	0956	30	67	<67	–	6.0	6.5	957	regular	<5.6	.86 J	<2.8	<2.8	<5.6	<5.6	<5.6
OGV-A8-B03	8.0	12/8/2011	0953	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B04	2.0	12/8/2011	0934	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B04	4.0	12/8/2011	0932	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B04	6.0	12/8/2011	0940	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B04	8.0	12/8/2011	0935	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B05	2.0	12/7/2011	1510	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B05	4.0	12/7/2011	1509	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B05	6.0	12/7/2011	1516	50	40	13.2 E	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B05	8.0	12/7/2011	1512	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B06	2.0	12/7/2011	1459	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B06	4.0	12/7/2011	1458	50	40	12.0 E	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B06	6.0	12/7/2011	1456	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B06	7.5	12/7/2011	1454	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
						0.0												
OGV-A8-B07	2.0	12/7/2011	1405	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B07	4.0	12/7/2011	1403	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B07	6.0	12/7/2011	1440	50	40	<40	–	–	–	–		–	–	–	–	–	–	–

	Field GC Results							Laboratory Results											
Boring Number	Sample Depth (ft)	Sample Date (mm/dd/yyyy)	Sample Time	Injection volume (uL)	Reporting limit[1] (ug/kg)	TCE (ug/kg)	PCE (ug/kg)	Sample Top (ft)	Sample Bottom (ft)	Sample Time	Sample type	TCE (ug/kg)	PCE (ug/kg)	cis-DCE (ug/kg)	trans-DCE (ug/kg)	Vinyl Chloride (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)
OGV-A8-B07	8.0	12/7/2011	1438	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B08	2.0	12/7/2011	1348	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B08	4.0	12/7/2011	1346	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-B08	6.0	12/7/2011	1353	50	40	<40	–	6.0	6.5	1354	regular	<5.2	1.3 J	<2.6	<2.6	<5.2	<5.2	<5.2
OGV-A8-B08	8.0	12/7/2011	1350	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C01	1.5	12/7/2011	1111	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C01	4.0	12/7/2011	1109	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C01	6.0	12/7/2011	1125	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C01	8.0	12/7/2011	1121	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C02	2.0	12/7/2011	1055	30	67	<67	–	2.0	2.5	1057	regular	<6.2	5.6 J	<3.1	<3.1	<6.2	<6.2	<6.2
OGV-A8-C02	4.0	12/7/2011	1050	30	67	39.2 E	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C02	6.0	12/7/2011	1102	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C02	8.0	12/7/2011	1100	30	67	<67	–											
								–	–	–		–	–	–	–	–	–	–
OGV-A8-C03	1.0	12/7/2011	1032	30	67	49.9 E	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C03	2.0	12/7/2011	1031	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C03	4.0	12/7/2011	1030	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C03	6.0	12/7/2011	1043	30	67	44.7 E	–	6.0	6.5	1045	regular	<5.4	<5.4	<2.7	<2.7	<5.4	<5.4	<5.4
OGV-A8-C03	8.0	12/7/2011	1040	30	67	43.2 E	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C04	2.0	12/7/2011	1140	30	67	<67	–	2.0	2.5	1137	regular	<6.2	9.4	<3.1	<3.1	<6.2	<6.2	<6.2
OGV-A8-C04	2.7	12/7/2011	1139	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C04	4.0	12/7/2011	1135	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C04	6.0	12/7/2011	1145	30	67	49.3 E	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C04	8.0	12/7/2011	1142	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C05	1.8	12/7/2011	1157	40	50	<50	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C05	4.0	12/7/2011	1155	30	67	<67	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C05	6.0	12/7/2011	1209	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C05	8.0	12/7/2011	1205	40	50	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C06	2.0	12/7/2011	1217	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C06	4.0	12/7/2011	1215	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C06	6.0	12/7/2011	1227	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C06	8.0	12/7/2011	1223	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C07	2.0	12/7/2011	1237	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C07	4.0	12/7/2011	1215	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C07	6.0	12/7/2011	1248	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-C07	8.0	12/7/2011	1244	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-D01	1.0	12/8/2011	1217	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-D01	3.0	12/8/2011	1208	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-D04	1.0	12/8/2011	1242	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-D04	3.0	12/8/2011	1321	50	40	<40	–	–	–	–		–	–	–	–	–	–	–
OGV-A8-D08	2.0	12/8/2011	1405	50	40	<40	–	–	–	–		–	–	–	–	–	–	–

[1] Reporting limit for the field GC is calculated by the ratio of the standardized 100 uL air injection to the sample air injection volume multiplied by the reporting limit for the standardized 100 uL air injection (20 ug/kg) for a soil sample

Table 3. Field gas chromatograph results and location coordinates for tree core samples collected from potential trichloroethene (TCE) source areas, Oak Grove Village Operable Unit 1 [TCE, trichloroethene; PCE, tetrachloroethene; dd.dddd, decimal degrees; mm/dd/yyyy, month/day/year; ppbV, parts per billion by volume of headspace; nd, not detected;]

Sample ID	Latitude[1] dd.dddd	Longitude[1] dd.dddd	Sample Date (mm/dd/yyyy)	Sample Time	TCE (ppbV)	PCE (ppbV)	Comments
Area 1							
OU1-A01-TC01	38.223247	-91.147096	7/6/2010	1106	nd	nd	18-in oak on fence next to cell tower
OU1-A01-TC02	38.223255	-91.147009	7/6/2010	1109	nd	nd	8-in walnut on fence line 10 ft NW of tower propane tank
OU1-A01-TC03	38.223221	-91.146897	7/6/2010	1112	nd	nd	20-in oak on SW corner of cell tower fence
OU1-A01-TC04	38.223231	-91.147217	7/8/2010	1044	nd	nd	8-in post oak on NW corner of cell tower fence line
OU1-A01-TC05	38.223279	-91.146858	7/8/2010	1055	nd	nd	8-in post oak 25 ft S of propane tank fence
OU1-A01-TC06	38.223259	-91.146779	7/8/2010	1058	nd	nd	14-in post oak 50 ft S of propane tank fence
Area 2							
OU1-A02-TC01	38.223256	-91.145192	7/12/2010	1405	nd	nd	3-in oak
OU1-A02-TC02	38.223279	-91.145045	7/12/2010	1408	408	nd	10-in cedar
OU1-A02-TC03	38.223219	-91.144773	7/12/2010	1413	407	nd	12-in cedar
OU1-A02-TC04	38.223309	-91.144809	7/12/2010	1417	0	nd	8-in persimmon
OU1-A02-TC05	38.223265	-91.144439	7/12/2010	1422	0	nd	10-in wild cherry
OU1-A02-TC06	38.223263	-91.144119	7/12/2010	1427	0	nd	8-in cedar
OU1-A02-TC07	38.223090	-91.144102	7/12/2010	1432	776	nd	12-in cedar
Area 3							
OU1-A03-TC01	38.224833	-91.145268	7/8/2010	1225	nd	nd	10-in birch on north fork of trunk
OU1-A03-TC02	38.224840	-91.145176	7/8/2010	1228	nd	nd	2-in maple
OU1-A03-TC03	38.225033	-91.145166	7/8/2010	1235	nd	nd	5-in persimmon
OU1-A03-TC04	38.225092	-91.145203	7/8/2010	1238	nd	nd	10-in wild cherry
OU1-A03-TC05	38.224966	-91.145418	7/8/2010	1243	nd	nd	8-in mulberry
OU1-A03-TC06	38.224968	-91.145145	7/8/2010	1252	nd	nd	6-in bradford pear
Area 4							
OU1-A04-TC01	38.223998	-91.145529	7/8/2010	1315	nd	nd	maple sapling cutting
OU1-A04-TC02	38.223981	-91.145606	7/8/2010	1320	nd	nd	maple sapling branch
OU1-A04-TC03	38.224126	-91.145883	8/2/2010	1140	nd	nd	
OU1-A04-TC04	38.224110	-91.146016	8/2/2010	1145	nd	nd	

Sample ID	Latitude[1] dd.dddd	Longitude[1] dd.dddd	Sample Date (mm/dd/yyyy)	Sample Time	TCE (ppbV)	PCE (ppbV)	Comments
Area 5							
OU1-A05-TC01	38.227804	-91.146966	7/22/2010	1355	nd	nd	
OU1-A05-TC02	38.227812	-91.147092	7/22/2010	1403	nd	nd	
OU1-A05-TC03	38.227783	-91.147221	7/22/2010	1412	nd	nd	
OU1-A05-TC04	38.227874	-91.147237	7/22/2010	1417	nd	nd	
OU1-A05-TC05	38.227895	-91.147167	7/22/2010	1425	nd	nd	
OU1-A05-TC06	38.227845	-91.147310	7/22/2010	1430	nd	nd	
OU1-A05-TC07	38.227806	-91.147147	8/3/2010	1320	nd	nd	
OU1-A05-TC08	38.227757	-91.147222	8/3/2010	1330	nd	nd	
Area 6							
OU1-A06-TC01	38.229008	-91.148793	7/6/2010	0910	nd	nd	8" oak
OU1-A06-TC02	38.229012	-91.148685	7/6/2010	0915	nd	nd	20" oak
OU1-A06-TC03	38.229004	-91.148582	7/6/2010	0918	67	nd	10" oak
OU1-A06-TC04	38.229095	-91.148602	7/6/2010	0921	209	nd	5" cedar
OU1-A06-TC05	38.229032	-91.148564	7/6/2010	0924	nd	nd	18" oak
OU1-A06-TC06	38.228998	-91.148487	7/6/2010	0927	nd	nd	20" oak
OU1-A06-TC07	38.229003	-91.148411	7/6/2010	0930	674	nd	8" cedar
OU1-A06-TC08	38.229011	-91.148391	7/6/2010	0933	64	nd	10" pin oak
OU1-A06-TC09	38.229019	-91.148355	7/6/2010	0936	nd	nd	5" scotch pine
OU1-A06-TC10	38.229036	-91.148178	7/6/2010	0940	nd	nd	20" oak , dirt pile in front
OU1-A06-TC11	38.229040	-91.148143	7/6/2010	0943	nd	nd	5" walnut
OU1-A06-TC12	38.229031	-91.148116	7/6/2010	0946	nd	nd	16" oak
OU1-A06-TC13	38.229019	-91.148040	7/6/2010	0948	nd	nd	22" oak
OU1-A06-TC14	38.228988	-91.147867	7/6/2010	0951	nd	nd	8" oak
OU1-A06-TC15	38.228910	-91.147887	7/6/2010	0954	nd	nd	7" cherry
OU1-A06-TC16	38.228901	-91.147930	7/6/2010	0956	nd	nd	18" ash
OU1-A06-TC17	38.228822	-91.147973	7/6/2010	0959	nd	nd	5" hickory or walnut
OU1-A06-TC18	38.228755	-91.147975	7/6/2010	1001	nd	nd	10" hickory or walnut
OU1-A06-TC19	38.228713	-91.148016	7/6/2010	1004	nd	nd	16" oak with two 33 gal drums near, SW property corner
OU1-A06-TC20	38.228666	-91.148068	7/6/2010	1009	230	nd	8" cedar
OU1-A06-TC21	38.228889	-91.148120	7/6/2010	1011	nd	nd	2" mulberry
OU1-A06-TC22	38.229036	-91.148344	7/8/2010	1136	nd	nd	elm sapling growing from E side of ABF building
OU1-A06-TC23	38.228888	-91.148059	7/8/2010	1138	nd	nd	poplar sapling directly W of propane tank
OU1-A06-TC24	38.228835	-91.148151	7/8/2010	1140	nd	nd	elm sapling on SW corner of side dock

Sample ID	Latitude[1] dd.dddd	Longitude[1] dd.dddd	Sample Date (mm/dd/yyyy)	Sample Time	TCE (ppbV)	PCE (ppbV)	Comments
Area 8							
OG-A08-TC01	38.211738	-91.156903	6/9/2011	1007	nd	nd	
OG-A08-TC02	38.211543	-91.157116	6/9/2011	1016	nd	nd	
OG-A08-TC03	38.211437	-91.157346	6/9/2011	1023	nd	nd	
OG-A08-TC04	38.211246	-91.157533	6/9/2011	1028	nd	nd	
OG-A08-TC05	38.211184	-91.157608	6/9/2011	1037	nd	nd	
OG-A08-TC06	38.211561	-91.158079	6/9/2011	1048	nd	nd	
OG-A08-TC07	38.211594	-91.158011	6/9/2011	1100	nd	nd	
OG-A08-TC08	38.212065	-91.158093	6/9/2011	1107	nd	nd	
OG-A08-TC09	38.212189	-91.158033	6/9/2011	1114	nd	nd	
OG-A08-TC10	38.212077	-91.158330	6/9/2011	1120	nd	nd	
OG-A08-TC11	38.212101	-91.158385	6/9/2011	1133	nd	nd	
OG-A08-TC12	38.212106	-91.158638	6/9/2011	1140	nd	nd	
OG-A08-TC13	38.212030	-91.158846	6/9/2011	1145	nd	nd	
OG-A08-TC14	38.211715	-91.158761	6/9/2011	1150	nd	nd	
OG-A08-TC15	38.211807	-91.158865	6/9/2011	1154	nd	nd	
OG-A08-TC16	38.211983	-91.159000	6/9/2011	1200	nd	nd	
OG-A08-TC17	38.211857	-91.159435	6/9/2011	1205	nd	nd	
OG-A08-TC18a	38.211926	-91.159269	6/9/2011	1210	nd	nd	
OG-A08-TC18b	38.211926	-91.159269	6/9/2011	1213	nd	nd	same tree as TC-18a

[1] Latitude and longitude data were collected using a hand-held Global Positioning System (GPS) unit with expected accuracy of about 20 ft.

Table 4. Summary of location and depth for soil samples collected from potential trichloroethene (TCE) source areas, Oak Grove Village Operable Unit 1 [dd.dddd, decimal degrees; mm/dd/yyyy, month/day/year; ft, feet]

Boring or Trench Number	Latitude[1] dd.dddd	Longitude[1] dd.dddd	Date Sampled (mm/dd/yyyy)	Boring or Trench Depth (ft)
Area1 Borings				
OGV-A1-BH01	38.22304420	-91.14659381	7/30/2010	7.9
OGV-A1-BH02	38.22304261	-91.14675550	7/30/2010	7.7
OGV-A1-BH03	38.22302308	-91.14687938	7/30/2010	4.7
OGV-A1-BH04	38.22300774	-91.14706261	7/30/2010	6.0
OGV-A1-BH05	38.22296759	-91.14726713	7/30/2010	3.2
OGV-A1-BH06	38.22298075	-91.14736771	7/30/2010	3.1
OGV-A1-BH07	38.22313523	-91.14659264	7/29/2010	2.6
OGV-A1-BH08	38.22312634	-91.14674879	7/29/2010	3.0
OGV-A1-BH09	38.22312676	-91.14689631	7/29/2010	4.7
OGV-A1-BH10	38.22310698	-91.14703847	7/29/2010	6.8
OGV-A1-BH11	38.22313473	-91.14716068	7/30/2010	4.0
OGV-A1-BH12	38.22311226	-91.14728582	7/30/2010	2.4
Area 2 Borings				
OGV-A2-BH01	38.22316993	-91.14527768	7/15/2010	3.5
OGV-A2-BH02	38.22326959	-91.14495775	7/15/2010	1.9
OGV-A2-BH03	38.22325082	-91.14469464	7/15/2010	3.8
OGV-A2-BH04	38.22321704	-91.14445383	7/27/2010	3.7
OGV-A2-BH05	38.22310438	-91.14418259	7/27/2010	2.8
OGV-A2-BH06	38.22317320	-91.14376551	7/29/2010	4.0
OGV-A2-BH07	38.22308351	-91.14534684	7/15/2010	3.2
OGV-A2-BH08	38.22304060	-91.14511214	7/15/2010	2.9
OGV-A2-BH09	38.22307731	-91.14474392	7/15/2010	4.8
OGV-A2-BH10	38.22305921	-91.14452063	7/27/2010	2.0
OGV-A2-BH11	38.22299693	-91.14421964	7/29/2010	4.8
OGV-A2-BH12	38.22303364	-91.14387355	7/29/2010	4.0
Area 3 Trenches				
OGV-A3-T01	38.22499123	-91.14525598	10/5/2010	4.0
OGV-A3-T02	38.22496181	-91.14527173	10/5/2010	4.0
OGV-A3-T03	38.22492829	-91.14517216	10/5/2010	2.4
OGV-A3-T04	38.22493415	-91.14522488	10/5/2010	2.0
OGV-A3-T05	38.22491127	-91.14548832	10/5/2010	2.8
OGV-A3-T06	38.22471706	-91.14526176	10/5/2010	3.8

Boring or Trench Number	Latitude[1] dd.dddd	Longitude[1] dd.dddd	Date Sampled (mm/dd/yyyy)	Boring or Trench Depth (ft)
Area 5 Trenches				
OGV-A5-T01	38.22786841	-91.14716470	10/5/2010	3.5
OGV-A5-T02	38.22781635	-91.14693127	10/5/2010	2.5
OGV-A5-T03	38.22785709	-91.14722815	10/5/2010	3.5
OGV-A5-T04	38.22785047	-91.14716135	10/5/2010	3.0
OGV-A5-T05	38.22778526	-91.14724232	10/5/2010	4.0
OGV-A5-T06	38.22772918	-91.14715758	10/5/2010	3.5
Area 8 Borings				
OGV-A8-BH01	38.21137	-91.157888	6/6/2011	7.2
OGV-A8-BH02	38.211371	-91.157875	6/6/2011	10.4
OGV-A8-BH03	38.211472	-91.157884	6/6/2011	10.5
OGV-A8-BH04	38.211505	-91.157858	6/6/2011	10.6
OGV-A8-BH05	38.211561	-91.15798	6/7/2011	13.1
OGV-A8-BH06	38.211607	-91.157939	6/7/2011	13.8
OGV-A8-BH07	38.211609	-91.158024	6/7/2011	13.1
OGV-A8-BH08	38.211631	-91.157971	6/7/2011	11.9
OGV-A8-BH09	38.211706	-91.158137	6/7/2011	10.0
OGV-A8-BH10	38.211794	-91.158147	6/7/2011	13.5
OGV-A8-BH11	38.21177	-91.158671	6/7/2011	14.7
OGV-A8-BH12	38.212026	-91.158282	6/7/2011	5.7
OGV-A8-BH13	38.211422	-91.157804	6/6/2011	8.2
OGV-A8-BH13B	38.211422	-91.157804	6/7/2011	9.2
OGV-A8-BH14	38.211462	-91.157745	6/6/2011	11.0
OGV-A8-BH15	38.211551	-91.157606	6/6/2011	7.2
OGV-A8-BH16	38.211629	-91.157515	6/6/2011	6.8
OGV-A8-BH17	38.21162	-91.158033	12/8/2011	12.0
OGV-A8-BH18	38.211566	-91.157987	12/8/2011	12.0
OGV-A8-A01	38.21126	-91.15773	12/8/2011	8.0
OGV-A8-A02	38.211294	-91.157684	12/8/2011	4.0
OGV-A8-A03	38.211328	-91.157613	12/8/2011	8.0
OGV-A8-A04	38.211361	-91.157557	12/8/2011	4.0
OGV-A8-A05	38.211398	-91.157494	12/8/2011	8.0
OGV-A8-A06	38.211433	-91.157433	12/8/2011	4.0
OGV-A8-A07	38.211468	-91.157376	12/8/2011	8.0
OGV-A8-A08	38.211507	-91.157306	12/8/2011	4.0
OGV-A8-B01	38.211325	-91.157777	12/8/2011	8.0
OGV-A8-B02	38.21136	-91.157718	12/8/2011	12.0
OGV-A8-B03	38.211391	-91.157663	12/8/2011	8.0

Boring or Trench Number	Latitude[1]	Longitude[1]	Date Sampled	Boring or Trench Depth
	dd.dddd	dd.dddd	(mm/dd/yyyy)	(ft)
OGV-A8-B04	38.211427	-91.157601	12/8/2011	8.0
OGV-A8-B05	38.21146	-91.157545	12/7/2011	8.0
OGV-A8-B06	38.211495	-91.157484	12/7/2011	7.5
OGV-A8-B07	38.21153	-91.157427	12/7/2011	8.0
OGV-A8-B08	38.21157	-91.157361	12/7/2011	8.0
OGV-A8-C01	38.211373	-91.15776	12/7/2011	8.0
OGV-A8-C02	38.211403	-91.157708	12/7/2011	8.0
OGV-A8-C03	38.211438	-91.157648	12/7/2011	8.0
OGV-A8-C04	38.21147	-91.15759	12/7/2011	6.0
OGV-A8-C05	38.211507	-91.15753	12/7/2011	8.0
OGV-A8-C06	38.21154	-91.157472	12/7/2011	8.0
OGV-A8-C07	38.211577	-91.157412	12/7/2011	8.0
OGV-A8-D01	38.211234	-91.157598	12/8/2011	3.0
OGV-A8-D04	38.211295	-91.157492	12/8/2011	3.0
OGV-A8-D08	38.211449	-91.15725	12/8/2011	2.0

[1] Latitude and longitude data were collected using a hand-held Global Positioning System (GPS) unit with expected accuracy of about 20 ft.

Summary of July 6, 2010 and September 27, 2012 tree-core samples collected from area A-6 (trucking company). Oak Grove Village Operable Unit 1 [TCE, trichloroethene; PCE, tetrachloroethene; dd.dddd, decimal degrees; mm/dd/yyyy, month/day/year; ppbV, parts per billion by volume of headspace; ppt, parts per trillion in core sample; nd, not detected;]

					7/6/2010 (USGS		9/27/2012 (Missouri		
Sample ID	**Media**	**Feature**	**Latitude[1]**	**Longitude[1]**	**TCE**	**PCE**	**TCE**	**PCE**	**Comments**
			dd.dddd	**dd.dddd**	**(ppbV)**	**(ppbV)**	**(ppt)**	**(ppt)**	
OU1-A06-TC01	VG	TC	38.229008	-91.148793	nd	nd	<1	<1	8" oak
OU1-A06-TC02	VG	TC	38.229012	-91.148685	nd	nd	<1	<1	20" oak
OU1-A06-TC03	VG	TC	38.229004	-91.148582	67	nd	<1	<1	10" oak
OU1-A06-TC04	VG	TC	38.229095	-91.148602	209	nd			5" cedar
OU1-A06-TC05	VG	TC	38.229032	-91.148564	nd	nd	<1	<1	18" oak
OU1-A06-TC06	VG	TC	38.228998	-91.148487	nd	nd	<1	<1	20" oak
OU1-A06-TC07	VG	TC	38.229003	-91.148411	674	nd	<1	<1	8" cedar, 20ft SE power pole
OU1-A06-TC08	VG	TC	38.229011	-91.148391	64	nd	<1	<1	10" pin oak
OU1-A06-TC09	VG	TC	38.229019	-91.148355	nd	nd	tree dead	tree dead	5" scotch pine
OU1-A06-TC10	VG	TC	38.229036	-91.148178	nd	nd	<1	<1	20" oak , dirt pile in front
OU1-A06-TC11	VG	TC	38.229040	-91.148143	nd	nd			5" walnut
OU1-A06-TC12	VG	TC	38.229031	-91.148116	nd	nd	<1	<1	16" oak
OU1-A06-TC13	VG	TC	38.229019	-91.148040	nd	nd	<1	<1	22" oak
OU1-A06-TC14	VG	TC	38.228988	-91.147867	nd	nd	<1	<1	8" oak
OU1-A06-TC15	VG	TC	38.228910	-91.147887	nd	nd			7" cherry
OU1-A06-TC16	VG	TC	38.228901	-91.147930	nd	nd			18" ash
OU1-A06-TC17	VG	TC	38.228822	-91.147973	nd	nd			5" hickory or walnut
OU1-A06-TC18	VG	TC	38.228755	-91.147975	nd	nd			10" hickory or walnut
OU1-A06-TC19	VG	TC	38.228713	-91.148016	nd	nd			16" oak with two 33 gal drums near, SW property corner
OU1-A06-TC20	VG	TC	38.228666	-91.148068	230	nd			8" cedar
OU1-A06-TC21	VG	TC	38.228889	-91.148120	nd	nd			2" mulberry
OU1-A06-TC22	VG	TC	38.229036	-91.148344	nd	nd			elm sapling growing from E side of ABF building
OU1-A06-TC23	VG	TC	38.228888	-91.148059	nd	nd			poplar sapling directly W of propane tank
OU1-A06-TC24	VG	TC	38.228835	-91.148151	nd	nd			elm sapling on SW corner of side dock
OU1-A06-TC25	VG	TC	91.148352	38.229021			<1	<1	#9 5" walnut 8 ft W #8
OU1-A06-TC26	VG	TC	91.148079	38.229069			<1	<1	#13 6" oak 8' S.of #12
OU1-A06-TC27	VG	TC	91.148164	38.229054			<1	<1	#11 5" ash/elm boulder
OU1-A06-TC28	VG	TC	91.148935	38.229001			<1	<1	#17 8" oak along road RoW 12' from NE pcor
OU1-A06-TC29	VG	TC	91.148930	38.228925			<1	<1	#16 5" oak along road RoW 40'NE pcor
OU1-A06-TC30	VG	TC	91.148725	38.229083			<0.001	<0.001	#18 10" s-maple by house adjacent parcel to E
OU1-A06-TC31	VG	TC	91.148780	38.229008			<0.001	<0.001	#2 south leg 5" double oak, 3 ft W TC-01

INSTALLATION OF MW-6

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United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Missouri Water Science Center
1400 Independence Road
Mail Stop 100
Rolla, Missouri 65401

April 18, 2012

Tonya Howell
U.S. Environmental Protection Agency
Region 7, Superfund Program
901 North 5th Street
Kansas City, Kansas 66101

Dear Tonya,

This administrative letter report summarizes the installation of monitoring well MW-6 in 2010 by the U.S. Geological Survey (USGS) Missouri Water Science Center (MWSC) at Oak Grove Village, Missouri, including geophysical test results and sampling results for TCE during well installation. Monitoring well MW-6 was installed by the USGS as part of an investigation by the USGS for the U.S. Environmental Protection Agency (USEPA) at Operable Unit One (OU1) of the Oak Grove Village Superfund site.

Monitoring well MW-6 was drilled in 2010 by the USGS with a cable drill to 250 ft depth and an air-rotary drill to 525 ft depth (total depth; fig. 1); 332 ft of 6-inch (in) diameter steel casing was installed. The Roubidoux Formation was encountered below about 15 feet (ft) of residuum. The Roubidoux Formation/Gasconade Dolomite contact was picked at 87 ft depth, and the Gasconade Dolomite/Eminence Dolomite contact was picked at 290 ft. The contact between the Eminence Dolomite and the Potosi Dolomite was not identified in the drill cuttings; projections from public-supply wells OGV-1, COS-3, and COS-9 place that contact between 460 and 510 ft depth in MW-6. The borehole intersected several openings, most notably from about 99 to about 106 ft depth (cased off) and from about 426 to 435 ft depth (open to the monitoring well). Drill cuttings were scanned for VOCs using the USGS field GC. No TCE was identified in the cuttings to a depth of 365 ft; TCE was identified in cuttings from 385 ft to 525 ft (fig. 2). Concentrations were small because the air-rotary method employed tends to "strip" VOCs from the water coming out of the borehole.

Drilling was stopped at progressively deeper depths to pump the borehole and collect water samples for TCE analysis, and to run geophysical tests including the collection of discrete water samples from specific depths under both pumping and ambient conditions. Drilling was stopped at 250 ft, 335 ft, 405

ft, 465 ft, and 525 ft depths. Figure 2 and table 1 show TCE concentrations in water samples collected at these different stages of drilling. Figure 2 also shows the results of geophysical tests made after the borehole was completed to its total depth of 525 ft, and shows MW-6 in relation to other public-supply and monitoring wells in the area. The ambient flow-meter measurements in MW-6 indicate zones of downward and upward flow in the borehole, but these measurements were made under specific head conditions that can be influenced by pumping of nearby public-supply wells and therefore could change under different pumping conditions. The USGS plans to make additional ambient flow measurements in MW-6 under more controlled pumping conditions.

If you have any questions, please email me at dmugel@usgs.gov or call me at 573-308-3680, or John Schumacher at jschu@usgs.gov or 573-308-3678.

Sincerely,

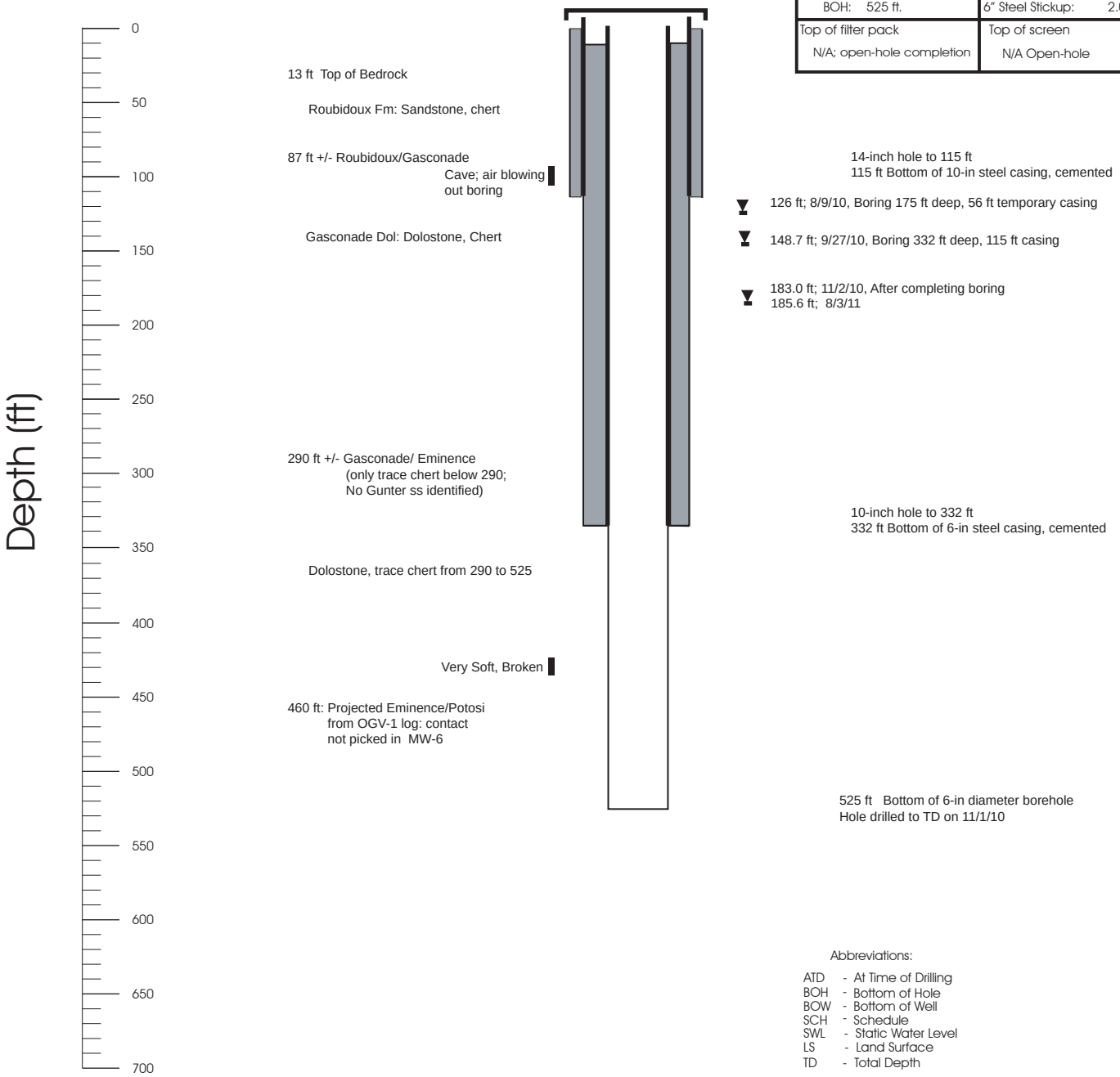
Doug Mugel
Hydrologist

Table 1. Summary of TCE sample results from Oak Grove Village OU1, monitoring well MW-6, August 17, 2010 through November 3, 2010 [TCE, trichloroethylene; ft, feet; uS/cm @ 25°C, microseimens per centemeter at 25 degrees Celcius; ug/L, micrograms per liter; --, no data; nd, not detected; < less than]

Date	Time	Hole Depth	Casing Depth	Sample Type (ft)	Sample Depth (ft)	Status	Specific Conductance (uS/cm @ 25 °C)	TCE (Field GC) (ug/L)	TCE (lab) (ug/L)
8/17/2010	1035	250	55	Grab	Well Head	Pumping	355	nd	<1
9/27/2010	1423	335	115	--	--	Turned pump on	--	--	--
9/27/2010	1428	335	115	Grab	Well Head	Pumping	429	nd	--
9/27/2010	1453	335	115	Grab	Well Head	Pumping	419	nd	--
9/27/2010	1523	335	115	Grab	Well Head	Pumping	422	nd	--
9/27/2010	1552	335	115	Discrete	310	Pumping	429	nd	<1
9/27/2010	1553	335	115	Grab	Well Head	Pumping	423	nd	--
9/27/2010	1618	335	115	Grab	Well Head	Pumping	417	nd	--
10/5/2010	905	405	332	--	--	Turned pump on	--	--	--
10/5/2010	920	405	332	Grab	Well Head	Pumping	--	18	--
10/5/2010	940	405	332	Grab	Well Head	Pumping	--	17	--
10/5/2010	1010	405	332	Grab	Well Head	Pumping	--	27	--
10/5/2010	1040	405	332	Grab	Well Head	Pumping	--	37	--
10/5/2010	1120	405	332	Grab	Well Head	Pumping	322	39	42
10/6/2010	905	405	332	--	--	Turned pump on	--	--	--
10/6/2010	948	405	332	Grab	Well Head	Pumping	333	20	--
10/6/2010	1115	405	332	Grab	Well Head	Pumping	--	23	--
10/6/2010	1140	405	332	Discrete	392	Pumping	324	66	154
10/6/2010	1230	405	332	Grab	Well Head	Pumping	--	50	--
10/7/2010	1025	465	332	--	--	Turned pump on	--	--	--
10/7/2010	1035	465	332	Grab	Well Head	Pumping	--	42	--
10/7/2010	1105	465	332	Grab	Well Head	Pumping	--	53	--
10/7/2010	1135	465	332	Grab	Well Head	Pumping	--	50	--
10/7/2010	1205	465	332	Grab	Well Head	Pumping	--	52	--
10/7/2010	1235	465	332	Grab	Well Head	Pumping	--	45	--
10/7/2010	1305	465	332	Grab	Well Head	Pumping	--	34	--
10/7/2010	1335	465	332	Grab	Well Head	Pumping	--	35	--
10/7/2010	1350	465	332	Discrete	430	Pumping	334	111	130
10/7/2010	1405	465	332	Grab	Well Head	Pumping	--	57	--

Date	Time	Hole Depth	Casing Depth	Sample Type (ft)	Sample Depth (ft)	Status	Specific Conductance (uS/cm @ 25 °C)	TCE (Field GC) (ug/L)	TCE (lab) (ug/L)
10/26/2010	953	465	332	--	--	Turned pump on	--	--	--
10/26/2010	958	465	332	Grab	Well Head	Pumping	263	19	--
10/26/2010	1030	465	332	Grab	Well Head	Pumping	321	73	--
10/26/2010	1100	465	332	Grab	Well Head	Pumping	327	64	--
10/26/2010	1118	465	332	Discrete	450	Pumping	348	173	--
10/26/2010	1130	465	332	Grab	Well Head	Pumping	319	104	--
10/26/2010	1150	465	332	Discrete	420	Pumping	323	110	--
10/26/2010	1200	465	332	Grab	Well Head	Pumping	313	80	--
10/26/2010	1210	465	332	Discrete	450	Pumping	346	173	163
10/26/2010	1235	465	332	Grab	Well Head	Pumping	321	105	
11/1/2010	1145	525	332	--	--	Turned pump on	--	--	--
11/1/2010	1200	525	332	Grab	Well Head	Pumping	323	74	--
11/1/2010	1230	525	332	Grab	Well Head	Pumping	324	103	--
11/1/2010	1246	525	332	Discrete	515	Pumping	315	26	--
11/1/2010	1300	525	332	Grab	Well Head	Pumping	319	80	--
11/1/2010	1330	525	332	Grab	Well Head	Pumping	318	80	--
11/1/2010	1330	525	332	Discrete	485	Pumping	311	31	--
11/1/2010	1400	525	332	Grab	Well Head	Pumping	320	67	--
11/1/2010	1420	525	332	Discrete	450	Pumping	322	61	--
11/1/2010	1430	525	332	Grab	Well Head	Pumping	320	66	--
11/1/2010	1500	525	332	Grab	Well Head	Pumping	320	83	--
11/1/2010	1500	525	332	Discrete	515	Pumping	316	43	--
11/1/2010	1530	525	332	Grab	Well Head	Pumping	322	94	--
11/2/2010	1345	525	332	Discrete	350	Ambient	315	48	--
11/2/2010	1415	525	332	Discrete	392	Ambient	314	75	59
11/2/2010	1440	525	332	Discrete	440	Ambient	321	49	51
11/2/2010	1500	525	332	Discrete	490	Ambient	322	38	--
11/2/2010	1530	525	332	Discrete	515	Ambient	322	16	24
11/3/2010	1230	525	332	--	--	Turned pump on	--	--	--
11/3/2010	1515	525	332	Grab	Well Head	Pumping	319	81	--

Oak Grove Village	Prepared by: D. Mugel (USGS)
Hole No: MW-6	Drilling Method: Cable and Air Rotary
Depth to BOW: 525 ft. BOH: 525 ft.	Top 6" Steel: Not Surveyed LS Altitude: 920 ft. (est) 6" Steel Stickup: 2.0 ft.
Top of filter pack N/A; open-hole completion	Top of screen N/A Open-hole



Abbreviations:

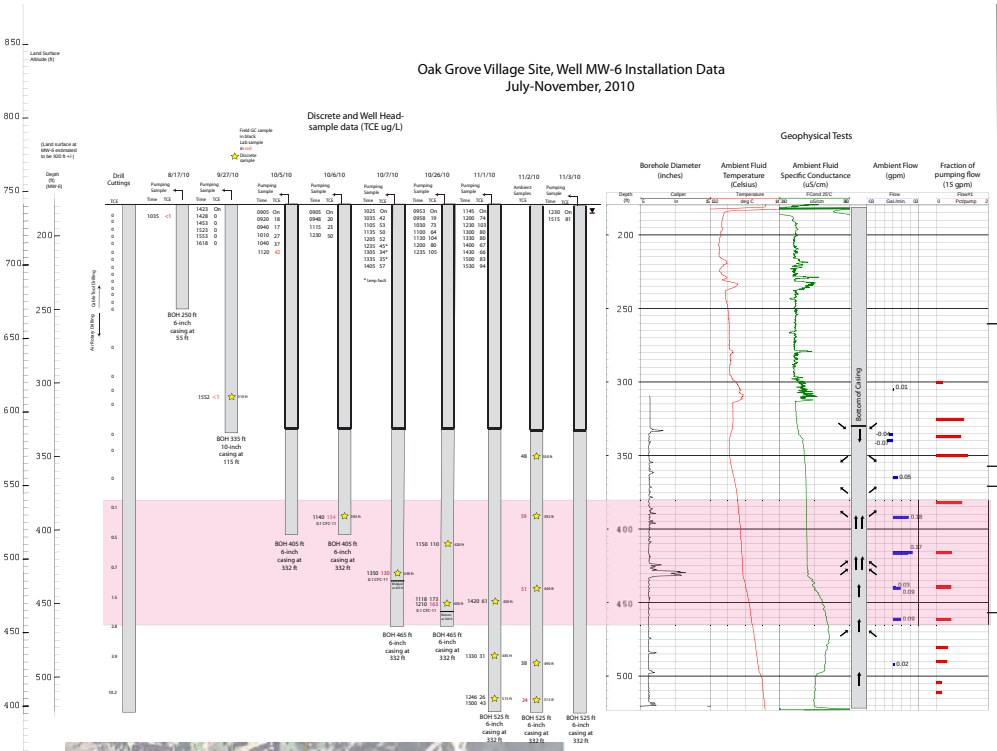
ATD - At Time of Drilling
BOH - Bottom of Hole
BOW - Bottom of Well
SCH - Schedule
SWL - Static Water Level
LS - Land Surface
TD - Total Depth

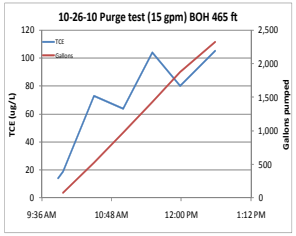
Note: All depths below land surface

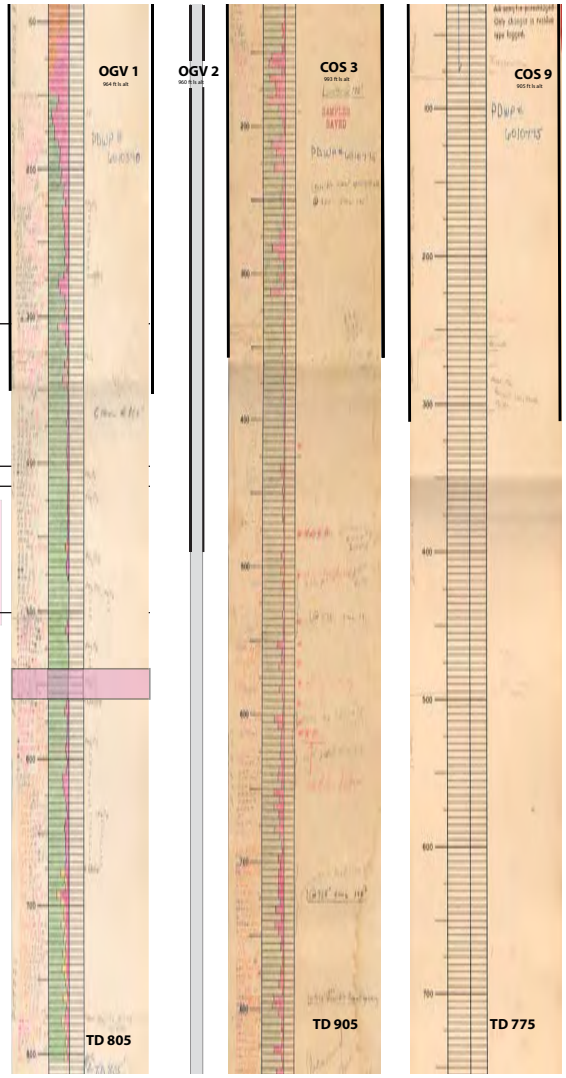
Large Opening, Cave, or Very Soft, Broken Zone

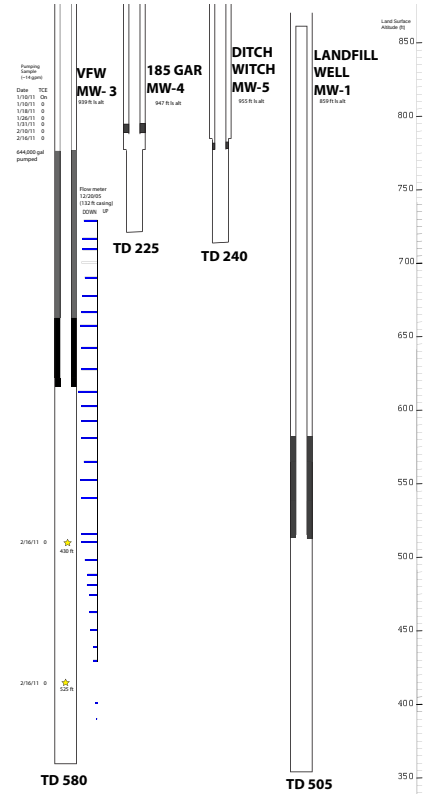
Figure 1. MW-6 Well Diagram

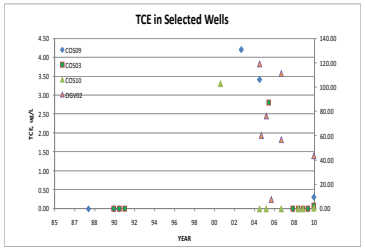
Oak Grove Village Site, Well MW-6 Installation Data
July-November, 2010











MW-3 PUMPING TESTS

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United States Department of the Interior
U.S. GEOLOGICAL SURVEY
Missouri Water Science Center
1400 Independence Road
Mail Stop 100
Rolla, Missouri 65401

April 18, 2012

Tonya Howell
U.S. Environmental Protection Agency
Region 7, Superfund Program
901 North 5th Street
Kansas City, Kansas 66101

Dear Tonya,

This administrative letter report presents the results of a 2011 U.S. Geological Survey (USGS) Missouri Water Science Center (MWSC) sampling test of monitoring well MW-3 at Oak Grove Village, Missouri. This sampling test was conducted by the USGS as part of an investigation by the USGS for the U.S. Environmental Protection Agency (USEPA) at Operable Unit One (OU1) of the Oak Grove Village Superfund site.

Monitoring well MW-3 (VFW well) was drilled in 2005 by the Missouri Department of Natural Resources (MDNR) to a depth of 580 feet (ft), with 132 ft of 6-inch (in) diameter steel casing. In December, 2005 and January, 2006 the USGS conducted a geophysical investigation of the well. A down-hole video of the borehole showed water flowing into the borehole at 183 ft depth in the unsaturated zone, about 20 ft above the water level in the borehole. Flow-meter measurements confirmed downward flow in the borehole from 203 ft (the water level in the borehole) to about 430 ft, at which point the downward flow began to decrease, indicating that the borehole was accepting water. The amount of downward flow continued to decrease to zero at about 550 ft depth, below which there was no downward flow. Downward flow was measured at about 0.75 gallons per minute (gpm), but because it was necessary to use an under-fit diverter with the heat-pulse flow meter, which by allowing substantial flow around the diverter rather than through the heat-pulse detector decreased the velocity through the heat-pulse detector enough for it to sense the heat pulse, 0.75 gpm is considered a minimum flow rate. It is estimated that the actual downward flow may have been as much as five times the measured flow of 0.75 gpm, or about 3.75 gpm. Several discrete samples collected at various depths were scanned using the USGS field gas chromatograph (GC). TCE was not detected in any of these samples. Because of the large open interval of the borehole (132 to 580 ft) and the large amount of cross flow in the borehole, the well was retrofitted by sealing off the source of the downward-

flowing water. This was done in January, 2006 by placing 337 ft of 3-in diameter steel pipe in the well with a bentonite seal at 337 ft depth, and filling the annulus with cement, then a cement-bentonite mix.

Because only a minimum flow rate could be measured, the amount of water that flowed into the borehole from the unsaturated zone, down the borehole, and exited the borehole into the aquifer at depth (from about 430 ft to about 550 ft) from the completion of drilling and initial pumping and sampling by MDNR (early July, 2005) to the retrofitting of the borehole (mid January, 2006) is not known. If the actual flow rate was about 3.75 gpm, which is 5 times the measured flow rate of 0.75 gpm, then it is estimated that about 1 million gallons of water flowed down the borehole and out into the aquifer in that time period. There was the potential, therefore, not only for contaminants from the unsaturated zone to move into the aquifer at depth but also for water from the unsaturated zone, whether contaminated or clean, to displace aquifer water at depth and thereby interfere with the sampling of aquifer water by MW-3. For a period of several days in April and May 2006, approximately 120,000 gallons of water were pumped from MW-3 by the USGS. Three water samples were collected by the USGS, including one at the end of the pumping period. Each sample was screened using the USGS field GC; the last sample also was submitted to the MDNR laboratory for analysis. TCE was not detected in any of the samples. TCE also was not detected by the field or laboratory GC in a sample collected by the USGS on October 17, 2006.

Another sampling test was conducted on MW-3 by the USGS in January and February, 2011, the results of which are presented in this letter report. A pump was installed on January 10, 2011, and except for a few days when the pump was shut off because of impending inclement weather, the pump ran continuously at about 13.5 to 14 gpm until February 16, 2011. A water meter attached to the pump discharge showed that about 644,000 gallons of water were pumped from MW-3. Combined with the water pumped during the 2006 sampling test (about 120,000 gallons), about 764,000 gallons of water were pumped from MW-3. Five water samples were collected for screening using the USGS field GC from January 10, 2011 through February 10, 2011. TCE was not detected in any of the samples (table 1). On February 16, 2011, the pump was shut off and removed, and a discrete sampler was placed in the well at 525 ft depth, at about the same elevation as the zone of TCE contamination in the public supply well OGV1. The pump was turned on, and a sample was collected from the well discharge and using the discrete sampler. TCE was not detected in either sample (laboratory and field GC for the discrete sample; field GC for the well head sample; table 1). This was repeated with the discrete sampler at 430 ft depth, which is at the top of where downward-flowing water was moving into the aquifer before the well was retrofitted, and which is also at an elevation that is within the zone of TCE

contamination in nearby monitoring well MW-6. TCE was not detected in either the discrete sample or the well head sample (laboratory and field GC; table 1).

If you have any questions, please email me at dmugel@usgs.gov or call me at 573-308-3680, or John Schumacher at jschu@usgs.gov or 573-308-3678.

Sincerely,

Doug Mugel
Hydrologist

Table 1. Summary of pumping and TCE sample results from Oak Grove Village OU1, MW-3 (VFW well), January 10, 2011 through February 16, 2011 [gpm, gallons per minute; TCE, trichloroethylene; ft, feet; gal, gallons; uS/cm @ 25°C, microseimens per centemeter at 25 degrees Celcius; ug/L, micrograms per liter; --, no data; nd, not detected; < less than]

Date	Time	Sample Type (ft)	Sample Depth (ft)	Water Meter (gal)	Gallons pumped (at approx 13.5 to 14 gpm) (gal)	Status	pH	Specific Conductance (uS/cm @ 25 °C)	TCE (Field GC) (ug/L)	TCE (lab) (ug/L)
1/10/2011				621070	0	Pump installed; pump turned on				
1/10/2011	1131	Well Head	327 -580[1]	--	~2000		--	335	nd	--
1/18/2011	1205	Well Head	327 -580[1]	--	~158,000		--	321	nd	--
1/26/2011	1400	Well Head	327 -580[1]	--	~315,000		7.75	310	nd	--
1/31/2011	1211	Well Head	327 -580[1]	--	~411,000	Pump turned off after sampling in anticipation of power loss due to inclement weather	7.48	326	nd	--
2/4/2011				--		Pump turned on				
2/10/2011	1345	Well Head	327 -580[1]	--	~531,000		--	--	nd	--
2/16/2011				1264021	642,950	Pump turned off and removed; discrete sampler placed in well at 525 ft depth; pump re-installed				
2/16/2011	935			1264021		Pump turned on				
2/16/2011	1005	Discrete	525	--	510 (sample 1)		--	331	nd	<.026
2/16/2011	1006	Well Head	327 -580[1]	--			7.73	321	nd	--
2/16/2011	1012			1264530		Pump turned off				
2/16/2011						Pump removed; discrete sampler removed and sample collected. Discrete sampler reinstalled at 430 ft depth; pump reinstalled				
2/16/2011	1126			1264530		Pump turned on.				
2/16/2011	1155	Discrete	430	--	490 (sample 2)		--	322	nd	<.026
2/16/2011	1156	Well Head	327 -580[1]	--			7.74	321	nd	<.026
2/16/2011	1201			1265020		Pump turned off				
2/16/2011					643950 (total)	Pump removed; discrete sampler removed and sample collected				

[1] Sample depth is bottom of casing to bottom of well

INVESTIGATION OF RAILROAD RIGHT-OF-WAY

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United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Missouri Water Science Center
1400 Independence Road
Mail Stop 100
Rolla, Missouri 65401

January 26, 2012

Tonya Howell
U.S. Environmental Protection Agency
Region 7, Superfund Program
901 North 5th Street
Kansas City, Kansas 66101

Dear Tonya,

This administrative letter report presents the results of a U.S. Geological Survey (USGS) subsurface investigation of soil within the Burlington Northern-Santa Fe Railroad (BNSF) right-of-way adjacent to Missouri Farmers Association (MFA) property in Sullivan, Missouri. The USGS also conducted an investigation of soil on MFA property outside the BNSF right-of-way in June and December, 2011; results from that investigation are not included in this letter report. These investigations were part of an ongoing USGS subsurface investigation for the U.S. Environmental Protection Agency (USPEA) of trichloroethene (TCE) contamination in groundwater in the Sullivan, Missouri area. The USEPA is in the process of ruling out potential source areas for the TCE contamination which include several former manufacturing facilities and possible old community dump sites. During the course of their investigation, the USEPA learned from area residents that a train derailment involving several dozen cars occurred inside the city of Sullivan sometime in the 1960s or 1970s. A former employee of a downtown business recalled that one of cars involved in the derailment was a tanker car that overturned and a strong smelling liquid was discharged onto the land surface and flowed down a ditch leading northward from the tracks. The USEPA requested information on any known derailments within a several mile radius of the city of Sullivan in a 104E letter to the BNSF in 2010. The BNSF response indicated that the railroad had no specific records of derailments in this area, perhaps because those records no longer existed (through mergers and acquisitions) but they did provide detailed track maps. A subsequent search of local sources turned up a photograph and associated article of a derailment in the April, 1965 issue of the Sullivan, Missouri Weekly Shopper (fig. 1). The location of the derailment in the photograph is consistent with recollections from several area residents. While it was not anticipated that the derailment is associated

with the groundwater contamination, due diligence required that this location be investigated and ruled-out as a possible TCE source area.

Background

The solvent TCE was detected during routine monitoring of public-supply wells in Oak Grove Village and Sullivan, Missouri in the 1980s. Since the initial detection, further monitoring of public-supply and area domestic wells has resulted in a complex pattern of TCE detections in groundwater with most public-supply wells inside the City of Sullivan having detectable levels of TCE at some point in time and domestic wells north and east of the city having scattered TCE detections. The largest TCE concentrations [in excess of 40 micrograms per liter (ug/L)] have been detected in the Oak Grove Village well OGV-1 and city of Sullivan well COS-2 (fig. 2). Previous investigations conducted by the Missouri Department of Natural Resources (MDNR) and USEPA have identified the former Ramsey facility inside the city of Sullivan as a source of TCE contamination at Sullivan well COS-2; however, the source of TCE in other wells has not yet been identified.

Objective

The purpose of this investigation was to examine subsurface soils on the BNSF right-of-way at the site of the 1965 rail car derailment to determine if they contain large concentrations of TCE. Results from this investigation would be used to retain or remove this location from the candidate list of potential TCE source areas to groundwater.

Methods

It was first necessary to determine the location of the derailment. A review of the 1965 photograph of the derailment, a March 31, 2009 track map provided by BNSF, and interviews with area residents and city officials indicated that the derailment occurred between Church Street and Center Street on what probably was at the time railroad right-of -way and sidings on the south and north side of the tracks (fig. 3). In the 1965 photograph, there appear to be three tank cars at the derailment site, one intact on a siding south of the main tracks (car 1), one having two smaller tanks lying nearly perpendicular across the main track with one tank lying across what appears to be a siding on the north side of the main track near a small ditch running to the north (car 2), and possibly a third tank car (car 3) appearing to be upright or on its side lying across the siding on the south side of the tracks (fig. 1) Cars 2 and 3 were the primary concerns for this investigation.

The subsurface soil investigation was conducted under a BNSF Contractor Safety Action Plan, dated November 17, 2011, with a BNSF flagger. Soil borings were competed on March 7-8, 2011 every 25 ft along 3 lines parallel to the railway tracks, with 2 lines (B and C) north of the tracks and one line (A) south of the tracks (figs. 3 and 4). Twenty-three borings were completed on the BNSF right-of-way, 8 each in lines A and B, and 7 in line C. The zero point of lines A and B started at the southeast corner of a MFA building, a portion of which is on the BNSF right-of-way (fig. 4). Line A was 8 ft south of the railroad track centerline. Line B was 16 ft north of the track centerline. Line C, the borings of which were offset 12.5 ft from the borings of line B, was 33 ft north of the track centerline. Borings were advanced with a direct-push Geoprobe drill-rig mounted on a 4x4 tractor. All but two borings (OGV-A8-B02 which was advanced to 12 ft, and OGV-A8-B06, which was advanced to 7.5 ft at refusal) of lines B and C were advanced to 8 ft (table 1). Borings on Line A alternated between 4 ft and 8 ft deep to complete the drilling quickly, as the BNSF had only a 2-hr window between trains. All boreholes were backfilled to grade with bentonite.

Core samples were extracted from the core tubes in a support area. Geologic logs were prepared for each borehole core, and samples were collected from each borehole core at approximately 2-ft intervals (total of 88 samples) and analyzed in the field using a portable gas-chromatograph (GC) with a photoionization detector (PID). The target compound was TCE. At the same time as field GC sample collection, one laboratory sample also was collected from each borehole core (a total of 23 samples). These samples were collected by visually inspecting the cores and using the geologist's judgment to collect a set of samples that represent the different lithologic materials present in the subsurface. These samples were chilled, and after reviewing the geologic logs and the results of the field GC screening of all 88 field GC samples, 7 of these 23 laboratory samples were selected and submitted to the contract laboratory for analysis by EPA method 8260. The laboratory target compounds were TCE, tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-DCE), trans-1,2-dichloroethene (trans-DCE), vinyl chloride, benzene, and toluene.

Results

TCE was tentatively identified in 8 samples from 6 borings with a maximum concentration of 49.9 micrograms per kilogram (ug/kg; table 2). Each of these detections was less than the reporting limit for the field GC; therefore each of these detections is considered an estimate and is designated with "E" in table 2. The reporting limit ranged from 20 to 67 ug/kg depending on the volume of the sample headspace injection, which ranged from 30 to 100 microliters (uL). Four of the 7 laboratory samples were from the same boring that had a field GC detection; 2 of the 7 laboratory sample intervals overlapped the depth of a field GC sample detection (table 2). TCE was not detected in any of the7 laboratory samples. PCE was

detected in 5 laboratory samples. The largest PCE concentration was 9.4 ug/kg; the other 4 samples were less than the laboratory reporting limit of 5.4 ug/kg (table 2). There were no laboratory detections of cis-DCE, trans-DCE, vinyl chloride, benzene, or toluene.

Laboratory analytical data and quality assurance data are contained in two attachments. The analytical data report contains results for 4 samples from borings that were completed outside of the railroad right-of-way. These samples are not discussed in this letter report and are not shown in figure 4 or tables 1 and 2.

If you have any questions, please email me at dmugel@usgs.gov or call me at 573-308-3680, or John Schumacher at jschu@usgs.gov or 573-308-3678.

Sincerely,

Doug Mugel
Hydrologist

Table 1. Summary of boring location and depth for soil samples collected on December 7-8, 2011 from the Burlington Northern-San Fransisco Railroad right-of-way adjacent to Missouri Farm Association (MFA) property, Sullivan Missouri [dd.dddd, decimal degrees; mm/dd/yyyy, month/day/year; ft, feet]

Boring Number	Latitude dd.dddd	Longitude dd.dddd	Date Drilled (mm/dd/yyyy)	Boring Depth (ft)
OGV-A8-A01	38.21126	-91.15773	12/8/2011	8.0
OGV-A8-A02	38.211294	-91.157684	12/8/2011	4.0
OGV-A8-A03	38.211328	-91.157613	12/8/2011	8.0
OGV-A8-A04	38.211361	-91.157557	12/8/2011	4.0
OGV-A8-A05	38.211398	-91.157494	12/8/2011	8.0
OGV-A8-A06	38.211433	-91.157433	12/8/2011	4.0
OGV-A8-A07	38.211468	-91.157376	12/8/2011	8.0
OGV-A8-A08	38.211507	-91.157306	12/8/2011	4.0
OGV-A8-B01	38.211325	-91.157777	12/8/2011	8.0
OGV-A8-B02	38.21136	-91.157718	12/8/2011	12.0
OGV-A8-B03	38.211391	-91.157663	12/8/2011	8.0
OGV-A8-B04	38.211427	-91.157601	12/8/2011	8.0
OGV-A8-B05	38.21146	-91.157545	12/7/2011	8.0
OGV-A8-B06	38.211495	-91.157484	12/7/2011	7.5
OGV-A8-B07	38.21153	-91.157427	12/7/2011	8.0
OGV-A8-B08	38.21157	-91.157361	12/7/2011	8.0
OGV-A8-C01	38.211373	-91.15776	12/7/2011	8.0
OGV-A8-C02	38.211403	-91.157708	12/7/2011	8.0
OGV-A8-C03	38.211438	-91.157648	12/7/2011	8.0
OGV-A8-C04	38.21147	-91.15759	12/7/2011	6.0
OGV-A8-C05	38.211507	-91.15753	12/7/2011	8.0
OGV-A8-C06	38.21154	-91.157472	12/7/2011	8.0
OGV-A8-C07	38.211577	-91.157412	12/7/2011	8.0

Table 2. Field gas chromatograph and laboratory gas chromatograph results for soil samples collected on December 7-8, 2011 from the Burlington Northern-San Fransisco Railroad right-of-way adjacent to Missouri Farm Association (MFA) property, Sullivan Missouri [GC; gas chromatograph; TCE, trichloroethene; PCE, tetrachloroethene; cis-DCE, cis-1,2-dichloroethene; trans-DCE, trans-1,2-dichloroethene; ft, feet; mm/dd/yyyy, month/day/year; uL, microliters; ug/kg, micrograms per kilogram; <, less than; --, no data; E, estimated value for detection below the reporting limit for field GC results; J, estimated value for detection below the reporting limit for laboratory results]

	Field GC Results						Laboratory Results									
Boring Number	Sample Depth (ft)	Sample Date (mm/dd/yyyy)	Sample Time	Injection volume (uL)	Reporing limit[1] (uL/kg)	TCE (ug/kg)	Sample Top (ft)	Sample Bottom (ft)	Sample Time	PCE (ug/kg)	TCE (ug/kg)	cis-DCE (ug/kg)	trans-DCE (ug/kg)	Vinyl Chloride (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)
OGV-A8-A01	2.0	12/8/2011	1200	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A01	4.0	12/8/2011	1159	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A01	6.0	12/8/2011	1207	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A01	8.0	12/8/2011	1203	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A02	2.0	12/8/2011	1217	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A02	4.0	12/8/2011	1214	100	20	17.2 E	3.5	4.0	1216	1.4 J	<5.4	<2.7	<2.7	<5.4	<5.4	<5.4
OGV-A8-A03	2.0	12/8/2011	1224	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A03	4.0	12/8/2011	1223	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A03	6.0	12/8/2011	1230	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A03	8.0	12/8/2011	1225	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A04	2.0	12/8/2011	1242	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A04	4.0	12/8/2011	1241	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A05	2.0	12/8/2011	1257	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A05	4.0	12/8/2011	1249	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A05	6.0	12/8/2011	1256	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A05	8.0	12/8/2011	1252	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A06	2.0	12/8/2011	1305	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A06	4.0	12/8/2011	1301	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A07	2.0	12/8/2011	1315	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A07	4.0	12/8/2011	1314	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A07	6.0	12/8/2011	1321	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A07	8.0	12/8/2011	1320	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A08	2.0	12/8/2011	1322	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-A08	4.0	12/8/2011	1328	50	40	<40	3.5	4.0	1328	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4
OGV-A8-B01	2.0	12/8/2011	1041	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B01	4.0	12/8/2011	1039	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B01	6.0	12/8/2011	1044	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B01	8.0	12/8/2011	1040	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B02	2.0	12/8/2011	1011	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-B02	4.0	12/8/2011	1010	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-B02	6.0	12/8/2011	1014	100	20	<20	--	--	--	--	--	--	--	--	--	--
OGV-A8-B02	8.0	12/8/2011	1013	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-B02	10.0	12/8/2011	1023	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B02	12.0	12/8/2011	1022	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B03	2.0	12/8/2011	0952	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-B03	4.0	12/8/2011	0950	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-B03	6.0	12/8/2011	0956	30	67	<67	6.0	6.5	957	.86 J	<5.6	<2.8	<2.8	<5.6	<5.6	<5.6
OGV-A8-B03	8.0	12/8/2011	0953	30	67	<67	--	--	--	--	--	--	--	--	--	--

	Field GC Results						Laboratory Results									
Boring Number	Sample Depth (ft)	Sample Date (mm/dd/yyyy)	Sample Time	Injection volume (uL)	Reporing limit[1] (uL/kg)	TCE (ug/kg)	Sample Top (ft)	Sample Bottom (ft)	Sample Time	PCE (ug/kg)	TCE (ug/kg)	cis-DCE (ug/kg)	trans-DCE (ug/kg)	Vinyl Chloride (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)
OGV-A8-B04	2.0	12/8/2011	0934	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-B04	4.0	12/8/2011	0932	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-B04	6.0	12/8/2011	0940	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-B04	8.0	12/8/2011	0935	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-B05	2.0	12/7/2011	1510	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B05	4.0	12/7/2011	1509	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B05	6.0	12/7/2011	1516	50	40	13.2 E	--	--	--	--	--	--	--	--	--	--
OGV-A8-B05	8.0	12/7/2011	1512	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B06	2.0	12/7/2011	1459	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B06	4.0	12/7/2011	1458	50	40	12.0 E	--	--	--	--	--	--	--	--	--	--
OGV-A8-B06	6.0	12/7/2011	1456	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B06	7.5	12/7/2011	1454	50	40	<40										
OGV-A8-B07	2.0	12/7/2011	1405	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B07	4.0	12/7/2011	1403	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B07	6.0	12/7/2011	1440	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B07	8.0	12/7/2011	1438	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B08	2.0	12/7/2011	1348	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B08	4.0	12/7/2011	1346	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-B08	6.0	12/7/2011	1353	50	40	<40	6.0	6.5	1354	1.3 J	<5.2	<2.6	<2.6	<5.2	<5.2	<5.2
OGV-A8-B08	8.0	12/7/2011	1350	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-C01	1.5	12/7/2011	1111	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C01	4.0	12/7/2011	1109	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C01	6.0	12/7/2011	1125	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C01	8.0	12/7/2011	1121	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C02	2.0	12/7/2011	1055	30	67	<67	2.0	2.5	1057	5.6 J	<6.2	<3.1	<3.1	<6.2	<6.2	<6.2
OGV-A8-C02	4.0	12/7/2011	1050	30	67	39.2 E	--	--	--	--	--	--	--	--	--	--
OGV-A8-C02	6.0	12/7/2011	1102	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C02	8.0	12/7/2011	1100	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C03	1.0	12/7/2011	1032	30	67	49.9 E	--	--	--	--	--	--	--	--	--	--
OGV-A8-C03	2.0	12/7/2011	1031	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C03	4.0	12/7/2011	1030	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C03	6.0	12/7/2011	1043	30	67	44.7 E	6.0	6.5	1045	<5.4	<5.4	<2.7	<2.7	<5.4	<5.4	<5.4
OGV-A8-C03	8.0	12/7/2011	1040	30	67	43.2 E	--	--	--	--	--	--	--	--	--	--
OGV-A8-C04	2.0	12/7/2011	1140	30	67	<67	2.0	2.5	1137	9.4	<6.2	<3.1	<3.1	<6.2	<6.2	<6.2
OGV-A8-C04	2.7	12/7/2011	1139	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C04	4.0	12/7/2011	1135	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C04	6.0	12/7/2011	1145	30	67	49.3 E	--	--	--	--	--	--	--	--	--	--
OGV-A8-C04	8.0	12/7/2011	1142	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C05	1.8	12/7/2011	1157	40	50	<50	--	--	--	--	--	--	--	--	--	--
OGV-A8-C05	4.0	12/7/2011	1155	30	67	<67	--	--	--	--	--	--	--	--	--	--
OGV-A8-C05	6.0	12/7/2011	1209	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-C05	8.0	12/7/2011	1205	40	50	<50	--	--	--	--	--	--	--	--	--	--

	Field GC Results						Laboratory Results									
Boring Number	Sample Depth (ft)	Sample Date (mm/dd/yyyy)	Sample Time	Injection volume (uL)	Reporing limit[1] (uL/kg)	TCE (ug/kg)	Sample Top (ft)	Sample Bottom (ft)	Sample Time	PCE (ug/kg)	TCE (ug/kg)	cis-DCE (ug/kg)	trans-DCE (ug/kg)	Vinyl Chloride (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)
OGV-A8-C06	2.0	12/7/2011	1217	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-C06	4.0	12/7/2011	1215	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-C06	6.0	12/7/2011	1227	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-C06	8.0	12/7/2011	1223	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-C07	2.0	12/7/2011	1237	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-C07	4.0	12/7/2011	1215	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-C07	6.0	12/7/2011	1248	50	40	<40	--	--	--	--	--	--	--	--	--	--
OGV-A8-C07	8.0	12/7/2011	1244	50	40	<40	--	--	--	--	--	--	--	--	--	--

[1] Reporting limit for the field GC is calculated by the ratio of the standardized 100 uL air injection to the sample air injection volume multiplied by the reporting limit for the standardized 100 uL air injection (20 ug/kg) for a soil sample

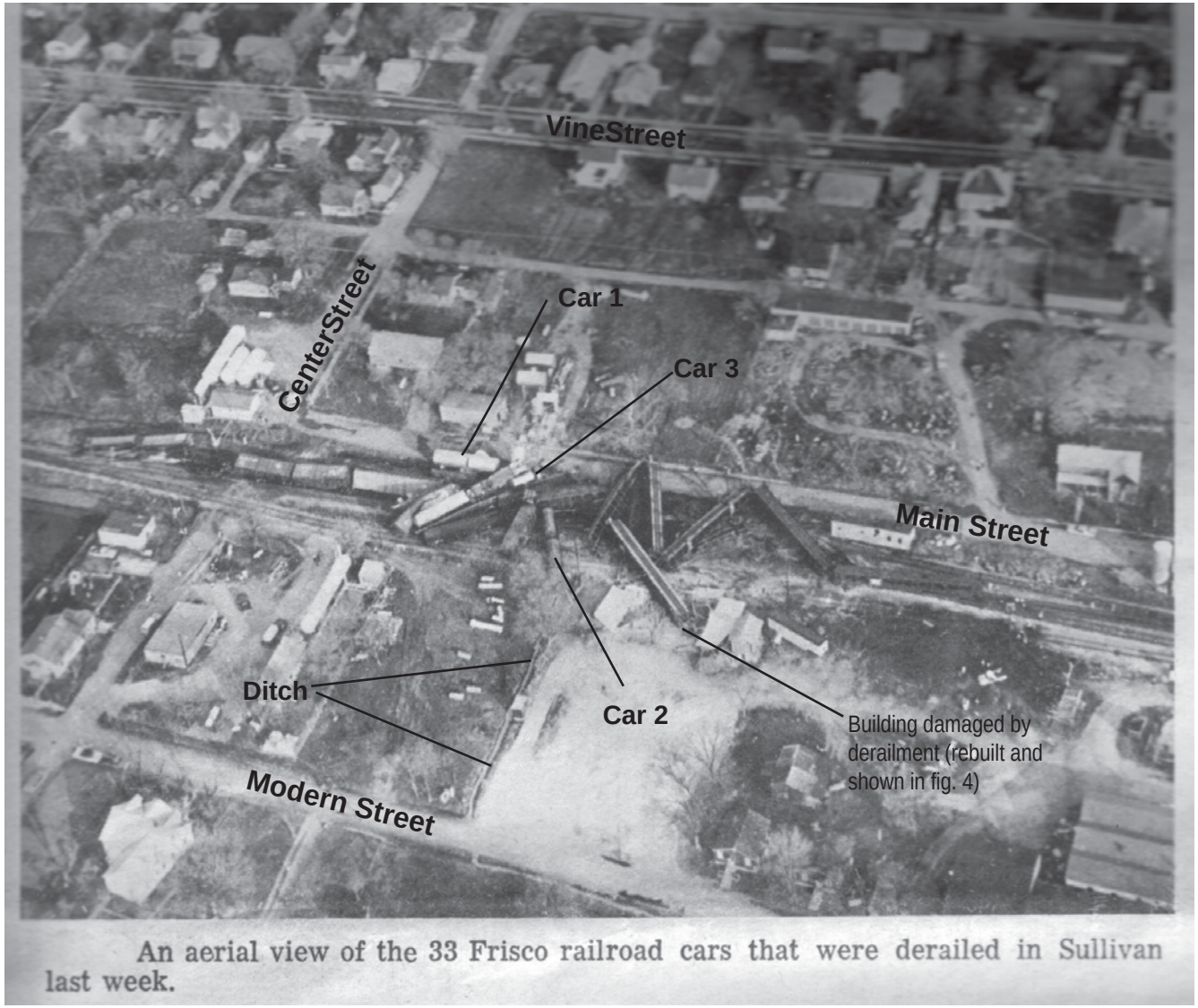
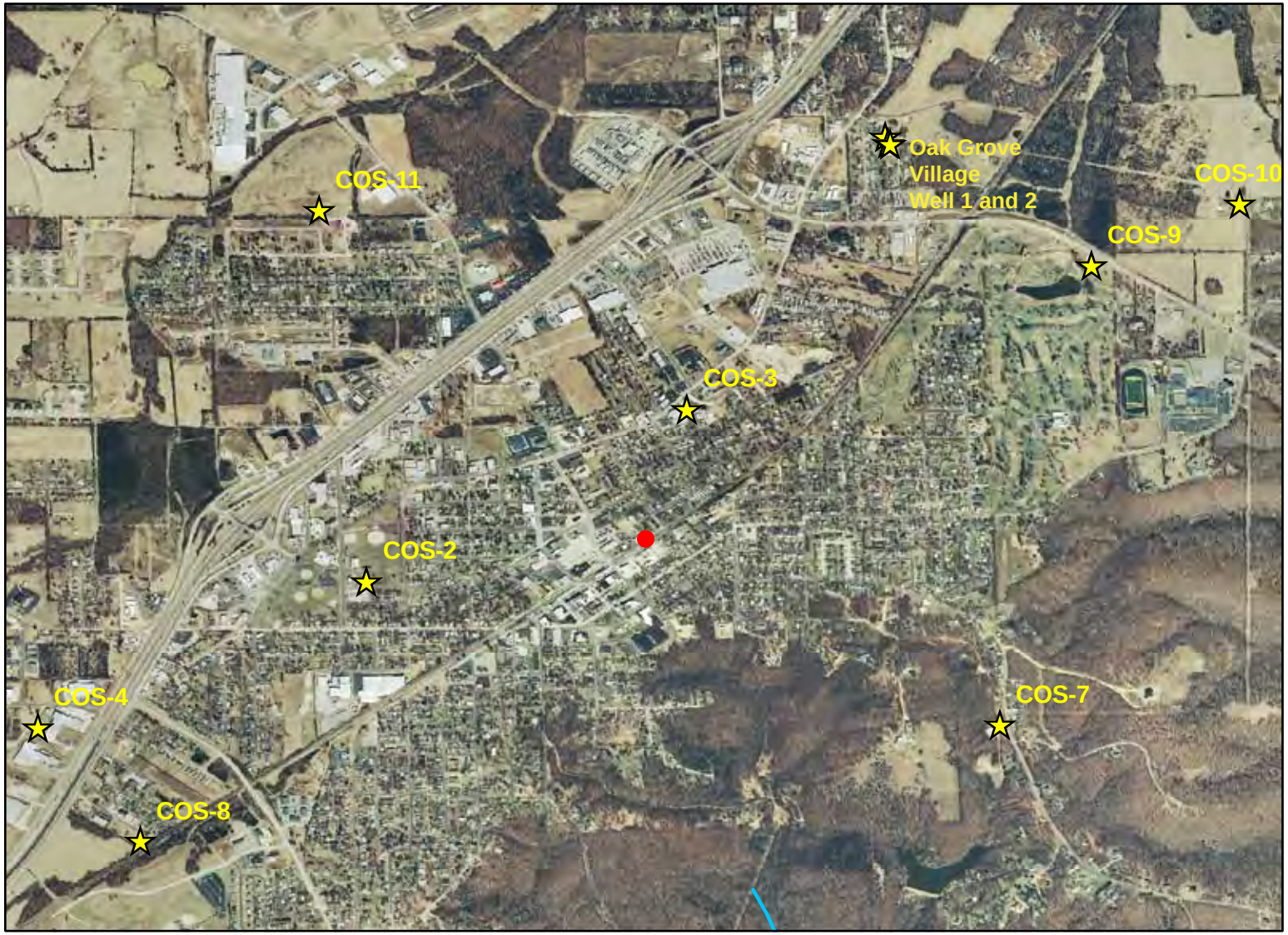


Figure 1. Aerial photograph from the April, 1965 issue of the Sullivan Weekly Shopper of a train derailment in Sullivan, Missouri. View is looking generally south.



Legend

1965 Derailment

COS-02 Public-supply well and number

0 0.25 0.5 1 Miles

Figure 2. Location of 1965 train derailment and public-supply wells in the vicinity of Sullivan, Missouri.

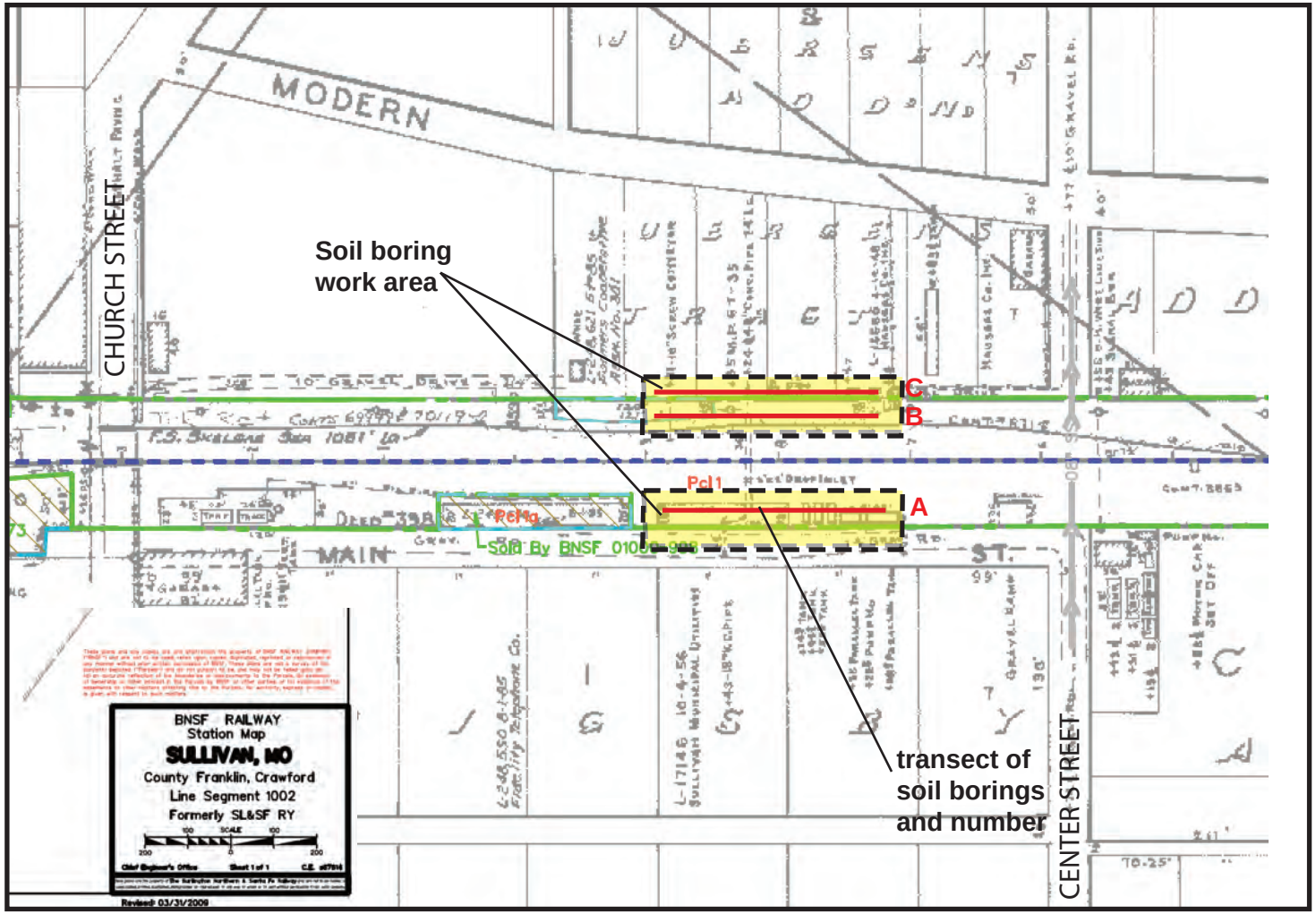
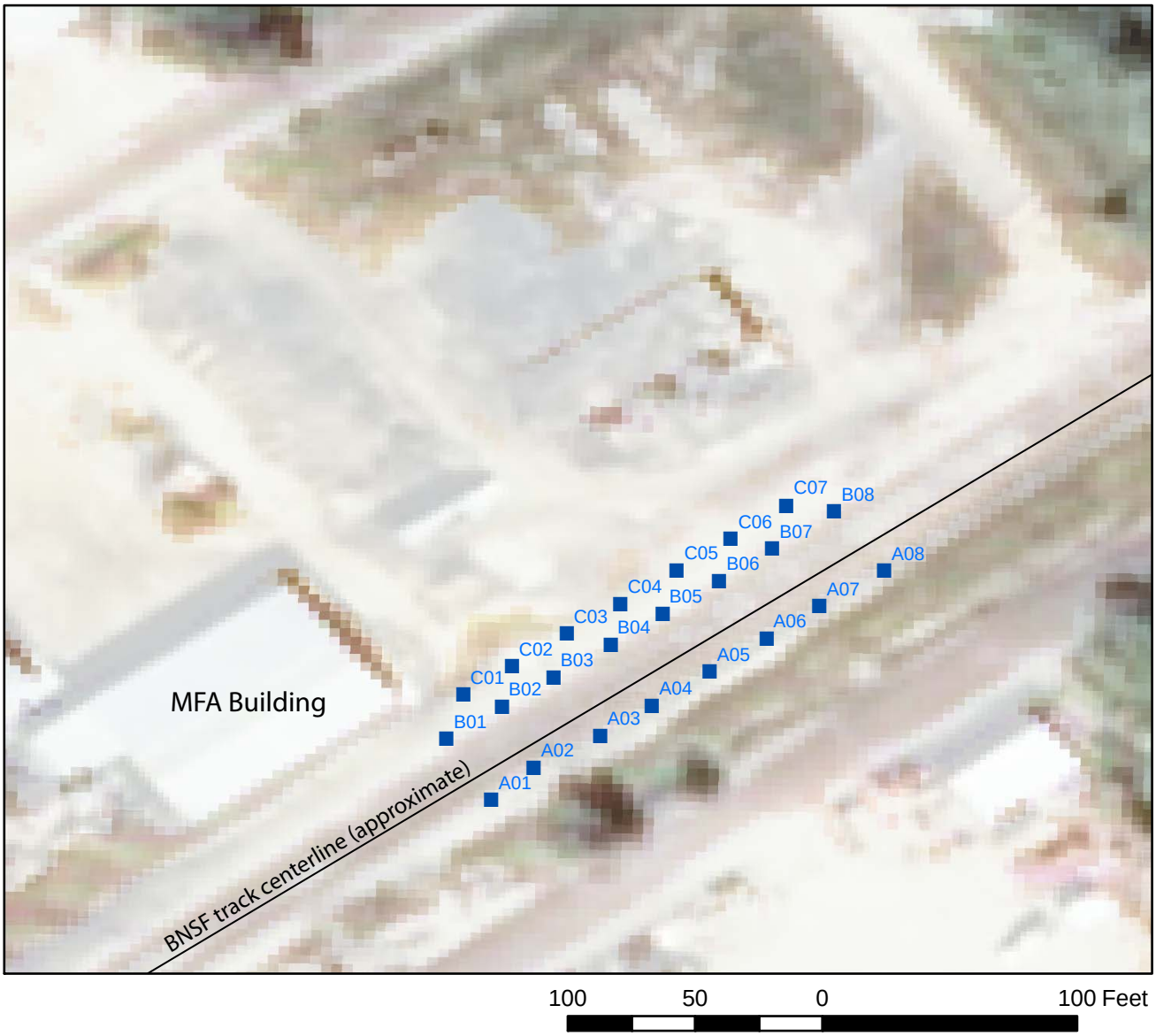


Fig. 3 Location of work area for environmental soil boings along and within BNSF right of way in Sullivan, Missouri. Base map provided to the USEPA by BNSF(2010).



Explanation

A01 Boring location and identifier (OGV-A8-XXX)

Figure 4. Location of soil borings completed on December 7-8, 2011 at site of 1965 train derailment, Sullivan, Missouri.

USGS ANALYTICAL RESULTS

(Provided on CD)

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United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: JUN 23 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7120

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

07PZ 40518659 53
Superfund

04-02 6/23/16 CTL

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in groundwater from an undefined TCE plume in Franklin Co., MO. GW & DW sampling to determine extent of TCE contamination and exposure pathways.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FB = Field Blank
FD = Field Duplicate

Units: Specific units in which results are reported.

Deg C = Degrees Celsius
GPM = Gallons per Minute
SU = Standard Units (pH)
umhos/cm = Micromhos per Centimeter
mg/L = Milligrams per Liter
ug/L = Micrograms per Liter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
R = The presence or absence of the analyte can not be determined from the data due to severe quality control problems. The data are rejected and considered unusable.
U = The analyte was not detected at or above the reporting limit.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.

ASR Number: 7120 **Sample Information Summary** **06/23/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Water	PH-093		04/22/2016	15:34	04/22/2016	16:00	04/26/2016
2 -	__	Water	PH-090		04/22/2016	16:18	04/22/2016	16:50	04/26/2016
3 -	__	Water	PH-091		04/22/2016	17:05	04/22/2016	17:30	04/26/2016
4 -	__	Water	PH-092		04/23/2016	09:40	04/23/2016	10:15	04/26/2016
5 -	__	Water	PH-095		04/23/2016	11:05	04/23/2016	11:35	04/26/2016
6 -	__	Water	PH-094		04/23/2016	12:12	04/23/2016	12:45	04/26/2016
7 -	__	Water	PH-096		04/25/2016	11:04	04/25/2016	11:45	04/26/2016
9 -	__	Water	PH-098		04/25/2016	13:20	04/25/2016	13:48	04/26/2016
10 -	__	Water	PH-099		04/25/2016	14:21	04/25/2016	14:55	04/26/2016
11 -	FB	Water	Trip Blank sample		04/22/2016	15:00	04/22/2016	15:00	04/26/2016
12 -	__	Water	PH-031		04/26/2016	13:05	04/26/2016	13:05	04/28/2016
15 -	__	Water	PH-030		04/26/2016	14:51	04/26/2016	14:51	04/28/2016
15 -	FD	Water	PH-030		04/26/2016	14:51	04/26/2016	14:51	04/28/2016
17 -	__	Water	PH-032		04/26/2016	16:00	04/26/2016	16:00	04/28/2016
18 -	__	Water	PH-100		04/27/2016	10:30	04/27/2016	10:30	04/28/2016
19 -	__	Water	PH-101		04/27/2016	11:35	04/27/2016	11:35	04/28/2016
20 -	FB	Water	Trip Blank		04/20/2016	10:05			04/28/2016
21 -	__	Water	MSPW #2		04/29/2016	09:15	04/29/2016	09:20	05/04/2016
22 -	__	Water	MSPW #3		04/29/2016	10:00	04/29/2016	10:05	05/04/2016
23 -	__	Water	PH-102		04/29/2016	11:30	04/29/2016	11:35	05/04/2016
24 -	__	Water	PH-103		04/29/2016	12:40	04/29/2016	12:45	05/04/2016
25 -	__	Water	PW-019		04/29/2016	15:40	04/29/2016	15:45	05/04/2016
26 -	__	Water	PH-016		05/02/2016	10:55	05/02/2016	11:00	05/04/2016
27 -	__	Water	PH-042		05/02/2016	11:45	05/02/2016	11:50	05/04/2016
28 -	__	Water	PH-017		05/02/2016	13:00	05/02/2016	13:05	05/04/2016
29 -	__	Water	PW-002		05/02/2016	14:20	05/02/2016	14:25	05/04/2016
29 -	FD	Water	PW-002		05/02/2016	14:20	05/02/2016	14:25	05/04/2016
31 -	__	Water	PW-010		05/03/2016	11:55	05/03/2016	12:00	05/06/2016
32 -	__	Water	PH-008		05/03/2016	13:50	05/03/2016	13:55	05/06/2016
33 -	__	Water	PW-018		05/03/2016	14:35	05/03/2016	14:40	05/06/2016
34 -	__	Water	PH-015		05/04/2016	10:10	05/04/2016	10:15	05/06/2016
35 -	__	Water	PW-023		05/04/2016	10:50	05/04/2016	10:55	05/06/2016
37 -	__	Water	COS-2		05/24/2016	14:05	05/24/2016	14:05	05/26/2016
38 -	__	Water	OGV-01		05/24/2016	14:40	05/24/2016	14:40	05/26/2016
56 -	FB	Water	DW VOA Trip Blank sample		04/29/2016	08:00	05/02/2016	16:00	05/04/2016
57 -	FB	Water	DW VOA Trip Blank sample		05/04/2016	16:00	05/04/2016	16:05	05/06/2016
59 -	FB	Water	DW VOA Trip Blank sample		05/24/2016	16:00	05/24/2016	16:00	05/26/2016

Analysis **Comments About Results For This Analysis**

1 Conductivity by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples:

1-__	2-__	3-__	4-__	5-__	6-__	7-__
9-__	10-__	12-__	15-__	15-FD	17-__	18-__
19-__	21-__	22-__	23-__	24-__	25-__	26-__
27-__	28-__	29-__	29-FD	31-__	32-__	33-__
34-__	35-__	37-__	38-__			

Comments:
(N/A)

1 Flow, Gallons per Minute

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples:

1-__	2-__	3-__	4-__	5-__	6-__	7-__
9-__	10-__	12-__	15-__	15-FD	17-__	21-__
22-__	23-__	24-__	25-__	26-__	27-__	28-__
29-__	29-FD	31-__	32-__	33-__	34-__	35-__

Comments:
(N/A)

1 pH of Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples:

1-__	2-__	3-__	4-__	5-__	6-__	7-__
9-__	10-__	12-__	15-__	15-FD	17-__	18-__
19-__	21-__	22-__	23-__	24-__	25-__	26-__
27-__	28-__	29-__	29-FD	31-__	32-__	33-__
34-__	35-__	37-__	38-__			

Comments:
(N/A)

1 Temperature of Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples:

1-__	2-__	3-__	4-__	5-__	6-__	7-__
9-__	10-__	12-__	15-__	15-FD	17-__	18-__
19-__	21-__	22-__	23-__	24-__	25-__	26-__
27-__	28-__	29-__	29-FD	31-__	32-__	33-__
34-__	35-__	37-__	38-__			

Analysis **Comments About Results For This Analysis**

Comments:
(N/A)

1 Total Dissolved Oxygen in Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples:						
1-__	2-__	3-__	4-__	5-__	6-__	7-__
9-__	10-__	12-__	15-__	15-FD	17-__	18-__
19-__	21-__	22-__	23-__	24-__	25-__	26-__
27-__	28-__	29-__	29-FD	31-__	32-__	33-__
34-__	35-__	37-__	38-__			

Comments:
(N/A)

1 VOCs in Drinking Water by GC/MS

Lab: Contract Lab Program (Out-Source)

Method: CLP Statement of Work

Samples:						
1-__	2-__	3-__	4-__	5-__	6-__	7-__
9-__	10-__	11-FB	12-__	15-__	15-FD	17-__
18-__	19-__	20-FB	21-__	22-__	23-__	24-__
25-__	26-__	27-__	28-__	29-__	29-FD	31-__
32-__	33-__	34-__	35-__	37-__	38-__	56-FB
57-FB	59-FB					

Comments:
2,2-Dichloropropane was UJ-coded in samples -12, -15, -15FD, -17, -18, -19 and -20FB. This analyte was not found in the samples at or above the reporting limits; however, the reporting limits are an estimate (UJ-coded) due to the continuing calibration check not meeting accuracy specifications. The actual reporting limits for this analyte may be higher than the reported values.

A surrogate compound in sample -17 had unacceptable response indicating that is was not possible to obtain valid results for Vinyl Chloride. Results of 'N/A' were reported with R-codes for this analyte.

Trichloroethene, Toluene, Tetrachloroethene, Ethyl Benzene, o-Xylene, m and/or p-Xylene, Styrene, Isopropylbenzene, 2-Chlorotoluene, 4-Chlorotoluene and p-Isopropyltoluene were UJ-coded in sample -17. Bromobenzene, Chlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene, Naphthalene, 1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene, were UJ-coded in sample -23. Vinyl Chloride was UJ-coded in sample -32. These analytes were not found in the sample at or above the reporting limits; however, the reporting limits are an estimate (UJ-coded) due to low recovery of the surrogate analyte. The actual reporting limits for these analytes may be higher than the reported values.

Analysis	Comments About Results For This Analysis
	Benzene, Chlorobenzene, 1,1-Dichloroethene, Toluene and Trichloroethene were UJ-coded in sample -22. These analytes were not found in the sample at or above the reporting limits; however, the reporting limits are an estimate (UJ-coded) due to low recovery of these analytes in the laboratory matrix spike duplicate. The actual reporting limits for these analytes may be higher than the reported values.
	Benzene, Chlorobenzene, 1,1-Dichloroethene, Toluene and Trichloroethene were UJ-coded in sample -22. These analyte were not found in the sample at or above the reporting limit; however, the reporting limits are an estimate (UJ-coded) due to poor precision obtained for these analytes in the laboratory matrix spike and matrix spike duplicate. The actual reporting limits for these analytes may be higher than the reported values.

ASR Number: 7120 **RLAB Approved Sample Analysis Results** **06/23/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	506	406	450	404
1 Flow, Gallons per Minute					
Flow (GPM)	GPM	9.0	8.5	9.0	3
1 pH of Water by Field Measurement					
pH	SU	7.33	7.57	7.48	7.57
1 Temperature of Water by Field Measurement					
Temperature	Deg C	14.5	14.4	14.0	14.1
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	7.88	0.05	5.77	2.92
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

ASR Number: 7120 **RLAB Approved Sample Analysis Results** **06/23/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	5-__	6-__	7-__	9-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	424	449	248	454
1 Flow, Gallons per Minute					
Flow (GPM)	GPM	7	10	6	9
1 pH of Water by Field Measurement					
pH	SU	7.52	7.54	7.45	7.44
1 Temperature of Water by Field Measurement					
Temperature	Deg C	13.5	13.4	13.4	13.9
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	8.76	9.59	9.86	9.87
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	5-__	6-__	7-__	9-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	10-__	11-FB	12-__	15-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	461		533	521
1 Flow, Gallons per Minute					
Flow (GPM)	GPM	9.3		9	12
1 pH of Water by Field Measurement					
pH	SU	7.36		7.35	7.40
1 Temperature of Water by Field Measurement					
Temperature	Deg C	14.2		14.4	14.4
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	6.88		6.67	3.25
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 UJ	0.50 UJ

ASR Number: 7120 **RLAB Approved Sample Analysis Results** **06/23/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	10-__	11-FB	12-__	15-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

ASR Number: 7120 **RLAB Approved Sample Analysis Results** **06/23/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	15-FD	17-__	18-__	19-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	521	543	413	414
1 Flow, Gallons per Minute					
Flow (GPM)	GPM	12	11		
1 pH of Water by Field Measurement					
pH	SU	7.40	7.36	7.48	7.52
1 Temperature of Water by Field Measurement					
Temperature	Deg C	14.4	14.2	14.3	14.3
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	3.25	3.85	2.50	7.2
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	1.2	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ

Analysis/ Analyte	Units	15-FD	17-__	18-__	19-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	N/A R	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U

Analysis/ Analyte	Units	20-FB	21-__	22-__	23-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm		560	553	465
1 Flow, Gallons per Minute					
Flow (GPM)	GPM		1	3	11
1 pH of Water by Field Measurement					
pH	SU		7.19	7.25	7.43
1 Temperature of Water by Field Measurement					
Temperature	Deg C		15.1	13.4	13.8
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L		5.38	4.79	9.59
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 UJ	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 UJ
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 UJ	0.50 UJ
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.59
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 UJ
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 UJ
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 UJ
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 UJ	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	20-FB	21-__	22-__	23-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 UJ
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 UJ
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 UJ	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 UJ
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 UJ
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 UJ	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	24-__	25-__	26-__	27-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	637	429	440	465
1 Flow, Gallons per Minute					
Flow (GPM)	GPM	11	2.5	10	7
1 pH of Water by Field Measurement					
pH	SU	7.29	7.55	6.98	7.10
1 Temperature of Water by Field Measurement					
Temperature	Deg C	13.3	14.2	11.0	11.2
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	6.68	10.49	6.55	8.10
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	2.5	0.52	0.52
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	24-__	25-__	26-__	27-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.58	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	3.3	8.7	6.1
Trichlorofluoromethane	ug/L	0.50 U	40	5.6	6.5
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	28-__	29-__	29-FD	31-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	384	433	433	581
1 Flow, Gallons per Minute					
Flow (GPM)	GPM	10	10	10	8
1 pH of Water by Field Measurement					
pH	SU	7.30	7.30	7.30	7.87
1 Temperature of Water by Field Measurement					
Temperature	Deg C	10.67	11.0	11.0	11.1
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	9.90	9.90	9.90	7.22
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.71	0.70	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	2.3	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	28-__	29-__	29-FD	31-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	1.4	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	21	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	32-__	33-__	34-__	35-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	328	362	466	532
1 Flow, Gallons per Minute					
Flow (GPM)	GPM	6	5	5	8
1 pH of Water by Field Measurement					
pH	SU	9.70	9.12	7.02	7.30
1 Temperature of Water by Field Measurement					
Temperature	Deg C	11.8	10.7	11.2	10.8
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	10.51	10.04	9.31	11.45
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	4.9	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	2.0	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	2.8	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	4.9	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	2.1	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	32-__	33-__	34-__	35-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	1.4	0.61	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	22	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	37-__	38-__	56-FB	57-FB
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	345	338		
1 pH of Water by Field Measurement					
pH	SU	7.89	7.75		
1 Temperature of Water by Field Measurement					
Temperature	Deg C	15.4	14.6		
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	4.13	2.91		
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	1.4	1.2	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	37-__	38-__	56-FB	57-FB
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	36	52	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	5.9	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	59-FB
1 VOCs in Drinking Water by GC/MS		
Acetone	ug/L	5.0 U
Benzene	ug/L	0.50 U
Bromobenzene	ug/L	0.50 U
Bromochloromethane	ug/L	0.50 U
Bromodichloromethane	ug/L	0.50 U
Bromoform	ug/L	0.50 U
Bromomethane	ug/L	0.50 U
2-Butanone	ug/L	5.0 U
n-Butylbenzene	ug/L	0.50 U
sec-Butylbenzene	ug/L	0.50 U
tert-Butylbenzene	ug/L	0.50 U
Carbon Disulfide	ug/L	0.50 U
Carbon Tetrachloride	ug/L	0.50 U
Chlorobenzene	ug/L	0.50 U
Chloroethane	ug/L	0.50 U
Chloroform	ug/L	0.50 U
Chloromethane	ug/L	0.50 U
2-Chlorotoluene	ug/L	0.50 U
4-Chlorotoluene	ug/L	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U
Dibromochloromethane	ug/L	0.50 U
1,2-Dibromoethane	ug/L	0.50 U
Dibromomethane	ug/L	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U
1,1-Dichloroethane	ug/L	0.50 U
1,2-Dichloroethane	ug/L	0.50 U
1,1-Dichloroethene	ug/L	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U
1,2-Dichloropropane	ug/L	0.50 U
1,3-Dichloropropane	ug/L	0.50 U
2,2-Dichloropropane	ug/L	0.50 U
1,1-Dichloropropene	ug/L	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U
Ethyl Benzene	ug/L	0.50 U
Hexachlorobutadiene	ug/L	0.50 U
2-Hexanone	ug/L	5.0 U
Isopropylbenzene	ug/L	0.50 U
p-Isopropyltoluene	ug/L	0.50 U
Methylene Chloride	ug/L	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U

Analysis/ Analyte	Units	59-FB
Naphthalene	ug/L	0.50 U
n-Propylbenzene	ug/L	0.50 U
Styrene	ug/L	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U
Tetrachloroethene	ug/L	0.50 U
Toluene	ug/L	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U
Trichloroethene	ug/L	0.50 U
Trichlorofluoromethane	ug/L	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U
Vinyl Chloride	ug/L	0.50 U
m and/or p-Xylene	ug/L	0.50 U
o-Xylene	ug/L	0.50 U

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Tanya Howell	7120	22-25 April 2016 (DAY MONTH YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	3 VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7120 - 1					(1) X	X					No extra volume for QC (MS/MSD) collected/provided w/1st set of samples as noted/recorded. PM/sampler emailed on 4/26/16
2											
3											
4											
5											
6											
7											
9											
10											
11 FB											

Missing on all tags! PM/sampler emailed 4/26/16 Completed NR added @ SP. ✓ NOT 4/26/16

Clr. Temp. Rec'd. bet. 0-1 ✓ 4/26/16

DESCRIPTION OF SHIPMENT

10 PIECE(S) CONSISTING OF _____ BOX(ES)

1 ICE CHEST(S): OTHER _____

MODE OF SHIPMENT

X COMMERCIAL CARRIER: FEDEX

___ COURIER

___ SAMPLER CONVEYED _____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD 4/26/16

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] ☒ SEALED ☐ UNSEALED	25 Apr 16	1700	Nicole Robley ☒ SEALED ☐ UNSEALED	Analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY 900AM ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Tanya Howell	7120	25-27 APR 16	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS-OTHER INFORMATION (condition of samples upon receipt other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7120-12		9			3	X					
15		3			1						
15-FD		3			1						
17		3			1						
18		3			1						
19		3			1						
~~20~~		~~3~~			~~1~~						
											QL US6 4-27-1:20
											* Rec'd correct pieces ck COC Corrected @ Sample Receipt to show containers Rec'd QL US6
											* Not
											* Email sent to PM/Sample regarding issue @ sample receipt. 4/28/16
											Chs. Temp. Rec'd: Ret 0-1°C 4/28/16

DESCRIPTION OF SHIPMENT

9 PIECE(S) CONSISTING OF _____ BOX(ES)

1 ICE CHEST(S): OTHER _____

MODE OF SHIPMENT

X COMMERCIAL CARRIER FEDEX

___ COURIER

___ SAMPLER CONVEYED

7762 0759 6427 (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
J. Schumach	4-27-16	1:50pm	Fed-X	Dropped off @ Rolla, Fed-X 1:50pm
X SEALED UNSEALED			SEALED UNSEALED	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Nicole Roula	4/28/16	9:30am		Analy
SEALED UNSEALED			SEALED UNSEALED	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
SEALED UNSEALED			SEALED UNSEALED	

7-EPA-9262(Revised 5/85)

*U.S. GPO: 2002-756-917/40053

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Tonya Howell	7120	29-2 Apr-May 16 (DAY MONTH YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	3 VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7120 - 21					1	X					
22					3						
23					1						
24											
25											
26											
27											
28											
29											
29-FD											
56-FB					1						
											Clr. Temp. Rec'd bet. 0.3-1.9°C

Not Complete

DESCRIPTION OF SHIPMENT

13 PIECE(S) CONSISTING OF ~~BOX(ES)~~

1 ICE CHEST(S): OTHER

MODE OF SHIPMENT

X COMMERCIAL CARRIER: FEDEX

COURIER

SAMPLER CONVEYED (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD 5/4/16

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] X SEALED UNSEALED	5/2/16	1700	Nicole Robley X SEALED 9300 UNSEALED	Analysis
RELINQUISHED BY SEALED UNSEALED	DATE See	TIME email/mailers regarding	RECEIVED BY SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY cooler shipped
RELINQUISHED BY SEALED UNSEALED	DATE On 5/2/16	TIME	RECEIVED BY not delivered (Rec'd until 5/4/16) SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

*U.S. GPO: 2002-756-917/40053

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

4 ~ 5/6/16

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Tonya Howell	7120	3-5 DAY, MAY MONTH, 2016 YEAR	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	3 VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS-OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7120 - 31					1	X					
32					1						
33					3						
34					1						
35					1						
57-FB					1						
											Clr. Temp. Rec'd. bet. 0-6°C

Not Complete

DESCRIPTION OF SHIPMENT

8 PIECE(S) CONSISTING OF _____ BOX(ES) 5/6/16

1 ICE CHEST(S); OTHER _____

MODE OF SHIPMENT 5/6/16

X COMMERCIAL CARRIER FEDEX

_____ COURIER

_____ SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD 5/6/16

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] ☒ SEALED ☐ UNSEALED	5/5/16	1600	[signature] ☒ SEALED ☐ UNSEALED	Analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Tonya Howell	~~7137~~ JTB 7120	24 (DAY) May (MONTH) 2016 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER 3										
7120-37					3	X					
38					1	|					
59-FB					1						
											Clr. Temp. Rec'd. bet 0-1 on 5/26/16

Complete

DESCRIPTION OF SHIPMENT

5 PIECE(S) CONSISTING OF 1 ~~BOX(ES)~~ cooler

____ ICE CHEST(S): OTHER ____

MODE OF SHIPMENT

✓ COMMERCIAL CARRIER ____

____ COURIER

____ SAMPLER CONVEYED ____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD 5/26/16

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] ☒ SEALED ☐ UNSEALED	5/25/16	1200	[signature] ☒ SEALED ☐ UNSEALED	Analy
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY 1115 AM ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 1 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-093

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

Latitude: ~~38 25 96~~ 38 15 34.68

Longitude: ~~-91 08 09~~ 91 04 51.01

		Date	Time(24 hr)
Sample Collection:	**Start:**	4/22/16	15:34
	End:	4/22/16	16:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

[redacted]

GPM, flow: 9.0 GPM

Temp: 14.5

pH: 7.33

Conductivity: 506

DO: 7.88

Notes: No softener. Well in front yard.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 2 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-090

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38 16 08.53'	**Sample Collection: Start:**	4/22/16	16:18
Longitude:	91 05 24.93"	**End:**	4/22/16	16:50

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow: 8.5 GPM

Temp: 14.4

pH: 7.57

Conductivity: 406

DO: 0.05

[redacted]

Notes: Well in front yard. Has softener, but not between well and sampling point.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 3 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-091

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38 15 46.15"	**Sample Collection: Start:**	4/22/16	17:05
Longitude:	91 05 11.82"	**End:**	4/22/16	17:30

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

GPM, flow: 9.0 GPM

Temp: 14.0

pH: 7.48

Conductivity: 450

DO: 5.77

[redacted]

Notes: Well in front yard. No softener.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 4 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-092

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38 16 21.55"	**Sample Collection: Start:**	4/23/16	09:40
Longitude:	91 05 53.67"	**End:**	4/23/16	10:15

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) PH-092

[redacted]

GPM, Flow: 3 GPM

Temp: 14.1

pH: 7.57

Conductivity: 404

DO: 2.92

Notes: Well located 40 ft east of "Creative Chainsaw Carvings" Store. Sampled off spigot next to well.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 5 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH095

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38 16 39.34	**Sample Collection: Start:**	4/23/16	11:05
Longitude:	91 08 09.02	**End:**	4/23/16	11:35

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) PH095

GPM, flow: 7 GPM

Temp: 13.5

pH: 7.52

Conductivity: 424

DO: 8.76

Notes: Well is a 30 ft SW of house in yard. Visible from street. Sampled off spigot near well.

[redacted]

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 6 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-094

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38 13 08.49	**Sample Collection: Start:**	4/23/16	12:12
Longitude:	91 07 57.35	**End:**	4/23/16	12:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

GPM: 10 GPM

Temp: 13.4

pH: 7.54

Conductivity: 449

DO: 9.59

[redacted]

Notes: No softener. Well in front yard. Sampled off spigot next to well.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 7 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-096

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude: 38 15 35.63	**Sample Collection:**	**Start:**	4/25/16	11:04
Longitude: 91 06 18.64		**End:**	4/25/16	11:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

GPM, flow = 6 GPM
Temp: 13.4
pH: 7.45
Conductance: 248
DO: 9.86

Notes: Sampled off spigot on back porch.
No water softener.

[redacted]

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 9 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-9-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-098

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38 15 15.74	**Sample Collection: Start:**	4/25/16	13:20
Longitude:	91 05 45.00	**End:**	4/25/16	13:48

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow: 9 GPM

Temp: 13.9

pH: 7.44

Conductivity: 454

DO: 9.87

[redacted]

Notes. Well visible about 10 ft from driveway in a decorative box. No softener.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 10 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-10-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-099

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38 15 12.52	**Sample Collection: Start:**	4/25/16	14:21
Longitude:	91 05 38.88	**End:**	4/25/16	14:55

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

GPM, flow: 9.3 GPM

Temp: 14.2

pH: 7.36

Conductivity: 461

DO: 6.88

[redacted]

Notes: Well in front yard. Water had slight yellow tint. Sampled off spigot next to well.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 11 **QC Code:** 11-FB **Matrix:** Water **Tag ID:** 7120-11-FB

4/26/16

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: TRIP BLANK

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/22/16	15:00
Longitude: ___ ___ ___	**End:**	4/25/16	15:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

TRIP BLANK,

PREPARED 4/20/16
10:01

Added "FB" to all tags @ Sample receipt.
4/26/16

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 12 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-12-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-031 (Gift shop well)

External Sample Number: _____

Expected Conc: (or Circle One: ~~Low~~ Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/26/16	13:05
Longitude: ___ ___ ___	**End:**	4/26/16	13:05

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
9 ~~3~~ - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) Temp: 14.4

GPM, flow: 9

pH: 7.35

Conductivity: 533

DO: 6.67

started pumping 1235

Meramec Caverns
Gift shop well

Notes: Sampled off spigot inside loading dock entrance before chlorinator. Preserved with HCL.
- ran tap just past chlorinator @ 9gpm to purge

(*) Triple Volume Matrix Spike Dup

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 15 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-15-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-030

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/26/16	14:51
Longitude: ___ ___ ___	**End:**	4/26/16	14:51

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow: 12
Temp: 14.4
pH: 7.40
Conductivity: 521
DO: ~~3.8~~ JTE 3.25

Meramec Caverns Campground well

Notes: Sampled well southeast of women's restroom
Preserved with HCL. purged from the faucet
& faucet @ picnic table immediately south - combined
flow ~12 gpm

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** ~~16~~ 15 4/28/16 **QC Code:** FD **Matrix:** Water **Tag ID:** 7120-~~16~~-15-FD

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-030 (Campground)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/26/16	14:51
Longitude: ___ ___ ___	**End:**	4/26/16	14:51

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

Meramec Caverns Campground

GPM, flow: 12
Temp: 14.4
pH: 7.40
Conductivity: 521
DO: 3.25

Notes: Sampled well southeast of women's restroom
Preserved with HCL,

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 17 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-17-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH032

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/26/16	16:00
Longitude: ___ ___ ___	**End:**	4/26/16	16:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

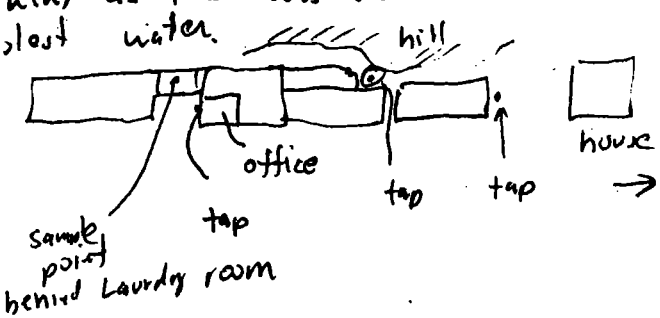
(N/A)

GPM, flow 11
Temp 14.2
pH 7.36
Conductivity 543
DO 3.85

Meramec Caverns
motel well

Notes:

purged ~~to~~ from faucet @ N. end of building & faucet behind middle part of building & faucet behind ice machine. Combined flow ~ 11gpm. field parameters & samples from tap between 2nd & 3rd pressure tanks inside building as this was closest to well & coolest water.



Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 18 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-18-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH100

External Sample Number: _____

Expected Conc: ND (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38.275~~9996~~	**Sample Collection: Start:**	4/27/16	10:30
Longitude:	-91.1038~~639~~ 95473	**End:**	4/27/16	10:30

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

Temp = 14.3°C
SpCond = 413 µS/cm
D.O. = 2.50 mg/L
pH = 7.48

[redacted]

purged ~4gpm from faucet on south (back) of house

J Rhu

2124
Springfield Rd
Stanton, MO

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 19 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-19-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH101

External Sample Number: _____

Expected Conc: ND (or Circle One: Low Medium High)

Latitude: 38.20576633
Longitude: -91.13947640

	Date	Time(24 hr)
Sample Collection: Start:	4/27/16	11:35
End:	4/27/16	11:35

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A) T= 14.3 °C
D.O = 7.2 mg/L
Spec = ~~[illegible]~~ 414 µS/cm
pH = 7.52
Sampled outside freezeless back (SE) side of large Brick home.

[redacted]

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

FB TB FB 4/28/16

ASR Number: 7120 **Sample Number:** 20 **QC Code:** ~~TB~~ FB **Matrix:** Water **Tag ID:** 7120-20-~~TB~~ FB

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: EPA trip blank

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/20/16	10:05
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

trip blank
provided by
EPA
DW VOA TB
4/20/16
10:05

RL corrected this sample to show FB. 4/28/16

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 21 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-21-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: MSPW #2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38° 13' 01.31"	**Sample Collection: Start:**	4/29/16	09:15
Longitude:	91° 05' 33.50"	**End:**	4/29/16	09:20

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow = 1 GPM
pH = 7.19
Temp = 15.1
DO = 5.38
Conductivity = 560

Meramec SP

Notes: Unable to run well for long (5 minutes). Sampled right away. 5 drops HCL x 3 VOA vials

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 22 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-22-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: MSPW #3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38° 13' 21.26"	**Sample Collection: Start:**	4/29/16	10:00
Longitude:	91° 04' 57.27"	**End:**	4/29/16	10:05

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow: 3 GPM

Temp: 13.4

pH: 7.25

Conductivity: 553

DO: 4.79

Meramec SP

Notes:

Matrix Spike Duplicate

5 drops HCL

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 23 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-23-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-102

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38° 15' 15.720"	**Sample Collection: Start:**	4/29/16	11:30
Longitude:	91° 05' 28.663"	**End:**	4/29/16	11:35

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

GPM, flow - 11 GPM
Temp - 13.8
pH - 7.43
DO - 9.50
Conductance - 465

[redacted]

N-09

Notes: ~~Well~~ Spigot is ~ 40' North of red barn to the rear of the property. Non-chlorinated Acidified w/ 5 drops HCL

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 24 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-24-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-103

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38° 15' 07.23"	**Sample Collection: Start:**	4/29/16	12:40
Longitude:	91° 05' 45.33"	**End:**	4/29/16	12:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

GPM; flow - 11 GPM

Temp - 13.3

pH - 7.29

DO - 6.68

Conductance - 637

[redacted]

Notes: Well is halfway between house and garage. Has water softener, but it is turned off. Sampled from spigot at rear of house. Pumped 550 gallons

Sample Collected By: USGS 3 vials - 5 drops HCL each.

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 25 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-25-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: ~~PH-104~~ PW-019

External Sample Number: _____

Expected Conc: _____ (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38° 14' 12.64"	**Sample Collection: Start:**	4/29/16	15:40
Longitude:	91° 08' 26.02"	**End:**	4/29/16	15:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow = 2.5

Temp = 14.2

pH: 7.55

Conductivity = 429

D.O. = 10.49

[redacted]

Notes: Well is east of detached garage, no spigot. Sampled off front spigot, attached to house

Preserved w/ 5 drops HCL

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 26 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-26-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-016

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38° 14' 26.14"	**Sample Collection: Start:**	5/2/16	10:55
Longitude:	91° 08' 23.63"	**End:**	5/2/16	11:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow = 10 GPM

Temp = 11.0

pH = 6.98

DO = 6.55

Conductance = 440

[redacted]

Notes: Owner was using well before arrival. No WS. Acidified w/ 5 drops HCL.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 27 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-27-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-042

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38° 14' 27.79"	**Sample Collection: Start:**	5/2/16	11:45
Longitude:	91° 08' 19.80"	**End:**	5/2/16	11:50

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

GPM, flow: 7
Temp: 11.2
pH: ~~4~~ 7.10
DO: 8.10
Conductance: 465

Notes: Sampled off spigot to rear of house near AC unit. Acidified w/ 5 drops HCL

[redacted]

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 28 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-28-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: ~~PH-105~~ PH-017

External Sample Number: _____

Expected Conc: ° , (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38° 14' 09.31"	**Sample Collection: Start:**	5/2/16	~~12~~ 13:00
Longitude:	91° 08' 25.46"	**End:**	5/2/16	13:05

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow: 10 GPM
Temp: 10.67
pH: 7.30
DO: 9.90
Conductance: 384

[redacted]

Notes: Sampled off spigot directly next to well. Well located 20' behind garage.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 29 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-29-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PW-002

External Sample Number: _____

Expected Conc: 38° 13' (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ~~91 08~~ 17.39"	**Sample Collection: Start:**	5/2/16	14:20
Longitude: 91° 08' 8.93"	**End:**	5/2/16	14:25

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A) GPM, flow: 10 GPM

[redacted]

Temp: 11.0
pH: 7.30
DO: 9.90
Conductance: 433

Notes: Owner filling pool. Well probably already stabilized. Acidified w/ 5 drops HCL

already half full

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** ~~30~~ 29 5/4/16 **QC Code:** FD **Matrix:** Water **Tag ID:** 7120-~~30~~ 29-FD-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PW-002

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38° 13' 17.39"	**Sample Collection: Start:**	5/2/16	14:20
Longitude:	91° 08' 8.93"	**End:**	5/2/16	14:25

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A) 10 GPM

Temp: 11.0
pH: 7.30
DO: 9.90
Conductance: 433

[redacted]

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 31 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-31-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PW-010

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

(DD) **Latitude:** 38.240828
Longitude: -91.121569

	Date	Time(24 hr)
Sample Collection: Start:	5/3/16	11:55
End:	5/3/16	12:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow: 8 GPM

Temp. 11.1

pH - 7.87

DO - 7.22

Conductivity - 581

Notes: Well house is EAST OF HOME. SAMPLED OFF SPIGOT IN WELL HOUSE. NON-CHLORINATED.

ACIDIFIED w/ 5 drops HCL.

[redacted]

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 32 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-32-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-008

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

(DO) **Latitude:** 38.226843
Longitude: -91.145147

	Date	Time(24 hr)
Sample Collection: Start:	5/3/16	13:50
End:	5/3/16	13:55

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

GPM, flow: 6
Temp: 11.8
pH: 9.70
DO: 10.51
Conductivity: 328

[redacted]

Notes: Acidified w/ 5 drops HCL. Sampled from spigot 5 ft from road, next to garage

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 33 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-33-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PW-018

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

(DD) **Latitude:** 38.23591
Longitude: -91.14084

Sample Collection: **Start:** 5/3/16 14:35
End: 5/3/16 14:40

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A) GPM, flow - 5 GPM
Temp - 10.7
pH - 9.12
DO - 10.04
Conductivity - 362

Notes: Sampled off spigot next to well. Well is east of house, halfway between house and driveway. Acidified w/ 5 drops HCL.

Matrix Spike Dup
5/6/16

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 34 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-34-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-015

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	38.240915	**Sample Collection: Start:**	5/4/16	10:10
Longitude:	-91.173176	**End:**	5/4/16	10:15

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow: 5 GPM

[redacted]

Temp: 11.2

pH: 7.02

DO: 9.31

Conductance: 466

Notes: Sampled off spigot on west side of home. No water softener.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 35 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-35-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PW-023

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: 38.235056	**Sample Collection: Start:**	5/4/16	10:50
Longitude: -91.174246	**End:**	5/4/16	10:55

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) GPM, flow = 8

Temp: 10.8

pH: 7.30

DO: 11.45

Conductance: 532

[redacted]

Notes: Sampled off spigot to rear of home. Only pumped 105 gallons before sample. Faucet connection was severely leaking, creating big mess.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 37 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-37-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: COS -2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	91° 10.060'	**Sample Collection: Start:**	5/24/16	14:05
Longitude:	38° 12.595'	**End:**	5/24/16	14:05

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) Temp. 15.4°
pH: 7.89
DO: 4.13
Conductance: 345

City of Sullivan
Well #2

Mail to: Robert Schaffer
City of Sullivan
210 West Washington
Sullivan, Mo 63080

Sampled before air stripper, been pumped continually.
Acidified w/5 drops HCL.

Matrix Spike Dup (9 VOA)

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 38 **QC Code:** __ **Matrix:** Water **Tag ID:** 7120-38-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: ~~OGV-02-1~~ OGV - 01

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	~~91 10.060~~	**Sample Collection: Start:**	5/24/16	14:40
Longitude:	~~38 12.595~~	**End:**	5/24/16	14:40

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

Temp: 14.6
pH: 7.75
DO: 2.91
Conductance: 338

Oak Grove Village
260 James St.
Sullivan, Mo 63080

Sampled before chlorinator. Acidified w/ 5 drops HCL

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 56 **QC Code:** FB **Matrix:** Water **Tag ID:** 7120-56-FB

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: DW VOA Trip Blank sample

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/29/16	08:00
Longitude: ___ ___ ___	**End:**	5/2/16	16:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 57 **QC Code:** FB **Matrix:** Water **Tag ID:** 7120-57-FB

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: DW VOA Trip Blank sample

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	___ ___ ___	**Sample Collection: Start:**	5/4/16	16:00
Longitude:	___ ___ ___	**End:**	5/4/16	16:05

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7120 **Sample Number:** 59 **QC Code:** FB **Matrix:** Water **Tag ID:** 7120-59-FB

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: DW VOA Trip Blank sample

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 5/24/16 16:00
Longitude: ___ ___ ___ **End:** 5/24/16 16:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

Sample Collected By: USGS

SUPR

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Tonya Howell	~~7137~~ JTE 7120	24 (DAY) May (MONTH) 2016 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER 3										
7120 - 37					3	X					
38					1	|					
59-FB					1						

Complete

Clr. Temp. Rec'd. bet. 0-1 on 5/26/16

DESCRIPTION OF SHIPMENT

5 PIECE(S) CONSISTING OF 1 ~~BOX(ES)~~ cooler

ICE CHEST(S): OTHER

MODE OF SHIPMENT

✓ COMMERCIAL CARRIER

COURIER

SAMPLER CONVEYED (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD 5/26/16

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED	5/25/16	1200	[signature] SEALED UNSEALED	Analy
RELINQUISHED BY SEALED UNSEALED	DATE	TIME	RECEIVED BY 1115AM SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

*U.S. GPO: 2002-756-917/40053

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 08/15/2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7188

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/MOKS Phone: 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL Site ID: 07PZ Site OU: 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in groundwater from an undefined TCE plume in Franklin Co., MO. GW & DW sampling to determine extent of TCE contamination and exposure pathways.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FB = Field Blank
FD = Field Duplicate

Units: Specific units in which results are reported.

umhos/cm = Micromhos per Centimeter
GPM = Gallons per Minute
SU = Standard Units (pH)
mg/L = Milligrams per Liter
Deg C = Degrees Celsius
ug/L = Micrograms per Liter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7188 Sample Information Summary 08/15/2016

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Water	Jungle Room (PH-078)		07/12/2016	14:05	07/12/2016	14:05	07/18/2016
2 -	__	Water	Loot Rock (PH-082)		07/12/2016	13:54	07/12/2016	13:54	07/18/2016
3 -	__	Water	Meramec River upstream of cave (PH-106)		07/13/2016	12:37	07/13/2016	12:37	07/18/2016
3 -	FD	Water	Meramec River upstream of cave (PH-106)		07/13/2016	12:38	07/13/2016	12:38	07/18/2016
5 -	__	Water	Meramec River downstream of cave (PH-107)		07/13/2016	13:20	07/13/2016	13:20	07/18/2016
6 -	__	Water	PH-042		07/13/2016	14:30	07/13/2016	14:30	07/18/2016
7 -	FB	Water	DW VOA Trip Blank sample		07/12/2016	08:00	07/13/2016	17:00	07/18/2016

Analysis	Comments About Results For This Analysis

1 Conductivity by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 3-FD 5-__ 6-__

Comments:
(N/A)

1 Flow, Gallons per Minute

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 6-__

Comments:
(N/A)

1 pH of Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 3-FD 5-__ 6-__

Comments:
(N/A)

1 Temperature of Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 3-FD 5-__ 6-__

Comments:
(N/A)

1 Total Dissolved Oxygen in Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 3-FD 5-__ 6-__

Comments:
(N/A)

1 VOCs in Drinking Water by GC/MS

Lab: Contract Lab Program (Out-Source)

Method: CLP Statement of Work

Analysis	Comments About Results For This Analysis

Samples: 1-__ 2-__ 3-__ 3-FD 5-__ 6-__ 7-FB

Comments:

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	3-FD
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	377	372	324	324
1 pH of Water by Field Measurement					
pH	SU	7.24	7.23	7.81	7.81
1 Temperature of Water by Field Measurement					
Temperature	Deg C	13.2	13.2	27.2	27.2
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	9.50	9.60	6.82	6.82
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	1-__	2-__	3-__	3-FD
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	1.4	1.4	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__	7-FB
1 Conductivity by Field Measurement				
Conductivity	umhos/cm	328	471	
1 Flow, Gallons per Minute				
Flow (GPM)	GPM		3.5	
1 pH of Water by Field Measurement				
pH	SU	8.11	7.48	
1 Temperature of Water by Field Measurement				
Temperature	Deg C	27.2	14.7	
1 Total Dissolved Oxygen in Water by Field Measurement				
Dissolved Oxygen	mg/L	6.92	9.70	
1 VOCs in Drinking Water by GC/MS				
Acetone	ug/L	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	5-__	6-__	7-FB
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	4.2	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	2.9	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 04/06/2017

Subject: Transmittal of Sample Analysis Results for ASR #: 7381

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/REMB/FFPC

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Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/REMB/FFPC Phone: 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL Site ID: 07PZ Site OU: 01

GPRA PRC: 303DD2

Purpose: Site Characterization

GW & DW sampling to determine extent of TCE contamination and exposure pathways.
To determine the nature & extent of VOC contamination in GW from an undefined TCE plume in Franklin Co., MO.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FB = Field Blank
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Units: Specific units in which results are reported.

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GPM = Gallons per Minute
ug/L = Micrograms per Liter
SU = Standard Units (pH)
Deg C = Degrees Celsius

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.
J = The identification of the analyte is acceptable; the reported value is an estimate.

ASR Number: 7381 Sample Information Summary 04/06/2017

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1	__	Water	PH-105		03/06/2017	09:05	03/06/2017	09:10	03/10/2017
2	__	Water	PH-042		03/06/2017	09:20	03/06/2017	09:25	03/10/2017
3	__	Water	PW-094		03/06/2017	10:15	03/06/2017	10:20	03/10/2017
4	__	Water	PW-017		03/06/2017	11:15	03/06/2017	11:20	03/10/2017
5	__	Water	PW-019		03/06/2017	12:20	03/06/2017	12:25	03/10/2017
6	__	Water	PH-017		03/06/2017	13:35	03/06/2017	13:40	03/10/2017
7	__	Water	PW-012		03/06/2017	14:20	03/06/2017	14:25	03/10/2017
8	__	Water	PH-013		03/06/2017	15:45	03/06/2017	15:50	03/10/2017
9	__	Water	PH-026		03/07/2017	09:45	03/07/2017	09:50	03/10/2017
10	__	Water	PW-013		03/07/2017	10:10	03/07/2017	10:15	03/10/2017
11	__	Water	PW-014		03/07/2017	11:25	03/07/2017	11:30	03/10/2017
12	__	Water	PH-025		03/07/2017	11:40	03/07/2017	11:45	03/10/2017
13	__	Water	PH-061		03/07/2017	12:50	03/07/2017	12:55	03/10/2017
14	__	Water	PH-093		03/07/2017	14:10	03/07/2017	14:15	03/10/2017
15	__	Water	PH-102		03/07/2017	15:05	03/07/2017	15:10	03/10/2017
16	__	Water	PW-015		03/08/2017	10:05	03/08/2017	10:10	03/10/2017
17	__	Water	PH-015		03/08/2017	11:55	03/08/2017	12:00	03/10/2017
18	__	Water	PW-023		03/08/2017	12:45	03/08/2017	12:50	03/10/2017
19	__	Water	PW-016		03/13/2017	09:00	03/13/2017	09:05	03/15/2017
20	__	Water	PW-045		03/13/2017	10:10	03/13/2017	10:15	03/15/2017
21	__	Water	PW-048		03/13/2017	11:15	03/13/2017	11:20	03/15/2017
22	__	Water	PW-067		03/13/2017	12:15	03/13/2017	12:20	03/15/2017
23	__	Water	PH-054		03/13/2017	13:30	03/13/2017	13:35	03/15/2017
23	FD	Water	PH-054		03/13/2017	13:36	03/13/2017	13:36	03/15/2017
25	__	Water	PH-058		03/14/2017	10:25	03/14/2017	10:30	03/15/2017
26	__	Water	PH-019B		03/14/2017	11:45	03/14/2017	11:50	03/15/2017
27	__	Water	COS-02		03/14/2017	09:15	03/14/2017	09:20	03/15/2017
28	FB	Water	DW VOA Trip Blank sample		03/06/2017	08:00	03/08/2017	16:00	03/10/2017
29	FB	Water	DW VOA Trip Blank sample		03/06/2017	08:00	03/14/2017	16:00	03/15/2017

Analysis	Comments About Results For This Analysis

1 Conductivity by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__ 11-__ 12-__ 13-__ 14-__
15-__ 16-__ 17-__ 18-__ 19-__ 20-__ 21-__
22-__ 23-__ 23-FD 25-__ 26-__ 27-__

Comments:
(N/A)

1 Flow, Gallons per Minute

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 3-__

Comments:
(N/A)

1 pH of Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__ 11-__ 12-__ 13-__ 14-__
15-__ 16-__ 17-__ 18-__ 19-__ 20-__ 21-__
22-__ 23-__ 23-FD 25-__ 26-__ 27-__

Comments:
(N/A)

1 Temperature of Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__ 11-__ 12-__ 13-__ 14-__
15-__ 16-__ 17-__ 18-__ 19-__ 20-__ 21-__
22-__ 23-__ 23-FD 25-__ 26-__ 27-__

Comments:
(N/A)

1 Total Dissolved Oxygen in Water by Field Measurement

Lab: (Field Measurement)

Analysis	Comments About Results For This Analysis

Method: Measurement of field parameter

Samples:							
	1-__	2-__	3-__	4-__	5-__	6-__	7-__
	8-__	9-__	10-__	11-__	12-__	13-__	14-__
	15-__	16-__	17-__	18-__	19-__	20-__	21-__
	22-__	23-__	23-FD	25-__	26-__	27-__	

Comments:
(N/A)

1 VOCs in Drinking Water by GC/MS

Lab: Contract Lab Program (Out-Source)

Method: CLP Statement of Work

Samples:							
	1-__	2-__	3-__	4-__	5-__	6-__	7-__
	8-__	9-__	10-__	11-__	12-__	13-__	14-__
	15-__	16-__	17-__	18-__	19-__	20-__	21-__
	22-__	23-__	23-FD	25-__	26-__	27-__	28-FB
	29-FB						

Comments:
Trichlorofluoromethane was J-coded in samples -5, -6 and -8. Although the analyte in question has been positively identified in the samples, the quantitation is an estimate (J-coded) due to the reported values exceeding the calibrated range of the instrument.

1,1,2,2-Tetrachloroethane and 1,2-Dibromo-3-chloropropane were UJ-coded in sample -13. These analytes were not found in the sample at or above the reporting limits; however, the reporting limits are an estimate (UJ-coded) due to low recoveries of surrogate analytes. The actual reporting limits for these analytes may be higher than the reported values.

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	443	454	418	680
1 Flow, Gallons per Minute					
Flow (GPM)	GPM	5.0		5.0	
1 pH of Water by Field Measurement					
pH	SU	7.47	7.51	7.50	7.28
1 Temperature of Water by Field Measurement					
Temperature	Deg C	14.1	13.8	14.5	13.9
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	8.21	8.38	8.43	6.12
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	11	14	13	12
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.7	8.0	7.6	6.5
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	1.2	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	4.7	1.6	0.50 U
Trichlorofluoromethane	ug/L	0.68	5.2	17	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	427	376	387	430
1 pH of Water by Field Measurement					
pH	SU	7.47	7.52	7.64	7.48
1 Temperature of Water by Field Measurement					
Temperature	Deg C	14.1	14.0	17.9	14.2
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	10.29	7.26	9.61	9.28
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	12	15	12	13
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	7.0	7.5	6.6	6.9
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	3.2	2.0	0.50 U	1.7
1,1-Dichloroethane	ug/L	0.54	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.70	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	3.8	1.1	3.5	2.3
Trichlorofluoromethane	ug/L	59 J	24 J	5.9	30 J
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	532	572	512	444
1 pH of Water by Field Measurement					
pH	SU	7.08	7.14	7.50	7.48
1 Temperature of Water by Field Measurement					
Temperature	Deg C	14.2	14.2	14.1	11.0
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	3.15	2.39	7.78	5.60
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	13	14	11	13
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	6.3	7.3	6.4	7.2
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.67	0.58	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	3.7	3.9	0.50 U
Trichlorofluoromethane	ug/L	5.4	5.4	1.5	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	13-__	14-__	15-__	16-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	452	508	469	390
1 pH of Water by Field Measurement					
pH	SU	7.33	7.30	7.40	7.59
1 Temperature of Water by Field Measurement					
Temperature	Deg C	14.0	14.3	13.4	14.8
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	8.51	8.46	9.33	8.51
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	7.0	9.4	10	12
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0	6.2
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	13-__	14-__	15-__	16-__
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.65
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	1.5
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	17-__	18-__	19-__	20-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	453	522	387	348
1 pH of Water by Field Measurement					
pH	SU	7.47	7.41	7.80	7.48
1 Temperature of Water by Field Measurement					
Temperature	Deg C	14.6	14.2	12.4	13.9
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	8.49	8.65	9.08	8.80
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	9.8	13	11	12
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.4	6.6	5.9	6.0
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	17-__	18-__	19-__	20-__
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.55	0.50 U	0.96	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	2.3	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	21-__	22-__	23-__	23-FD
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	418	376	403	403
1 pH of Water by Field Measurement					
pH	SU	7.62	7.84	7.65	7.65
1 Temperature of Water by Field Measurement					
Temperature	Deg C	13.7	13.7	14.5	14.5
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	7.09	6.62	11.31	11.31
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	15	30	11	12
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	8.2	15	6.1	7.0
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	21-__	22-__	23-__	23-FD
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	1.3	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	25-__	26-__	27-__	28-FB
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	467	325	353	
1 pH of Water by Field Measurement					
pH	SU	7.50	7.70	7.61	
1 Temperature of Water by Field Measurement					
Temperature	Deg C	13.3	14.5	14.7	
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	10.40	2.70	4.23	
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	12	11	14	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	6.4	6.4	7.2	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.57	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.66	1.4	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	25-__	26-__	27-__	28-FB
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	21	29	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	1.7	0.56	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	29-FB
1 VOCs in Drinking Water by GC/MS		
Acetone	ug/L	5.0 U
Benzene	ug/L	0.50 U
Bromobenzene	ug/L	0.50 U
Bromochloromethane	ug/L	0.50 U
Bromodichloromethane	ug/L	0.50 U
Bromoform	ug/L	0.50 U
Bromomethane	ug/L	0.50 U
2-Butanone	ug/L	5.0 U
n-Butylbenzene	ug/L	0.50 U
sec-Butylbenzene	ug/L	0.50 U
tert-Butylbenzene	ug/L	0.50 U
Carbon Disulfide	ug/L	0.50 U
Carbon Tetrachloride	ug/L	0.50 U
Chlorobenzene	ug/L	0.50 U
Chloroethane	ug/L	0.50 U
Chloroform	ug/L	0.50 U
Chloromethane	ug/L	0.50 U
2-Chlorotoluene	ug/L	0.50 U
4-Chlorotoluene	ug/L	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U
Dibromochloromethane	ug/L	0.50 U
1,2-Dibromoethane	ug/L	0.50 U
Dibromomethane	ug/L	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U
1,1-Dichloroethane	ug/L	0.50 U
1,2-Dichloroethane	ug/L	0.50 U
1,1-Dichloroethene	ug/L	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U
1,2-Dichloropropane	ug/L	0.50 U
1,3-Dichloropropane	ug/L	0.50 U
2,2-Dichloropropane	ug/L	0.50 U
1,1-Dichloropropene	ug/L	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U
Ethyl Benzene	ug/L	0.50 U
Hexachlorobutadiene	ug/L	0.50 U
2-Hexanone	ug/L	5.0 U
Isopropylbenzene	ug/L	0.50 U
p-Isopropyltoluene	ug/L	0.50 U
Methylene Chloride	ug/L	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U

Analysis/ Analyte	Units	29-FB
Naphthalene	ug/L	0.50 U
n-Propylbenzene	ug/L	0.50 U
Styrene	ug/L	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U
Tetrachloroethene	ug/L	0.50 U
Toluene	ug/L	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U
Trichloroethene	ug/L	0.50 U
Trichlorofluoromethane	ug/L	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U
Vinyl Chloride	ug/L	0.50 U
m and/or p-Xylene	ug/L	0.50 U
o-Xylene	ug/L	0.50 U

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 09/11/2018

Subject: Transmittal of Sample Analysis Results for ASR #: 7962

Project ID: TH07PZ02

Project Description: Oak Grove Village well - Closed Sullivan Landfill

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch for MSG
Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/REMB/FFPC

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please ensure that you file this electronic (.pdf only) transmittal in your records management system. The Regional Laboratory will now retain all of the original hardcopy documentation (e.g. COC[s] and the R7LIMS field sheet[s], etc.) according to our ENST records management system.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey. It is critical that we receive your response in accordance to RCRA and the laboratory accreditation.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

Project Manager: Tonya Howell Org: SUPR/REMB/FFPC Phone: 913-551-7589

Project ID: TH07PZ02

Project Desc: Oak Grove Village well - Closed Sullivan Landfill

Location: Sullivan State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL Site ID: 07PZ Site OU: 02

GPRA PRC: 000DD2

Purpose: Site Characterization

GW and drinking water sampling to determine extent of TCE contamination and exposure pathways.

PM (TH) noted on the submitted ASR sent via email on 7/11/2018 that this ASR is not part of a litigation hold activity at this time.
Above GPRA/site code (+OU) check OK per JN on 7/11/18.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FB = Field Blank
FD = Field Duplicate

Units: Specific units in which results are reported.

SU = Standard Units (pH)
mg/L = Milligrams per Liter
GPM = Gallons per Minute
Deg C = Degrees Celsius
umhos/cm = Micromhos per Centimeter
ug/L = Micrograms per Liter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7962 Sample Information Summary 09/11/2018

Project ID: TH07PZ02 Project Desc: Oak Grove Village well - Closed Sullivan Landfill

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1	__	Water	PH-019B		08/10/2018	09:00	08/10/2018		08/15/2018
2	__	Water	PW-012		08/10/2018	10:45			08/15/2018
3	__	Water	PH-016		08/10/2018	11:45			08/15/2018
4	__	Water	PH-105 (Post filter)		08/10/2018	12:40			08/15/2018
5	__	Water	PH-042 (Pre filter)		08/10/2018	12:45			08/15/2018
5	FD	Water	PH-042 (Pre filter)	Field Duplicate	08/10/2018	12:46			08/15/2018
7	__	Water	PW-019		08/10/2018	13:45			08/15/2018
8	__	Water	PH-050		08/10/2018	15:20			08/15/2018
9	__	Water	PH-403		08/10/2018	15:55			08/15/2018
10	__	Water	PW-067 [redacted]		08/13/2018	10:30			08/15/2018
11	__	Water	PW-023		08/13/2018	11:25			08/15/2018
12	__	Water	PW-419		08/13/2018	13:32			08/15/2018
15	FB	Water	DW VOA Trip Blank sample		08/08/2018	06:11			08/15/2018
16	FB	Water	DW VOA Trip Blank sample		08/08/2018	06:12			08/15/2018

Analysis	Comments About Results For This Analysis

1 Conductivity by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 5-FD 7-__
8-__ 9-__ 10-__ 11-__ 12-__

Comments:
(N/A)

1 Flow, Gallons per Min[redacted]

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 9-__ 10-__ 11-__
12-__

Comments:
(N/A)

1 pH of Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 5-FD 7-__
8-__ 9-__ 10-__ 11-__ 12-__

Comments:
(N/A)

1 Temperature of Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 5-FD 7-__
8-__ 9-__ 10-__ 11-__ 12-__

Comments:
(N/A)

1 Total Dissolved Oxygen in Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 5-FD 7-__
8-__ 9-__ 10-__ 11-__ 12-__

Comments:

Analysis	Comments About Results For This Analysis

(N/A)

1 VOCs in Drinking Water by GC/MS

Lab: Contract Lab Program (Out-Source)

Method: CLP Statement of Work

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 7-__ 8-__
9-__ 10-__ 11-__ 12-__ 15-FB 16-FB

Comments:

Samples [redacted] were analyzed 13 hours and 11 hours past their 14 day holding time. The results for analytes that were not found at or above the reporting limit were UJ-coded to indicate that the reporting limit is an estimated value. The actual reporting limit may be higher than the reported value.

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	328.7	375	452	471
1 Flow, Gallons per Minute					
Flow (GPM)	GPM	116	6	7.8	4.4
1 pH of Water by Field Measurement					
pH	SU	7.62	7.53	7.53	7.42
1 Temperature of Water by Field Measurement					
Temperature	Deg C	14.6	15.5	14.7	15.3
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	2.65	5.78	6.10	7.5
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.67	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	27	2.2	5.2	3.1
Trichlorofluoromethane	ug/L	1.6	3.6	4.6	3.1
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	5-__	5-FD	7-__	8-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	471	471	440	365
1 pH of Water by Field Measurement					
pH	SU	7.42	7.42	7.41	7.54
1 Temperature of Water by Field Measurement					
Temperature	Deg C	15.3	15.3	16.1	15.4
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	7.5	7.5	10.75	9.24
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U		5.0 U	5.0 U
Benzene	ug/L	0.50 U		0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U		0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U		0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U		0.50 U	0.50 U
Bromoform	ug/L	0.50 U		0.50 U	0.50 U
Bromomethane	ug/L	0.50 U		0.50 U	0.50 U
2-Butanone	ug/L	5.0 U		5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U		0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U		0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U		0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U		0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U		0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U		0.50 U	0.50 U
Chloroethane	ug/L	0.50 U		0.50 U	0.50 U
Chloroform	ug/L	0.50 U		0.50 U	0.50 U
Chloromethane	ug/L	0.50 U		0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U		0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U		0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U		0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U		0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U		0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U		0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U		0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U		0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U		0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U		2.3	0.50 U
1,1-Dichloroethane	ug/L	0.50 U		0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U		0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U		0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U		0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U		0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U		0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U		0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U		0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U		0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U		0.50 U	0.50 U

Analysis/ Analyte	Units	5-__	5-FD	7-__	8-__
trans-1,3-Dichloropropene	ug/L	0.50 U		0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U		0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U		0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U		5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U		0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U		0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U		0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U		5.0 U	5.0 U
Naphthalene	ug/L	0.50 U		0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U		0.50 U	0.50 U
Styrene	ug/L	0.50 U		0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U		0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U		0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U		0.57	0.50 U
Toluene	ug/L	0.50 U		0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U		0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U		0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U		0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U		0.50 U	0.50 U
Trichloroethene	ug/L	4.6		3.1	0.50 U
Trichlorofluoromethane	ug/L	3.4		41	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U		0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U		0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U		0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U		0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U		0.50 U	0.50 U
o-Xylene	ug/L	0.50 U		0.50 U	0.50 U

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	285	404	530	400
1 Flow, Gallons per Minute					
Flow (GPM)	GPM	4-6	7.4	7.2	4.1
1 pH of Water by Field Measurement					
pH	SU	7.77	7.53	7.23	7.49
1 Temperature of Water by Field Measurement					
Temperature	Deg C	15.3	15.4	14.5	15.3
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	9.49	6.41	9.14	9.1
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	1.2	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	15-FB	16-FB
1 VOCs in Drinking Water by GC/MS			
Acetone	ug/L	5.0 UJ	5.0 UJ
Benzene	ug/L	0.50 UJ	0.50 UJ
Bromobenzene	ug/L	0.50 UJ	0.50 UJ
Bromochloromethane	ug/L	0.50 UJ	0.50 UJ
Bromodichloromethane	ug/L	0.50 UJ	0.50 UJ
Bromoform	ug/L	0.50 UJ	0.50 UJ
Bromomethane	ug/L	0.50 UJ	0.50 UJ
2-Butanone	ug/L	5.0 UJ	5.0 UJ
n-Butylbenzene	ug/L	0.50 UJ	0.50 UJ
sec-Butylbenzene	ug/L	0.50 UJ	0.50 UJ
tert-Butylbenzene	ug/L	0.50 UJ	0.50 UJ
Carbon Disulfide	ug/L	0.50 UJ	0.50 UJ
Carbon Tetrachloride	ug/L	0.50 UJ	0.50 UJ
Chlorobenzene	ug/L	0.50 UJ	0.50 UJ
Chloroethane	ug/L	0.50 UJ	0.50 UJ
Chloroform	ug/L	0.50 UJ	0.50 UJ
Chloromethane	ug/L	0.50 UJ	0.50 UJ
2-Chlorotoluene	ug/L	0.50 UJ	0.50 UJ
4-Chlorotoluene	ug/L	0.50 UJ	0.50 UJ
1,2-Dibromo-3-Chloropropane	ug/L	0.50 UJ	0.50 UJ
Dibromochloromethane	ug/L	0.50 UJ	0.50 UJ
1,2-Dibromoethane	ug/L	0.50 UJ	0.50 UJ
Dibromomethane	ug/L	0.50 UJ	0.50 UJ
1,2-Dichlorobenzene	ug/L	0.50 UJ	0.50 UJ
1,3-Dichlorobenzene	ug/L	0.50 UJ	0.50 UJ
1,4-Dichlorobenzene	ug/L	0.50 UJ	0.50 UJ
Dichlorodifluoromethane	ug/L	0.50 UJ	0.50 UJ
1,1-Dichloroethane	ug/L	0.50 UJ	0.50 UJ
1,2-Dichloroethane	ug/L	0.50 UJ	0.50 UJ
1,1-Dichloroethene	ug/L	0.50 UJ	0.50 UJ
cis-1,2-Dichloroethene	ug/L	0.50 UJ	0.50 UJ
trans-1,2-Dichloroethene	ug/L	0.50 UJ	0.50 UJ
1,2-Dichloropropane	ug/L	0.50 UJ	0.50 UJ
1,3-Dichloropropane	ug/L	0.50 UJ	0.50 UJ
2,2-Dichloropropane	ug/L	0.50 UJ	0.50 UJ
1,1-Dichloropropene	ug/L	0.50 UJ	0.50 UJ
cis-1,3-Dichloropropene	ug/L	0.50 UJ	0.50 UJ
trans-1,3-Dichloropropene	ug/L	0.50 UJ	0.50 UJ
Ethyl Benzene	ug/L	0.50 UJ	0.50 UJ
Hexachlorobutadiene	ug/L	0.50 UJ	0.50 UJ
2-Hexanone	ug/L	5.0 UJ	5.0 UJ
Isopropylbenzene	ug/L	0.50 UJ	0.50 UJ
p-Isopropyltoluene	ug/L	0.50 UJ	0.50 UJ
Methylene Chloride	ug/L	0.50 UJ	0.50 UJ
4-Methyl-2-Pentanone	ug/L	5.0 UJ	5.0 UJ

Analysis/ Analyte	Units	15-FB	16-FB
Naphthalene	ug/L	0.50 UJ	0.50 UJ
n-Propylbenzene	ug/L	0.50 UJ	0.50 UJ
Styrene	ug/L	0.50 UJ	0.50 UJ
1,1,1,2-Tetrachloroethane	ug/L	0.50 UJ	0.50 UJ
1,1,2,2-Tetrachloroethane	ug/L	0.50 UJ	0.50 UJ
Tetrachloroethene	ug/L	0.50 UJ	0.50 UJ
Toluene	ug/L	0.50 UJ	0.50 UJ
1,2,3-Trichlorobenzene	ug/L	0.50 UJ	0.50 UJ
1,2,4-Trichlorobenzene	ug/L	0.50 UJ	0.50 UJ
1,1,1-Trichloroethane	ug/L	0.50 UJ	0.50 UJ
1,1,2-Trichloroethane	ug/L	0.50 UJ	0.50 UJ
Trichloroethene	ug/L	0.50 UJ	0.50 UJ
Trichlorofluoromethane	ug/L	0.50 UJ	0.50 UJ
1,2,3-Trichloropropane	ug/L	0.50 UJ	0.50 UJ
1,2,4-Trimethylbenzene	ug/L	0.50 UJ	0.50 UJ
1,3,5-Trimethylbenzene	ug/L	0.50 UJ	0.50 UJ
Vinyl Chloride	ug/L	0.50 UJ	0.50 UJ
m and/or p-Xylene	ug/L	0.50 UJ	0.50 UJ
o-Xylene	ug/L	0.50 UJ	0.50 UJ

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

EPA PROJECT MANAGER (Print)	SITE OR SAMPLING EVENT	DATE OF SAMPLE COLLECTION(S)	SHEET
Tonya Howell	7962	08-10/13-2018 (MONTH DAY YEAR)	1 of 1

CONTENTS OF SHIPMENT

ASR AND SAMPLE NUMBER	TYPE OF CONTAINERS: 1 L PLASTIC BOTTLE	BOTTLE	BOTTLE	BOTTLE	VOA SET (3 VIALS EA)	SAMPLED MEDIA: WATER	SOLID	HAZ WASTE	AIR	OTHER	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBER(S) OF CONTAINERS PER SAMPLE NUMBER										
7962-1					(1) X	X					
-2											
-3											
-4											
-5											
~~-5-FD~~											No sample Rec'd.
-7					~~39 VOA~~						Email sent to PM 8/15/18
-8					~~13 VOA~~						
-9											
-10											
-11											Some vials Rec'd w/
-12											air bubble(s) in them.
-15-FB											Lab. will note + proceed
-16-FB											according. Email sent
											to PM/sampler on 8/15/18
											Clr. Temp. Rec'd bet
											0-1°C ~8/15/18

Complete

DESCRIPTION OF SHIPMENT

~~16~~ 15 ~8/15/18 CONTAINER(S) CONSISTING OF _____ CRATE(S)

1 ICE CHEST(S): OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER _____

X SAMPLER CONVEYED drop off R7 Lab (SHIPPING AIRBILL NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (PM/SAMPLER)	DATE	TIME	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED	8-15 2018	11:21	[signature] SEALED UNSEALED	8/15/18	1121	Analyzer
~8/15/18 SEALED UNSEALED			~8/15/18 SEALED UNSEALED	8/15/18		
SEALED UNSEALED			SEALED UNSEALED			
SEALED UNSEALED			SEALED UNSEALED			

7 EPA 0262 (REV 4/17) WHITE ORIGINAL - EPA LAB • YELLOW - EPA PROJECT MANAGER

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 1 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-1-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: PH-Ø19B OGV-02

External Sample Number: PH-Ø19B

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 8/10/18 0:900
Longitude: ___ ___ ___ **End:** 8/10/18 __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

8-10-18 arrive ~ 0817 (well off)

Oak Grove Village well #2
260 James Street
Sullivan, MO 63080
573-468-4500
Attn: ~~Diese~~ Denise

GPM, Flow: 116 GPM for 30 minutes

Temp: 14.6°C

pH: 7.62

Conductivity: 328.7

DO: 2.65

Notes: faucet on west wall; acidified outside of well house due to contaminated air (vapors) from stripper (not currently on)

sample fauced on west wall of air stripper house

~~Strip~~

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 2 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-2-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: ~~PH057~~ ~~PWD12~~ PW-Ø12

External Sample Number: ~~PH-057~~ PWD12

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 8/10/18 10:45
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

[redacted]

GPM, flow: 6 GPM

temp: 15.5°C

pH: 7.53

conductivity: 375

DO: 5.78

Notes: ~~Sampled from hose connected to faucet on back of house~~
collected sample from women's restroom (cold water); let run before collected parameters from hose connected to faucet on back of house

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 3 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-3-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: ~~PH-016~~ PH-016

External Sample Number: PH016

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 8/10/18 11:45
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

[redacted]

GPM, flow: 7.8

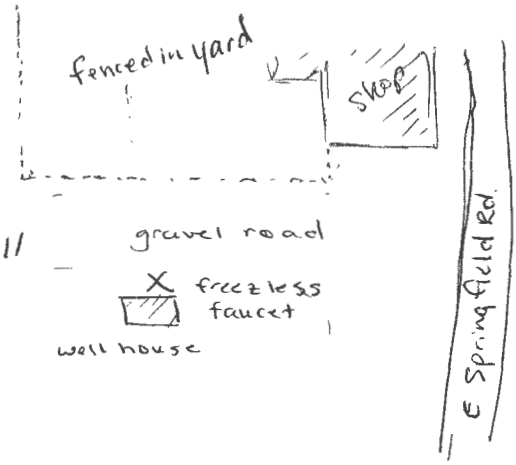
Temp: 14.7

Conductivity: 452 µS/cm

DO: 6.10 mg/L

pH: 7.53

Notes: ~~No pressure tank~~, business well



Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 4 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-4-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: PH 105 ~~Field Duplicate~~ (post-filter)

External Sample Number: PH 105

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 8/10/18 12:40
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments: (Post-filter)
(N/A)

GPM: 4.4

Temp: 15.3

Conductivity: 471 µS/cm

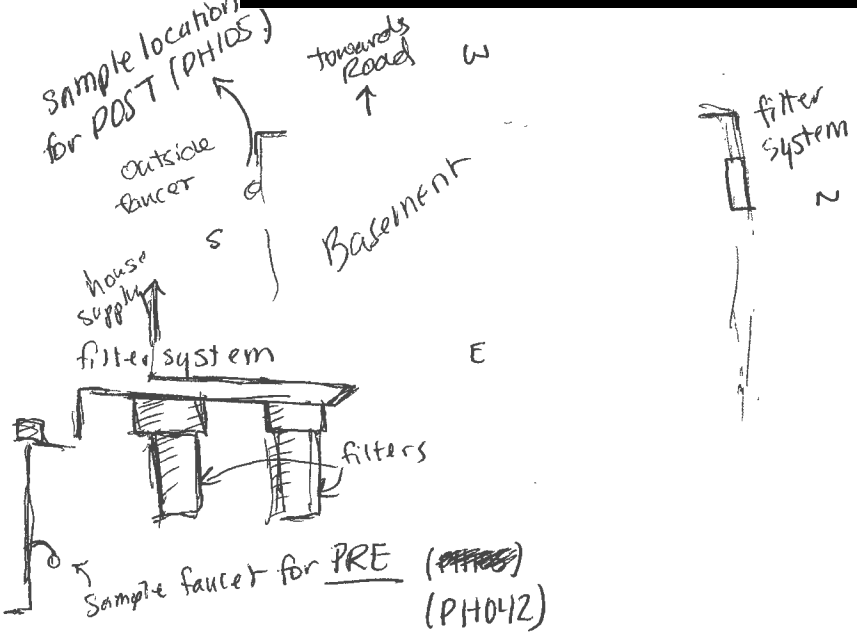
DO: 7.5

pH: 7.42

Notes:

(Sample outside faucet by basement doors. All faucets go through filter)

[redacted]



Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 5 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-5-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: PH042 prefilter

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	8/10/18	12:45
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

prefilter

[tap between pressure tank & filter system]
Cu-pipe
corner of basement

T = 15.3 °C
Cond = 471 µS/cm
D.O = 7.5 mg/L
pH = 7.42

[redacted]

⊛ Pre-filter

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 7 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-7-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: ~~PW-019~~ PW-Ø19

External Sample Number: PW-Ø19

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 8/10/18 13:45
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

[redacted]

GPM:

Temp: 16.1

conductance: 440

DO: 10.75

pH: 7.41

9 vials for matrix spike
matrix spike dup
PW019 sample

Notes: Sampled off of spigot in front of house
~~Let well~~ Halted purging to let well recover for 10 min. Suspected low water level in well due to warming temperatures and high D.O.
well initially made ~4gpm purge rate but slowed to <1.5gpm after 25 minutes & began to surge. Owner said never had any issues with low water pressure or cloudy. before.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 8 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-8-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: ~~PH050~~ PH-050

External Sample Number: PH050

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 8/10/18 15:20

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

[redacted]

GPM, flow:

Temp: 15.4°C

Conductivity: 365

D.O.: 9.24

pH: 7.54

notes: sampled from spigot in well house (cor. cinch block) on South side of road in front of buisness. 7-10gpm purge rate. Several homes & buisness on this well. 150gal pressure tank

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 9 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-9-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: ~~PW4~~03 PW-403

External Sample Number: PW 403

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 8/10/18 15:55
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

[redacted]

GPM, flow: 4-6GPM

Temp: 15.3

Conductivity: 285

D.O.: 9.49

pH: 7.77

Notes: sampled from ~~front faucet~~ ~~pres~~ faucet on front of house (presumably indoor plumbing); well in backyard 6in steel casing sticks out 3ft.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 10 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-10-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: PW-Ø67 Peterson Oil Company

External Sample Number: PW-Ø67

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 8/13/18 10:30
Longitude: ___ ___ ___ **End:** 8/13/18 __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments: Don Peterson [redacted]

(N/A)

GPM = 7.4

temp = 15.4°c

pH = 7.53

conductivity = 404

DO = 6.41

well in parking lot behind (West) of tanks 150gpm pump. pump from faucet on building (red) next to scale.

Sample Collected By: USGS

24.4
- 17

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 11 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-11-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: PW-Ø23

External Sample Number: PW-Ø23

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 8/13/18 11:25
Longitude: ___ ___ ___ **End:** 8/13/18 __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

[redacted]

GPM: 7.2
pH: 7.23
Conductivity: 530
temperature: 14.5
DO: 9.14

- Sampled from faucet on SW side of house
- well not found
- no freezeless faucet found

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 12 **QC Code:** __ **Matrix:** Water **Tag ID:** 7962-12-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: PW-419

External Sample Number: PW-419

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	8/13/18	13:32
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

[redacted]

gpm: 4.1
temp: 15.3
pH: 7.49
conductance: 400
DO: 9.1

* had not been previously sampled

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 15 **QC Code:** FB **Matrix:** Water **Tag ID:** 7962-15-FB

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: DW VOA Trip Blank sample

External Sample Number: EPA supplied trip blank

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	___ ___ ___	**Sample Collection: Start:**	8/8/18	06:11
Longitude:	___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

Prepared by the LTAB.

EPA supplied trip blank
-carried in coolers
8/10/18 - 8/13/18

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7962 **Sample Number:** 16 **QC Code:** FB **Matrix:** Water **Tag ID:** 7962-16-FB

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: DW VOA Trip Blank sample

External Sample Number: EPA supplied field blank

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 8/8/18 06:12

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

Prepared by the LTAB.

-EPA supplied field blank
-carried in cooler
8/10/18 - 8/13/18

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 10/15/2019

Subject: Transmittal of Sample Analysis Results for ASR #: 8348

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch
Laboratory Services and Applied Sciences Division

To: Tonya Howell
SEMD/REMB/FFPC

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. These results are based on samples as received at the Science and Technology Center. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please ensure that you file this electronic (.pdf only) transmittal in your records management system. The Regional Laboratory will now retain all of the original hardcopy documentation (e.g. COC[s] and the R7LIMS field sheet[s], etc.) according to our LSASD records management system.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey. It is critical that we receive your response in accordance to RCRA and the laboratory accreditation.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Project Manager: Tonya Howell **Org:** SEMD/REMB/FFPC **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 000DD2

Purpose: Site Characterization

GW and drinking water sampling to determine extent of TCE contamination and exposure pathways.

PM (TH) noted on the submitted ASR sent via email on 8/5/2019 that this ASR is not part of a litigation hold activity at this time.

Above GPRA/site code (+OU) check OK per JN on 8/5/2019.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FB = Field Blank

Units: Specific units in which results are reported.

ug/L = Micrograms per Liter
umhos/cm = Micromhos per Centimeter
mg/L = Milligrams per Liter
Deg C = Degrees Celsius
SU = Standard Units (pH)

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 8348 **Sample Information Summary** **10/15/2019**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Water	OGV-03		09/17/2019	07:45	09/17/2019	09:00	09/19/2019
2 -	__	Water	OGV-02 (raw) PH019B		09/17/2019	11:05			09/19/2019
3 -	__	Water	OGV-02 (finish) PH019C		09/17/2019	11:40			09/19/2019
4 -	__	Water	PH-050		09/18/2019	15:00			09/19/2019
5 -	__	Water	PW-419		09/18/2019	16:25			09/19/2019
6 -	FB	Water	DW VOA Trip Blank sample		09/17/2019	07:00			09/19/2019
7 -	__	Water	PW-403		09/18/2019	17:25			09/19/2019

Analysis	Comments About Results For This Analysis

1 Conductivity by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 7-__

Comments:
(N/A)

1 pH of Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 7-__

Comments:
(N/A)

1 Temperature of Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 7-__

Comments:
(N/A)

1 Total Dissolved Oxygen in Water by Field Measurement

Lab: (Field Measurement)

Method: Measurement of field parameter

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 7-__

Comments:
(N/A)

1 VOCs in Drinking Water by GC/MS

Lab: Contract Lab Program (Out-Source)

Method: CLP Statement of Work

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-FB 7-__

Comments:

ASR Number: 8348 **RLAB Approved Sample Analysis Results** **10/15/2019**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis / Analyte	Units	1-__	2-__	3-__	4-__
1 Conductivity by Field Measurement					
Conductivity	umhos/cm	327	336	343	407
1 pH of Water by Field Measurement					
pH	SU	7.31	7.30	7.84	7.35
1 Temperature of Water by Field Measurement					
Temperature	Deg C	14.8	14.8	16.2	15.4
1 Total Dissolved Oxygen in Water by Field Measurement					
Dissolved Oxygen	mg/L	1.07	3.27	9.95	8.5
1 VOCs in Drinking Water by GC/MS					
Acetone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	1.2	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	71	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	9.0	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

ASR Number: 8348 **RLAB Approved Sample Analysis Results** **10/15/2019**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis / Analyte	Units	5-__	6-FB	7-__
1 Conductivity by Field Measurement				
Conductivity	umhos/cm	397		291
1 pH of Water by Field Measurement				
pH	SU	7.43		7.50
1 Temperature of Water by Field Measurement				
Temperature	Deg C	14.7		15.1
1 Total Dissolved Oxygen in Water by Field Measurement				
Dissolved Oxygen	mg/L	9.49		8.08
1 VOCs in Drinking Water by GC/MS				
Acetone	ug/L	5.0 U	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U
Bromobenzene	ug/L	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U
n-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U
tert-Butylbenzene	ug/L	0.50 U	0.50 U	0.50 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U
2-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U
4-Chlorotoluene	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U
Dibromomethane	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U
1,3-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U
2,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U
1,1-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	5-__	6-FB	7-__
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U
p-Isopropyltoluene	ug/L	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U
n-Propylbenzene	ug/L	0.50 U	0.50 U	0.50 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	ug/L	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

EPA PROJECT MANAGER (Print)	SITE OR SAMPLING EVENT	DATE OF SAMPLE COLLECTION(S)	SHEET
Tonya Howell	Oak Grove Village (8348)	09 (MONTH) 18 (DAY) 2019 (YEAR) (17-18)	1 of 1

CONTENTS OF SHIPMENT

ASR AND SAMPLE NUMBER	TYPE OF CONTAINERS: 1 L PLASTIC BOTTLE	BOTTLE	BOTTLE	BOTTLE	VOA SET (3 VIALS EA)	SAMPLED MEDIA: WATER	SOLID	HAZ WASTE	AIR	OTHER	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBER(S) OF CONTAINERS PER SAMPLE NUMBER										
8348-1					1	X					
8348-2					1	X					
8348-3					1	X					
8348-4					3	X					
8348-5					1	X					
8348-6FB					1	X					
8348-7					1	X					

Complete
[illegible]

Chr. Temp. Rec'd but 0-1° [illegible] 9/19/19

DESCRIPTION OF SHIPMENT

9 CONTAINER(S) CONSISTING OF _____ CRATE(S)

1 ICE CHEST(S): OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER

✓ SAMPLER CONVEYED USGS hand deliver to EPA lab (SHIPPING AIRBILL NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (PM/SAMPLER)	DATE	TIME	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED	9-19-19	1255	Nicole Robles SEALED UNSEALED	9/19/19	2:50	Analysis
RELINQUISHED BY (PM/SAMPLER) SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	DATE	TIME	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY (PM/SAMPLER) SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	DATE	TIME	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY (PM/SAMPLER) SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	DATE	TIME	REASON FOR CHANGE OF CUSTODY

7-EPA-9262 (REV 4/17) WHITE ORIGINAL - EPA LAB • YELLOW - EPA PROJECT MANAGER

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8348 **Sample Number:** 1 **QC Code:** __ **Matrix:** Water **Tag ID:** 8348-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: OGV-Ø3

External Sample Number: QGV-Ø3

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 09/17/19 01:45
Longitude: ___ ___ ___ **End:** 9/7/19 09:00

Laboratory Analyses:

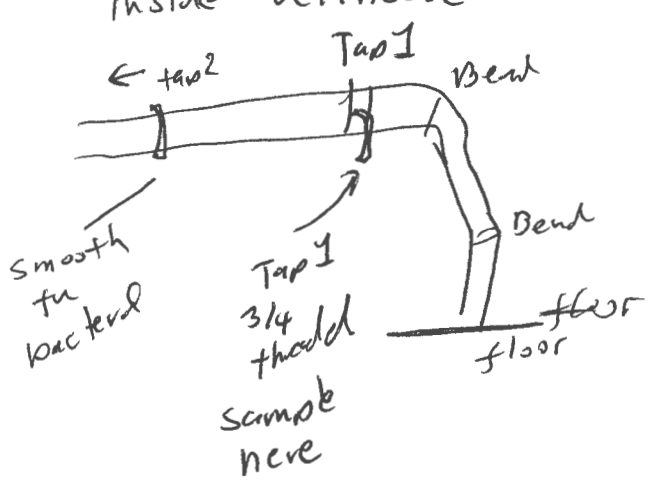
Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

new Oak grove Village well #3 N. side I-44 behind Crossfit.

[sampled @ 0900 John]

sampled from tap 1 (threaded) inside wellhouse



purge rate = 190
Temp = 14.8 °C
SC = 327 µS/cm @ 25°C
pH = 7.31
D.O. = 1.07 mg/L

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8348 **Sample Number:** 2 **QC Code:** __ **Matrix:** Water **Tag ID:** 8348-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: 06V-02 (raw)

External Sample Number: Q6V-02 PH019B

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 9/17/19 11:05

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A) Oak Grove V. well #2 next to city hall. Purged to waste starting 0927 hrs. Sampled from threaded tap on west wall of stripper building (raw).

after run sample, turned on stripper & let run for 10 minutes then sampled @ 1105.

purge rate = 130 gpm

Temp = 14.8 °C

pH = 7.30

D.O = 3.27 mg/L

SC = 336

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8348 **Sample Number:** 3 **QC Code:** __ **Matrix:** Water **Tag ID:** 8348-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: OGV-02 (finish)

External Sample Number: OGV-02 PH019C

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 9/17/19 ~~11:35~~ 1140

Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

sampled from pump tap past stripper & before chlorinator

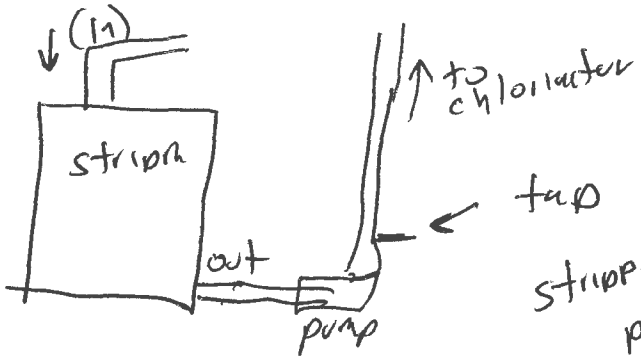
purge rate 130gpm

Temp 16.2

SC 343 µS/cm @25°C

pH 7.84

D.O = 9.95 mg/L



stripper on @ 1118
purged @ ~~130gpm~~ 125gpm w/ stripper on

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8348 **Sample Number:** 4 **QC Code:** __ **Matrix:** Water **Tag ID:** 8348-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PH-050

External Sample Number: PH-050

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/18/19	15:00
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

	Container	Preservative	Holding Time	Analysis
9	3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

(N/A)

purge rate: ~8gpm
Temp = 15.4 °C
SC = 407 µS/cm @25°C
pH = 7.35
D.O = 8.5 mg/L

[redacted]

MS/MSD

sampled from spigot inside cinder block well house. Pressure tank before tap (3'x6') est 120 gal in tank

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8348 **Sample Number:** 5 **QC Code:** __ **Matrix:** Water **Tag ID:** 8348-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PW-419

External Sample Number: PW-419

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/18/19	16:25
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

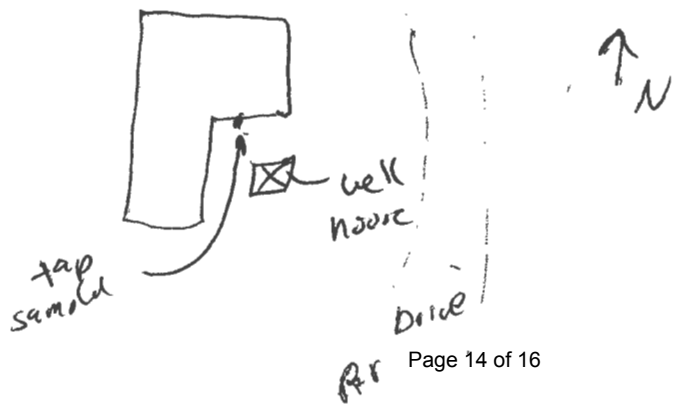
Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

[redacted]

purge rate = 3.3gpm
temp = 14.7
SC = 397
pH = 7.43
D.O. = 9.49

sampled outside faucet on south side of ~~house~~ house near well house



Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

FB

ASR Number: 8348 **Sample Number:** 6 **QC Code:** FB **Matrix:** Water **Tag ID:** 8348-6-~~FB~~

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: DW VOA Trip Blank sample

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/17/19	0700
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:

Prepared by the LTAB. Sent w/supplies for USGS sampler to label (each vial & outside pouch) at the site with the LIMS provided sample tags and submit with the field sample(s) & COC for this ASR.

EPA prepared TB supplied w/ ASR supples
* when cooler was recieved @ USGS all ice had melted & trip blanks were @ room temperature & @ least one had bubbles. TB was placed in lab cooler upon recieved & carried ~~with~~ to field in ice chest both days of sample collection
JK

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8348 **Sample Number:** ~~X~~ 7 **QC Code:** __ **Matrix:** Water **Tag ID:** 8348-~~X~~ 7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PW-403

External Sample Number: PW-403

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/18/19	17:25
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Drinking Water by GC/MS

Sample Comments:
(N/A)

purge rate = 3.5 gpm
Temp = 15.1°C
SC = 291 µS/cm @25°C
pH = 7.50
D.O. = 8.08 mg/L

[redacted]

well in backyard (steel cas) understood it may be shared w/ neighbor. ~~no outside~~ sampled faucet on front of house to right of front door - no freezeless outside

Sample Collected By: USGS

APPENDIX I

COMPOUND SPECIFIC ISOTOPE ANALYSIS

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TECHNICAL MEMORANDUM
COMPOUND SPECIFIC ISOTOPE ANALYSIS
OAK GROVE VILLAGE WELL SITE OU1
FRANKLIN COUNTY, MISSOURI

TO:	Tonya Howell, EPA Task Order Project Officer
FROM:	Phyllis Chase, HGL Task Order Manager; John Schumacher, U.S. Geological Survey, Central Midwest Water Science Center, Rolla, Missouri
THROUGH:	W. Alan Rittgers, HGL Program Manager
DATE:	January 22, 2020
SUBJECT:	Compound Specific Isotope Analysis, Oak Grove Village Well Site OU1, Franklin County, Missouri
CONTRACT:	EP-S7-05-05
TASK ORDER:	0049

1.0 INTRODUCTION

A study involving Compound Specific Isotope Analysis (CSIA) of trichloroethene (TCE) in groundwater at the Oak Grove Village (OGV) Well Site was conducted by the U.S. Environmental Protection Agency (EPA) in 2014 in an effort to fingerprint the source(s). This technical memorandum, written as a joint effort between HydroGeoLogic, Inc. (HGL) and the U.S. Geological Survey (USGS) Central Midwest Water Science Center (Schumacher, 2019), documents the procedures and analysis of the CSIA investigation.

CSIA is an analytical method that measures the isotopic ratios of naturally occurring stable isotopes in specific chemical compounds in environmental samples. CSIA using primarily the ratio of carbon $^{13}C/^{12}C$ ($\delta^{13}C$), known as 1-D CSIA, has been used for decades in evaluating degradation pathways of organic compounds, including chlorinated solvents such as TCE. Ratios of stable chlorine isotopes $^{37}Cl/^{35}Cl$ ($\delta^{37}Cl$) also have been used with carbon isotopes, collectively known as 2-D CSIA, and most recently isotopes of hydrogen $^{2}H/^{1}H$ ($\delta^{2}H$) have been added, collectively known as 3-D CSIA, in attempts to further determine source, transport, and fate of compounds such as TCE (Ertl et al., 1998; Hunkeler et al., 2011; Kuder et al., 2013; McHugh et al., 2011; Shouakar-Stash et al., 2003; EPA, 2008; and van Warmerdam et al., 1995 .

The isotopic ratio of TCE is a function of the starting material and the manufacturing process, as well as the environmental factors such as degradation and volatilization once it is released; therefore, CSIA may be useful for source identification and tracking degradation pathways. In an attempt to confirm the probable source(s) of TCE contamination in several public and domestic groundwater wells and the La Jolla Springs Cave Complex (LJSCC) and determine if TCE contamination in these areas is related to two known TCE source areas at Operable Unit 1 (OU1; former TRW/Ramsey facility) and Operable Unit 2 (OU2; closed Sullivan landfill), groundwater samples were collected by the EPA in July and August 2014 at the following locations for this special analysis, shown on Figure 1 and listed in Table 1:

- Production Wells OGV02 and COS02;

- MW-6, a monitoring well associated with OU1;
- one domestic well in OU2, PH016, located near the closed Sullivan landfill;
- PH078, a spring within the LJSCC; and
- 15 monitoring wells at the former TRW/Ramsey facility.

These locations were selected for 2-D and 3-D CSIA because these locations historically contained TCE concentrations above 5 micrograms per liter (µg/L), the minimum concentration required for reliable CSIA determination.

Several of the locations sampled represent two known TCE source areas: the former TRW/Ramsey facility and the closed Sullivan landfill. These are the only locations where substantive TCE contamination has historically been found despite a comprehensive search and investigation of more than 15 other locations by the EPA and the Missouri Department of Natural Resources. An EPA compliance report noted an estimated 8.3 metric tons of spent TCE waste was generated yearly at the former TRW/Ramsey facility (Metcalf & Eddy, 1992). Soils at the former TRW/Ramsey facility contained TCE concentrations greater than 1,000 micrograms per kilogram (µg/kg), and several monitoring wells at the facility have historically had TCE concentrations greater than 1,000 µg/L with some exceeding 30,000 µg/L (Metcalf & Eddy, 1992; ARCADIS, 2019b). Although metal-contaminated soils have been removed from the former facility, confirmation samples did not include the analysis of volatile organic compounds (VOCs). A pump and treat system at the facility has removed about 50 gallons of pure product from the shallow zone (~150 feet deep) since the mid-1990s (ARCADIS, 2019a). An additional deeper (~325 feet deep) extraction well was added to the system in 2018, and in the first three quarters of 2019, the enhanced system removed approximately 10 gallons of TCE (ARCADIS, 2019b). The LJSCC has discharged an estimated 160 gallons of pure TCE since monitoring began in 1990 and an additional estimated 40-50 gallons through vapor transport (Schumacher, 2019).

Monitoring wells sampled for CSIA in 2014 at the former TRW/Ramsey facility were selected to represent a range of TCE concentrations and spatial and vertical distributions across the facility to capture areas of TCE storage (outside and southeast part of facility), use (degreaser inside buildings), and potential disposal (lagoons in south part of facility).

Domestic well PH016 was included because of its proximity to the closed Sullivan Landfill and persistent TCE detections near or above 5 µg/L. Historical groundwater seeps at the landfill that contained TCE in excess of several hundred micrograms per liter no longer exist. Monitoring wells at the closed landfill have not had TCE concentrations greater than 5 µg/L for many years (ERM, 2018) and so were not suitable for inclusion in the study.

Samples were collected under the Quality Assurance Project Plan 2014 Revised Addendum 2 Oak Grove CSIA Study Oak Grove Village, Missouri, approved June 5, 2014 (CDM Smith, 2014). Split replicate samples were collected in the field, and one sample set was sent to the EPA contract laboratory TestAmerica in St. Louis, Missouri, for VOC analysis using EPA Method 8260C, and the second split was sent to the University of Oklahoma for VOC analysis and 2-D and 3-D CSIA. Selected sampling sites had a third split sample collected and submitted to the USGS National Water Quality Laboratory for low-level VOC analyses using laboratory schedule 2020 (Connor

and others, 1997) and because the USGS laboratory reports an extensive list of Freons. Sample volumes for 3-D CSIA were adjusted based on historical VOC concentrations. Samples for 3-D CSIA were collected in six 40-mL, amber glass, standard VOC vials with Teflon™ lined septum caps and one 250-mL baked amber glass bottle with a Teflon™ lined septum cap. At locations with historical TCE concentrations less than 30 µg/L, two 250-mL septum capped bottles were collected.

2.0 VOC ANALYTICAL RESULTS

The following discussion focuses on analytical results from the EPA contract laboratory (Table 1). Split samples from selected sites also were sent to the USGS laboratory and results of these split samples are summarized in Table 2. The TCE results from the EPA contract laboratory are summarized in Figure 1. TCE results from the EPA contract laboratory exceeded the remedial action objective (RAO) for OU1 of 5 µg/L at all sample locations except at PH016, OBG-18D, and PH078; however, the USGS split sample from PH016 (6.02 µg/L) did exceed the RAO and this is reflected in Figure 1. The highest TCE concentrations detected were from monitoring wells associated with the former TRW/Ramsey facility. TCE concentrations greater than 1,000 µg/L were found in OBG-01D, OBG-02S, OBG-03S, OBG-05S, OBG-09S, and TRW-MW-24D. Four of these wells, OBG-02S, OBG-03S, OBG-05S, and OBG-09S, are completed in the shallow groundwater zone between 120 and 150 feet below ground surface (bgs) with 20-foot screens. Wells OBG-01D, OBG-18D, and TRW-MW-24D are approximately 315 to 325 feet deep and have 20-foot screens. The only deep monitoring well sampled at the former TRW/Ramsey facility (OBG-01DD, screened from 408 to 428 feet bgs) had a TCE concentration of 220 µg/L.

Other contaminants detected at levels exceeding the OU1 RAOs in the samples analyzed by the EPA contract laboratory (Table 1) were:

- tetrachloroethene (PCE; RAO of 5 ug/L) at OBG-15S (9.1 µg/L);
- cis-1,2-dichloroethene (cDCE; RAO of 70 ug/L) at OBG-02S (1,200 µg/L), OBG-05S (340 and 300 µg/L), OBG-16S (170 µg/L) and OBG-03S (92 µg/L)
- vinyl chloride (VC, RAO of 2 ug/L) at OBG-05S (24 J and 27 J µg/L) and OBG-15S (2.9 J µg/L);
- 1,1,1-trichloroethane (RAO of 200 ug/L) at OGB-15S (1,700 µg/L);
- Freon 11 (RAO of 100 ug/L) at OBG-09S (240 µg/L).

It should be noted that high levels of Freon 113 (330 µg/L) were also detected in OBG-9S and a smaller concentration (7.5 J µg/L) was detected in OGB-16S (table 1). The split sample from OGB-16S analyzed by the USGS laboratory had no detection of Freon 113, however, the compound was detected in USGS split samples from OBG-07S, domestic well PH016, and production wells OGV02 and COS02 (table 2). In addition to OBG-09S, samples from six other monitoring wells at the former TRW/Ramsey facility also had detectable Freon 11 at concentrations below the RAO (table 1). Freon 12 was only detected in the USGS split sample from domestic well PH016 (0.71 µg/L; table 2). Freon 21 was not reported by the EPA laboratory and was detected in only two of the 13 split samples submitted to the USGS laboratory; detections in OBG-15S (46.2 µg/L) and spring sample PH078 (0.29 µg/L; table 2). In addition to the 1,1,1-trichloroethane detection above the RAO in OBG-15S, this compound was detected at concentrations less than 10 µg/L in several other monitoring wells at the former TRW/Ramsey facility (tables 1 and 2), and in trace amounts

(less than 0.2 µg/L) in USGS split samples from production wells OGV02 and COS-02 (table 2). No detectable levels of the PCE, TCE, cDCE, VC, Freons, or 1,1,1-trichloroethane were found in the two-trip blank or field blank samples collected and processed with the environmental samples. All environmental and quality assurance samples were collected according to the EPA approved Quality Assurance Project Plan (CDM Smith, 2014). Previously, Freon detections had primarily been associated with groundwater samples at and near the closed Sullivan landfill, but analytical results from this study indicate large concentrations of these compounds in groundwater beneath the former TRW/Ramsey site.

Figure 2 illustrates the comparison of TCE concentrations measured in this study to historical (1986-2019) concentrations from the EPA site groundwater database. Most TCE concentrations were within historical ranges except at historical lows at domestic well PH016 and monitoring well OBG-15S, and historical highs in monitoring wells OBG-01D and TRWMW-24D. At domestic well PH016, the TCE concentration was 4.5 µg/L on the U.S. EPA contract laboratory sample, just slightly less than the range of historical concentrations (5.24 µg/L to 10.2 µg/L). However, the split sample from PH016 analyzed by the USGS laboratory had a TCE concentration of 6.02 µg/L that was above RAO of 5 µg/L and detectable concentrations PCE, Freon 11, Freon 12, and Freon 113 (0.05, 4.63, 0.71, and 0.21 µg/L, respectively; table 2).

3.0 CSIA BACKGROUND

Each element in a compound has a distinct isotopic ratio. TCE contains the atoms carbon, chlorine, and hydrogen that have the primary stable isotopes ^{13}C, ^{12}C, ^{37}Cl, ^{35}Cl, ^{2}H, and ^{1}H. 2-D CSIA measures the ratios $\delta^{13}C$ and $\delta^{37}Cl$, and 3-D CSIA builds upon 2-D CSIA by adding the ratio of the stable isotopes of hydrogen $^{2}H/^{1}H$ ($\delta^{2}H$). Ratios of these stable isotopes are typically very small; therefore, the isotopic ratios measured are expressed in parts per thousand (‰) or per mil. The fact sheet included in Attachment 3 provides more information on the analysis itself and its use.

The isotopic ratio of a compound, such as TCE, is a function of the starting materials (original sources of C, Cl, and H) and the manufacturing process; therefore, background information on the processes used to manufacture TCE is useful to the CSIA evaluation. The first known preparation of TCE was in Germany during the 1860s, but it was not widely used in the United States until the 1920s and 1930s when it became the preferred solvent for metal cleaning (History Associates, 2015). Production of TCE can be separated into two general processes that provide carbon: one is known as the ethyne process using carbide or plasma or partial oxidation (usually using methane or other hydrocarbons) and the other is known as the ethene process using crude oil (Ertl et al., 1998). The differences in these two processes was postulated to result in differences in isotopic content of $\delta^{13}C$ and $\delta^{2}H$.

The ethyne process was used in Europe (and presumably the USA) from the 1920s through about the 1970s when production of TCE shifted to the ethene processed derived from crude oil, which became common by 1980 (Ertl et al., 1998). Before the 1940s, the ethyne process used carbide. After the 1940s, the ethyne process shifted to plasma or partial oxidation of methane or higher hydrocarbons (Ertl et al., 1998). Solvents derived from the ethyne process using carbide are expected to be enriched in ^{13}C, with $\delta^{13}C$ values measured in the -8 to -14‰ range (Ertl et al.,

1998). TCE produced using ethyne derived from methane is expected to be depleted in ^{13}C, having $\delta^{13}C$ in the -33.5‰ to -48‰ range or lighter, whereas TCE produced from ethene derived from crude oil, or the ethyne process using plasma or partial oxidation of hydrocarbons is anticipated to have $\delta^{13}C$ values in the -20 to -35‰ range (Ertl et al., 1998; Jendrzejewski et al., 2001; McHugh et al., 2011; Shouakar-Stash et al., 2003).

The $\delta^{2}H$ in TCE produced using the ethene process from crude oil is enriched in ^{2}H, with $\delta^{2}H$ values typically ranging from about 160‰ to more than 680‰ (Ertl et al., 1998; Shouakar-Stash et al., 2003; McHugh et al., 2011), with most values in the literature reported larger than 300‰. Ertl et al. (1998) theorized that TCE prepared using the older ethyne process would be depleted in ^{2}H and reported one $\delta^{2}H$ of -33.4‰ in a TCE sample. However, Kuder and Philip (2013) reported depleted $\delta^{2}H$ of -139‰ to -184‰ in several commercial products marketed in the 2000s, indicating that depleted $\delta^{2}H$ values may not necessarily be indicative of TCE manufactured using the older ethyne process.

The chlorine in TCE is from salt brines that have a relatively narrow range of $\delta^{37}Cl$, from -1.2‰ to 0.8‰ (Long et al., 1993). The larger $\delta^{37}Cl$ measured in many manufactured and consumer product TCE is attributed to fractionation in the various methods used to produce chlorine gas from brines, which is then used to chlorinate hydrocarbons to produce solvents such as TCE (van Warmerdam et al., 1995). There are multiple pathways to produce TCE, some involving multiple and complex successive chlorination steps, and it is unlikely that a single manufacturer will consistently produce and market a product with unique carbon, chlorine, and hydrogen isotopic ratios that can be conclusively discriminated from other manufacturers.

Degradation of chlorinated solvents such as TCE can have predictable effects on isotopic ratios of the remaining TCE and its degradation products, and CSIA is often used to constrain and elucidate degradation pathways because it can allow for direct and in-situ quantification of transformation processes (Elsner et al., 2005). Numerous investigators have shown that during reductive dechlorination of TCE, there is a shift to heavier $\delta^{13}C$ and $\delta^{37}Cl$ in the remaining TCE. For example, Wiegert et al. (2013) determined enrichment in the heavier isotopes as TCE was reductively dechlorinated from initial values of $\delta^{13}C$ (-26.9 ‰) and $\delta^{37}Cl$ (5.2 ‰), at no degradation, to values of $\delta^{13}C$ (-2.1 per mil) and $\delta^{37}Cl$ (16.6 per mil) in the remaining TCE after 97 percent of TCE was degraded. Recently, Gabricevic et al. (2015) reported first order exchange of H in TCE with H in water that was inversely proportional to pH in laboratory experiments. The experiments, however, were carried out at 25 degrees Celsius and at pH values greater than 10. It is not known to what degree this exchange may occur in natural groundwater, however, their experimental data warrant caution in the use of H isotopes until further research is done.

4.0 CSIA RESULTS

The following discussion presents results of 2-D CSIA followed by the more recent 3-D CSIA that incorporates the emerging use of H isotopes as a potential tool.

As shown in Figure 3 (2-D CSIA, $\delta^{13}C$ and $\delta^{37}Cl$) and Figures 4 and 5 (3-D CSIA, $\delta^{13}C$, $\delta^{37}Cl$, and $\delta^{2}H$), the isotope results generally lie within the range of published values for source samples of

manufactured TCE and TCE marketed as consumer products (Beneteau et al., 1999; Ertl et al, 1998; McHugh et. al., 2011; Shouakar-Stash et al., 2003; van Warmerdam et al., 1995):

- Published values for $\delta^{13}C$ in manufactured or consumer product TCE ranged from -32.6‰ to -23.2‰ (not all values on figure 3). Measured $\delta^{13}C$ values in samples from this study ranged from -26.9‰ to -20.10‰. The only two groundwater samples from this study that fall outside the range of manufactured or consumer product TCE were from monitoring wells OBG-15S and OBG-18D at the former TRW/Ramsey facility.
- Published values for $\delta^{37}Cl$ in manufactured or consumer product TCE ranged from -3.2‰ to 4.7‰. Measured $\delta^{37}Cl$ values in groundwater samples from this study ranged from -0.3‰ to 2.65‰. No samples fell outside the published range for manufactured or consumer product TCE.
- Published values for $\delta^{2}H$ in manufactured or consumer product TCE ranged from -184‰ to 682‰. Measured values in groundwater samples from this study ranged from -156‰ to 265‰. No samples fell outside the published range for manufactured or consumer product TCE.

Although none of the groundwater samples exactly match any of the published values for TCE, this is expected because the use of TCE at the former TRW/Ramsey facility began in the late 1940s or early 1950s and continued through the mid-1980s, thus spanning the transition from ethyne to the ethene production processes. In addition, given the long period of time that TCE has been released to the environment from the former TRW/Ramsey facility and closed Sullivan landfill, processes such as microbial and abiotic degradation, and possibly even volatilization and exchange with water, have occurred affecting the isotopic signature of the TCE. In contrast, most published isotopic values for manufactured and consumer product TCE are from TCE produced or sold in consumer products during the 1990s and later. In addition, it should be noted that with a production history spanning more than 70 years using a variety of processes across many countries, relatively little is known about the actual range of isotopic contents of TCE because few (less than 25) TCE source samples have been analyzed for 2-D CSIA and even fewer for 3-D CSIA.

Examination of 2-D CSIA of the groundwater samples collected during 2014 and accounting for analytical error, groundwater samples cluster into two general classes. Class A samples tend to have slightly larger $\delta^{37}Cl$ values and lie within an ellipsoid that trends toward the upper right of Figure 3 along a path from well OBG-21S, having the lightest $\delta^{13}C$ and $\delta^{37}Cl$, to well OBG-11D having the heaviest. The second Class (Class B) of samples have slightly smaller $\delta^{37}Cl$ and plot within an ellipsoid that also trends toward the upper right of Figure 3 from well OBG-01S to well OBG-24D. Both production wells sampled, OGV02 and COS02, and the sample from PH078 (LJSCC) lie within the ellipsoid of Class B samples, whereas the sample from domestic well PH016 lies within the ellipsoid of Class A samples. Three samples from wells OBG-02S, OBG-03S, and OBG-09S plot between Class A and B and their error bars generally overlap Class A or B. These three wells could be placed in either Class and could be derived from mixing of the two classes or perhaps from volatilization from Class B; however, these three wells are spatially distributed across the former TRW/Ramsey facility and not solely associated with the former lagoons where enhanced volatilization might be expected to occur. It is also possible that these three wells and the four Class A wells are all derived from volatilization from Class B. Jeannottat and Hunkeler (2012) observed shifts to heaver $\delta^{37}Cl$ (up to 1.36‰) in TCE from experiments simulating volatilization and diffusion in the unsaturated zone.

Wells OBG-18D and especially OBG-15S are shifted to the upper right from either Class A or Class B, being enriched in $\delta^{13}C$ and $\delta^{37}Cl$ compared to other groundwater samples (Figure 3). Numerous investigators have published data indicating biodegradation (particularly reductive dechlorination) of TCE leads to a shift toward larger $\delta^{13}C$ and $\delta^{37}Cl$ in the remaining TCE (Elsner et al., 2005; Hunkeler et al., 2004; Hunkeler et al., 2011; Kuder et al., 2013; and Sakaguchi-Soder et al., 2007). These two samples appear to exhibit this shift, which is likely the result of reductive dechlorination. The sample from OBG-15S had cDCE concentration (29 µg/L) larger than TCE (17 µg/L), with TCE composing only about 27 percent of the total chlorinated VOCs (PCE+TCE+cDCE+VC) in this sample and a dissolved oxygen of less than 0.5 milligram per liter (mg/L), consistent with reductive dichlorination. The sample from well OBG-18D had a small concentration of TCE (1.7 ug/L), no detectable cDCE or VC, and a dissolved oxygen of about 3 mg/L that are not obviously indicative of conditions favorable for reductive dechlorination. However, in a fractured bedrock aquifer, redox conditions can be highly variable as can contaminant distributions and hydraulic heads, and it is unknown what redox conditions TCE in this well had been exposed to along the migration path to this deeper monitoring well.

Overall, the 2-D CSIA results indicate that a unique fingerprint for TCE used at the former Ramsey site is not evident. The 2-D CSIA results indicate that the two production wells and LJSCC are similar in $\delta^{13}C$ and $\delta^{37}Cl$ to many of the monitoring wells at the Ramsey site, including deep well OBG-01DD; however, somewhat distinct from other monitoring wells at the Ramsey Site. While tending to cluster into two general classes based on 2-D CSIA, monitoring wells at the Ramsey site tend to plot within ellipsoids trending to the upper right generally consistent with some degree of reductive dichlorination. In considering the shift toward heavier $\delta^{13}C$ and $\delta^{37}Cl$ values in TCE resulting from biodegradation, it is plausible that all the 2014 groundwater samples could be derived from known manufactured TCE plotting in the lower left of Figure 3, with $\delta^{13}C$ in the -27.5 to -32 range and $\delta^{37}Cl$ in the -2.0 to -3.0 range. Given the absence of samples plotting within this area or between this area and Class A and B, this explanation is unlikely.

Examination of 3-D CSIA incorporating H isotopes results in additional complexity, with three groupings primarily based on large variation in the $\delta^{2}H$ values. All three groups have generally similar $\delta^{13}C$ ratios; however, Group 1 samples are enriched in $\delta^{2}H$ relative to Group 2 samples that tend to be depleted in $\delta^{2}H$. Group 3 lies between Groups 1 and 2 and possibly represents mixing of TCE from Groups 1 and 2.

Similar to 2-D CSIA results, 3-D CSIA results (Figure 4) indicate monitoring wells OBG-15S and OBG-18D have outlier $\delta^{2}H$ values compared to other wells, in addition to their outlier $\delta^{13}C$ and $\delta^{37}Cl$ values. According to published literature, biodegradation of TCE causes a minor shift toward smaller $\delta^{2}H$ in the remaining TCE (Kuder et al., 2013; Sakaguchi-Soder et al., 2007; Van Breukelen et al., 2017). These two samples appear to exhibit this shift, which is likely the result of biodegradation, consistent with the larger $\delta^{13}C$ and $\delta^{37}Cl$ values in these samples discussed previously.

For locations of the 2-D CISA Classes and 3-D CISA Groups, see Figures 6a and 6b, respectively. From the 3-D CSIA results, 3 groups are apparent. Group 1 (Figure 5) consists of OBG-01S, OBG-01DD, OBG-05S, OBG-07S, and OBG-16S at the former TRW/Ramsey facility; OGV02; PH078 from the LJSCC; and domestic well PH016, which is near the closed Sullivan Landfill. The sample

from domestic well PH016 is enriched in $\delta^{37}Cl$ compared to other Group 1 samples. The $\delta^{37}Cl$ value is just within analytical error, which is conservatively defined as the 95th percentile of the maximum difference between pairs of replicate field or lab duplicate samples for this project. While within the analytical error, it is possible that TCE in PH016 is unique from other samples representing a different TCE origin or possibly the result of evaporation of a more typical Group 1 sample. It has been experimentally determined that evaporation of about 50 percent of TCE resulted in the remaining TCE having a -0.27‰ shift in $\delta^{13}C$, a probable slight negative shift in $\delta^{2}H$ (measurable -12 ‰ shift observed at more than 85 percent evaporation), and a +0.69‰ shift in $\delta^{37}Cl$ (Poulson and Drever, 1999). Domestic well PH016 is within a cluster of domestic wells near the former Sullivan landfill that have detections of TCE and other contaminants such as multiple freons that are consistent with migration of contaminants from the landfill. The TCE migrating from the landfill would be expected to be the result of a mixture of sources within the landfill (including some industrial wastes known to have been placed from the former TRW/Ramsey facility) and possibly mixed effects of evaporation and biodegradation. Additional CSIA samples from the landfill and surrounding domestic wells might help resolve the slightly enriched $\delta^{37}Cl$ in PH016 compared to other Group 1 samples.

Group 2 includes OBG-01D, OBG-02S, OBG-11D, OBG-21S, OBG-21D, and TRWMW-24D at the former TRW/Ramsey facility; production well COS02; and MW-6 (which is near OGV02). Wells OBG-15S and OBG-18D likely originate from reductive dechlorination of TCE with a Group 2 signature. Group 3 includes OBG-03S and OBG-09S, which are both located at the former TRW/Ramsey facility. These two wells could represent mixing of TCE from Groups 1 and 2. Because both Groups 1 and 2 are found at the former facility, it would be logical to find a mixture of these groups. See Figure 6a and 6b for the well locations.

Problematic in the use of 3-D CSIA for TCE source identification is the potential exchange of H in TCE with H in water, especially at alkaline pH values (Gabricevic et al., 2015). In laboratory measurements, complete exchange of H in TCE with H in water occurred within 12 hours at pH values above 11 with the rate of exchange directly proportional to the hydroxide (OH) concentration. Using experimentally determined rate constants from Gabricevic et al. (2015) and assuming the first order relation in the laboratory at higher pH values exists at pH values more typical of Sullivan area groundwater (pH 6.5 to 8), complete exchange of H in TCE with groundwater at the Oak Grove Village site could occur within about 2 to 40 years, with more rapid exchange predicted at higher pH values. This calculation does not consider the lower temperature of groundwater at the site (about 14 degrees Celsius) compared to 25 degrees Celsius in the laboratory experiments. Groundwater in the Sullivan area has $\delta^{2}H$ values of about -40‰ (-42.9‰ in COS09 on 6-2-2017), thus exchange of H in dissolved TCE with groundwater has the potential to substantially alter $\delta^{2}H$ values in TCE. The $\delta^{2}H$ values of TCE in the groundwater samples are substantially smaller than most of manufactured TCE and this could be indicative of H exchange with groundwater. Rather than a tracer of TCE source, $\delta^{2}H$ may in some manner reflect residence time, groundwater pH, and distance from non-aqueous phase liquid (NAPL) sources.

The initial hypothesis for application of CSIA at the OGV site was that the large quantity of TCE contamination in soils and groundwater at the former TRW/Ramsey facility might have a unique isotopic fingerprint that would allow it to be readily traced to off-site receptors. However, 2-D and 3-D CSIA indicates that TCE in groundwater at the former facility has a complex distribution of

isotopic contents with samples from the 15 monitoring wells at or near the facility found in both 2-D CSIA classes and all three 3-D CSIA groups (Figures 3 through 5). There is no apparent spatial or vertical relation between isotopic contents of TCE at the former TRW/Ramsey facility, and in some cases, there is not complete agreement between the 2-D and 3-D CSIA results. For example, 2-D CSIA places data from well cluster OBG-01 (OBG-01S, OBG-01D, and OBG-01DD) all within Class B, with OBG-01D and OBG-01DD shifted to the upper right of OBG-01S but within error (Figure 3). However, 3-D CSIA places OBG-01D in Group 2 (depleted in δ^2H) but OBG-01S and OBG-01D in Group 1 (enriched in δ^2H). It is unlikely that OBG-01S is the source of TCE in the deeper wells in this cluster, as TCE concentrations in OBG-01S (24 µg/L) were considerably smaller than OBG-1D (2,500 µg/L) and OBG-1DD (220 µg/L), and within the fractured bedrock. Direct flow paths even within the former facility are not apparent.

The complex pattern of isotopic fingerprints at the former TRW/Ramsey facility is consistent with the long history of TCE use at the site and long period of groundwater contamination. This complex pattern probably indicates that TCE used was obtained from a variety of vendors and over a long period of time and therefore had a considerable range in isotopic signatures reflective of differences in manufacturing methods over the years overprinted with environmental effects such as biotic and abiotic degradation and possibly isotopic exchange and volatilization. The complex distribution of 2-D and 3-D CSIA results for TCE from monitoring wells at the former TRW/Ramsey facility limit the use of CSIA alone to readily link TCE at that facility to TCE at other off-site locations.

The lack of a single unique CSIA fingerprint of TCE in groundwater at the former TRW/Ramsey facility limits the utility of this method to unequivocally link TCE found in groundwater at any particular location at the OGV well site to the facility. However, if the former TRW/Ramsey facility is the primary origin of TCE in groundwater in the area, then the complex pattern of CSIA fingerprints observed at the facility also would be expected in off-site groundwater. This seems to be the case: from the 2-D CSIA, the TCE in OGV02, COS02, and PH078 (LJSCC) are in Class B with similar $\delta^{13}C$ and $\delta^{37}Cl$ ratios (Figure 3); whereas 3-D CSIA places OGV02 and PH078 and in Group 1 (enriched in ^2H) having nearly identical isotopic ratios as deep monitoring well OBG-01DD at the former TRW/Ramsey facility (Figure 4). OBG-01DD is approximately 540 to 550 feet deep and is screened at approximately the same elevation as the zone of largest concentration of TCE entering closed well OGV01. The TCE at COS02 (which is attributed to the former TRW/Ramsey facility) and monitoring well MW-6 are in Group 2 and most closely match intermediate wells OBG-01D, OBG-11D, and TRW-MW-24D (Figure 4). The similar complex 2-D and 3-D CSIA patterns in groundwater on site and off site are not inconsistent with the large volumes of TCE used at the former facility (Metcalf & Eddy, 1992), and large concentrations in groundwater beneath and near the site. The complex hydrogeology in this mature karst area, combined with the complex and long TCE use history at the former Ramsey site result in complex isotopic signatures in groundwater at the site and vicinity that do not present a unique fingerprint of TCE used at the former facility.

The quality control (QC) data for the CSIA done at the University of Oklahoma included analyses of laboratory control samples of known isotopic content and field and laboratory replicate samples. Control samples run with environmental samples from the OGV site indicated good accuracy of the data. The standard deviations are as follows:

- $\delta^{13}C$, 0.4‰ (16 samples);
- $\delta^{37}Cl$, 0.3‰ (28 samples); and
- $\delta^{2}H$, 8‰ (34 samples, using both standard and closed loop extraction).

Field and laboratory replicate samples were run to document reproducibility of the data:

- $\delta^{13}C$, 8 field and laboratory replicate samples:
  - error of 0.71‰ (error is conservatively defined as the maximum difference between pairs of replicate field or lab duplicate samples);
  - average of 0.23‰; and
  - 95th percentile of 0.64‰.
- $\delta^{37}Cl$ = 16 field and laboratory replicate samples:
  - error of 0.64‰;
  - average of 0.32‰; and
  - 95th percentile of 0.58‰.
- $\delta^{2}H$ = 7 field and laboratory replicate samples:
  - error of 14.7‰;
  - average of 7.2‰; and
  - 95th percentile of 13.3‰.

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ATTACHMENTS

Attachment 1: Figures and Tables
Attachment 2: Analytical Results
Attachment 3: CSIA Fact Sheet

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ATTACHMENT 1

FIGURES AND TABLES

Figure 1	Summary of TCE Detections 2014 CSIA Investigation
Figure 2	Comparison of TCE Concentrations Measured in CSIA Study to Historical TCE Concentrations
Figure 3	Plot of $\delta^{13}C$ and $\delta^{37}Cl$ Ratios from 2-D CSIA in Groundwater Samples and Published Values for Manufactured TCE and TCE in Consumer Products
Figure 4	Plot of $\delta^{13}C$ and $\delta^{2}H$ Ratios from 3-D CSIA in Groundwater Samples and Published Values for Manufactured TCE and TCE in Consumer Products
Figure 5	Plots of $\delta^{13}C$ / $\delta^{2}H$ Ratios and $\delta^{2}H$ / $\delta^{37}Cl$ Ratios from 3-D CSIA in Groundwater Samples from the Oak Grove Village Well Site
Figure 6a	TCE Class Distribution based on 2-D CSIA
Figure 6b	TCE Group Distribution based on 3-D CSIA
Table 1	Summary of EPA Contract Laboratory Analytical Results – 2014 CSIA Investigation
Table 2	Summary of Analytical Results – 2014 USGS Split Samples

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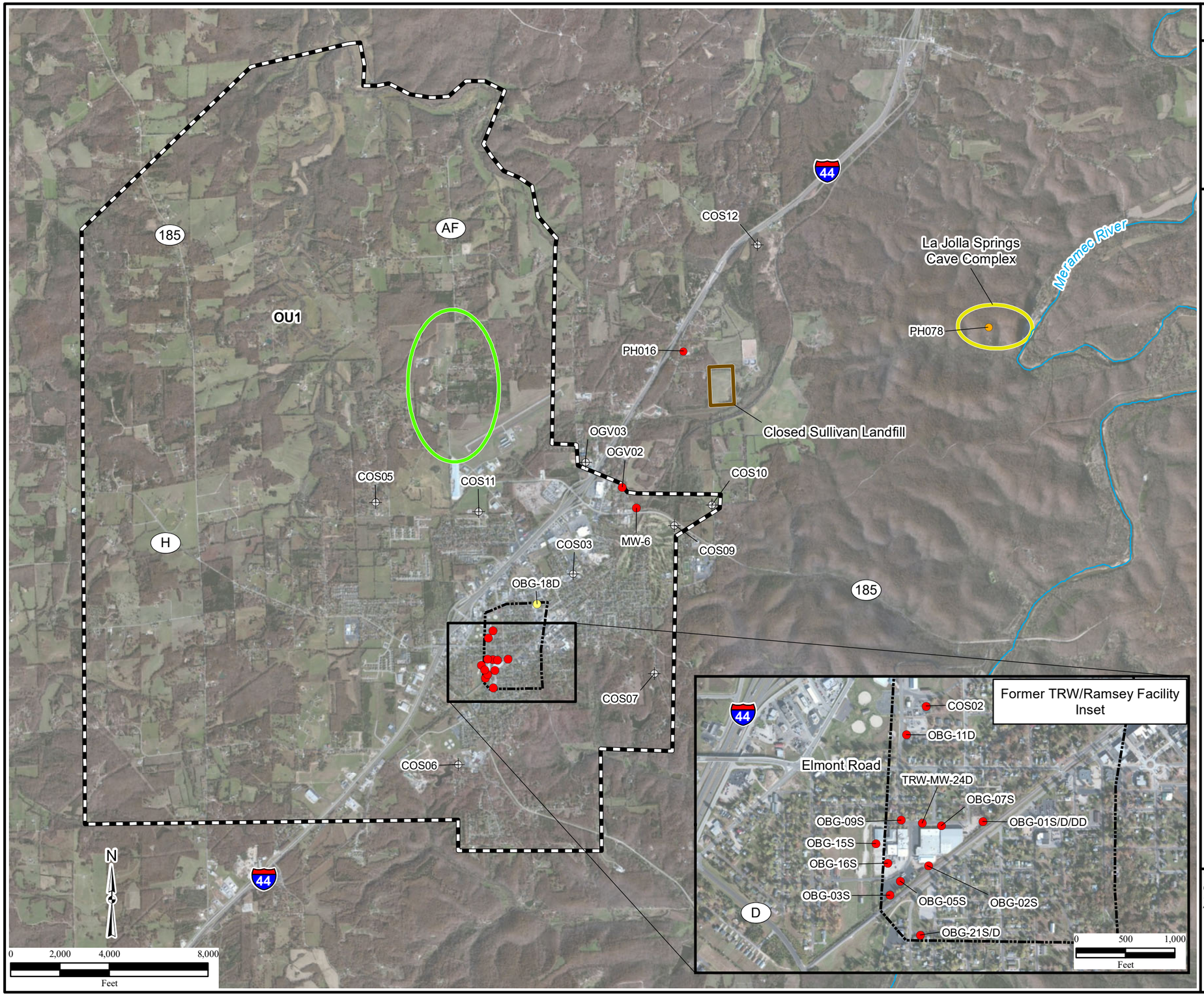
Figure 1
Summary of TCE Detections
2014 CSIA Investigation



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TCE Results (µg/L):

- 1.0 to 2.9
- 3.0 to 4.9
- > 5.0
- Production Well (Not Sampled)
- Surface Water Course
- Closed Sullivan Landfill
- La Jolla Springs Cave Complex
- Highway AF Well Area
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

Notes:
The highest concentration is depicted if the location was sampled multiple times or if the location includes multiple sample depths.

µg/L=micrograms per liter
CSIA=compound specific isotope analysis
OU=Operable Unit
TCE=trichloroethene

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1/13/2020 RR
Source: HGL, MDNR
ArcGIS Online Imagery

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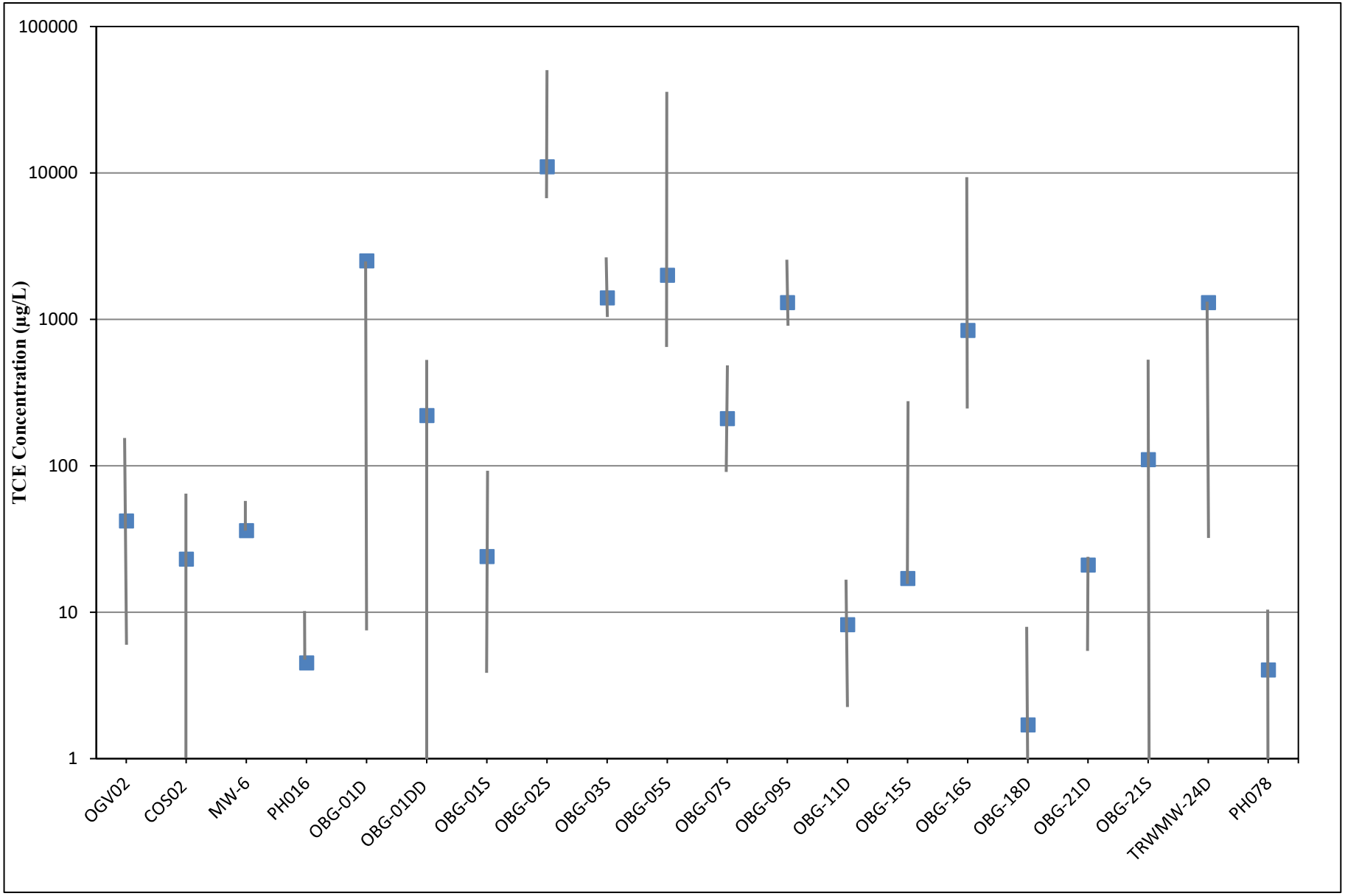

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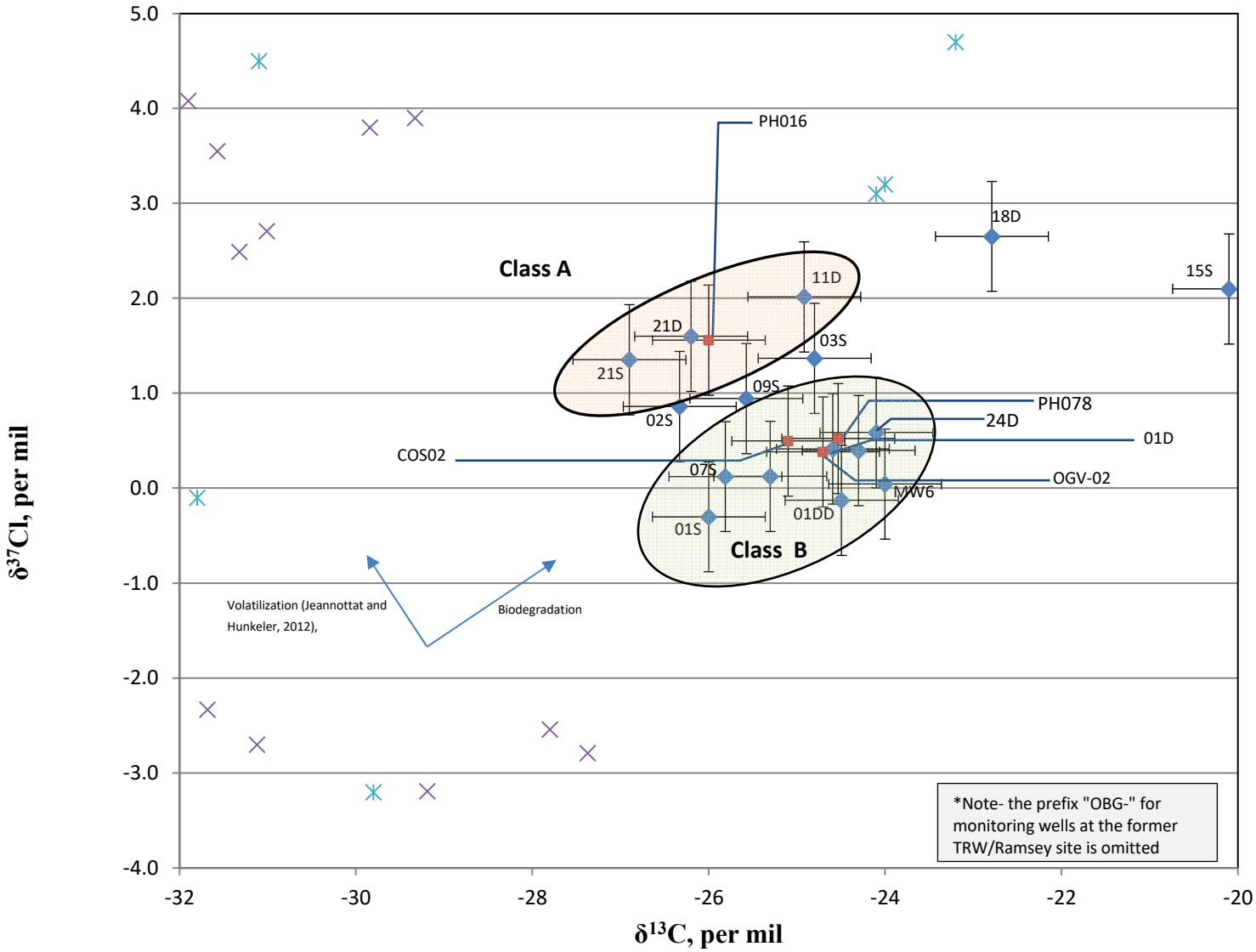
3-D CSIA TCE concentration (July 2014) in micrograms per liter (µg/L).

Historical range of TCE (1986-2019)

TCE = Trichloroethene
CSIA = Compound Specific Isotope Analysis

Figure 2
Comparison of TCE Concentrations Measured in CSIA Study to Historical TCE Concentrations



NOTE- Vertical and horizontal lines represent represent analytical error expressed as the 95th percentile of the maximum difference between regular and replicate samples

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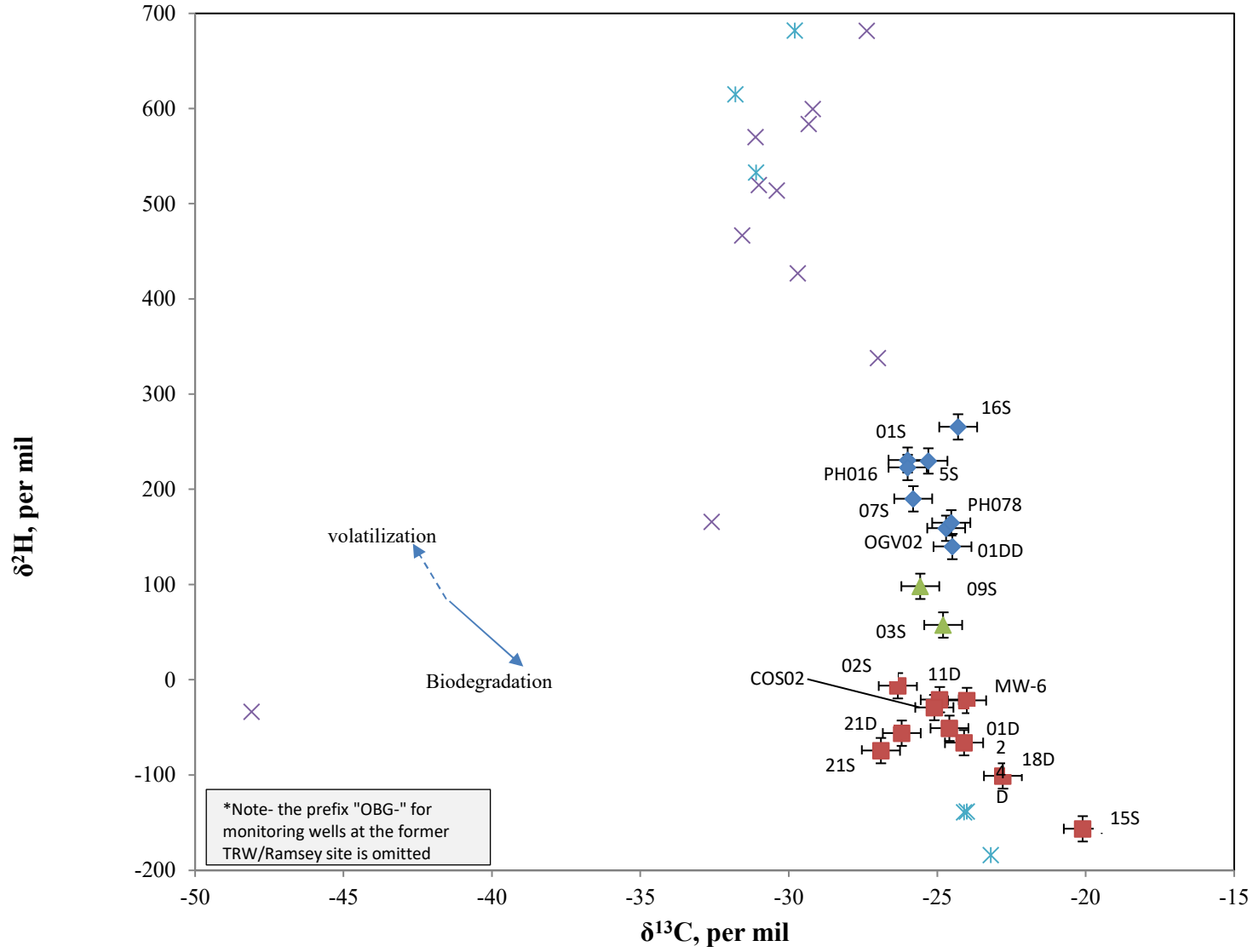
- ◆ Monitoring well
- × Manufactured TCE
- ✳ TCE consumer product
- ■ Production or domestic well or spring

Figure 3

Plot of $\delta^{13}C$ and $\delta^{37}Cl$ Ratios from 2-D CSIA in Groundwater Samples and Published Values for Manufactured TCE and TCE in Consumer Products



NOTE- Vertical and horizontal lines represent analytical error expressed as the 95th percentile of the maximum difference between regular and replicate samples

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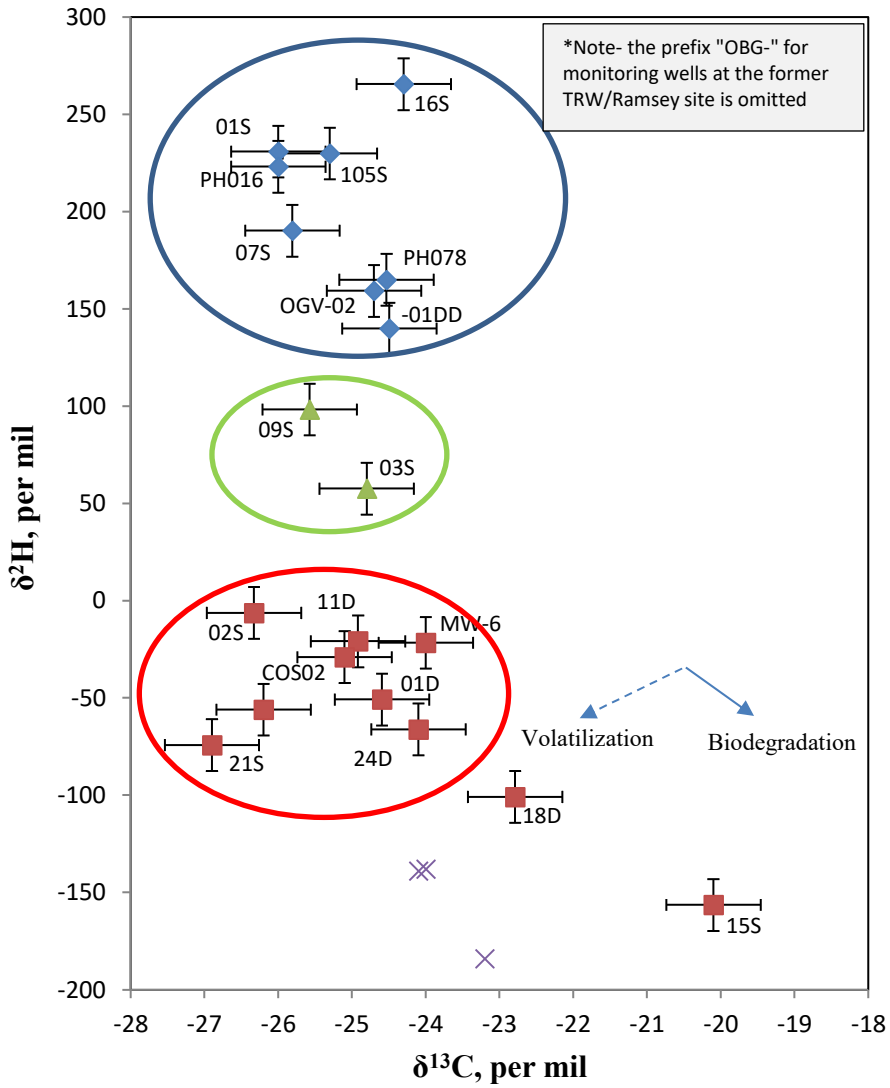
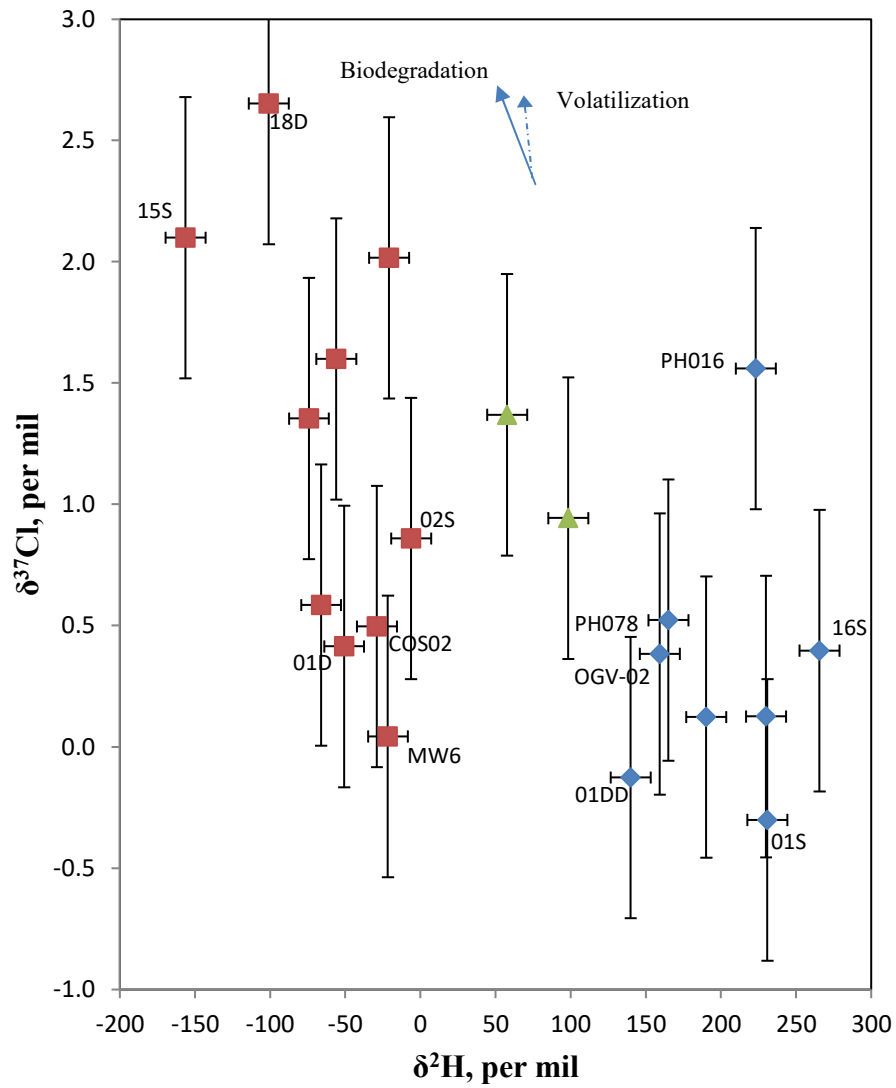
Legend

- Group 1
- Group 2
- Group 3
- Manufactured TCE
- TCE consumer product

Figure 4

Plot of $\delta^{13}C$ and $\delta^{2}H$ Ratios from 3-D CSIA in Groundwater Samples and Published Values for Manufactured TCE and TCE in Consumer Products





Project: EP9049.01.12.03.00

Revised: 12/20/19

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Legend

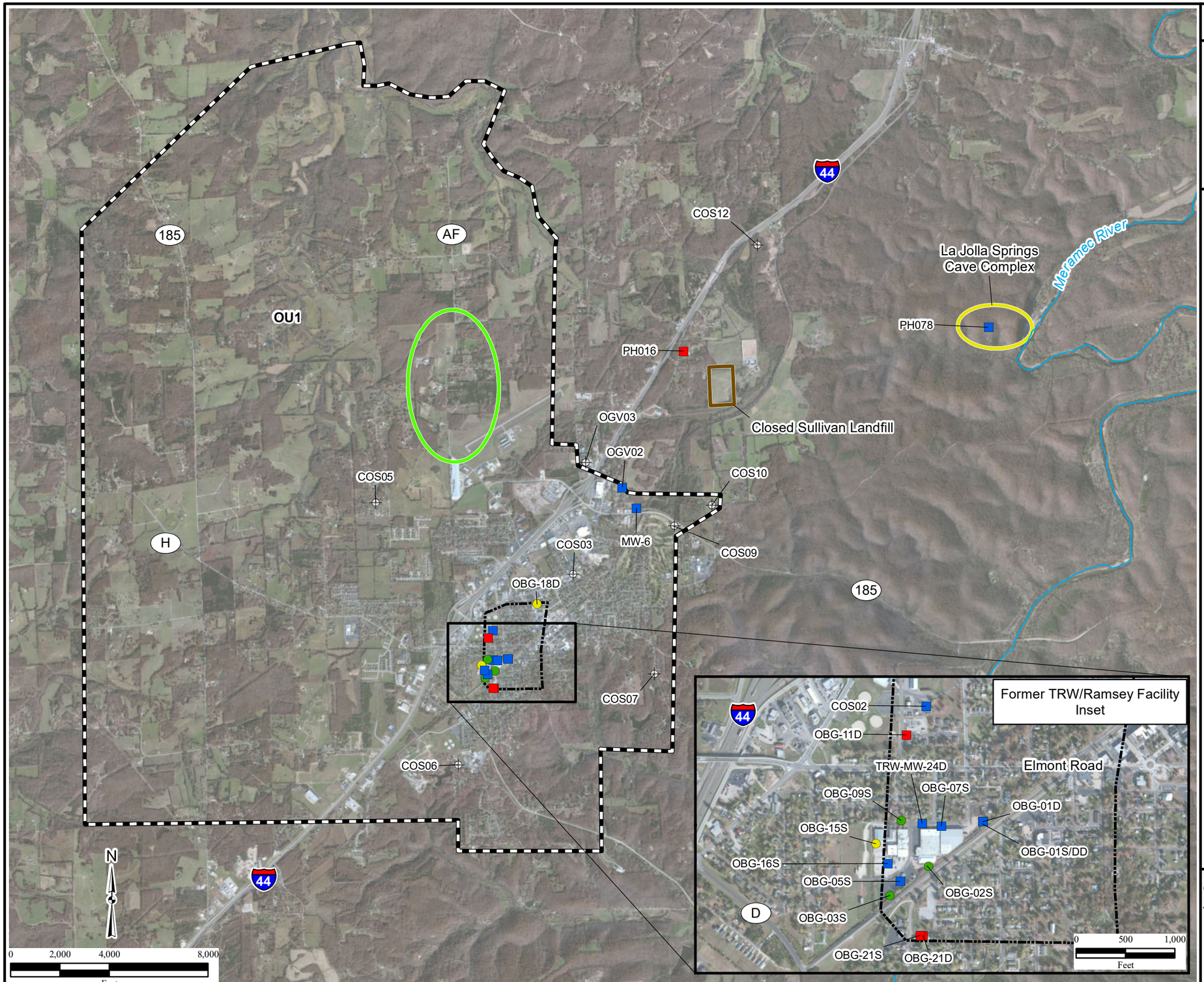
- Group 1
- Group 2
- Group 3
- TCE

NOTE- Vertical and horizontal lines represent analytical error expressed as the 95th percentile of the maximum difference between regular and replicate samples

Figure 5

Plots of $\delta^{13}C$ / $\delta^{2}H$ Ratios and $\delta^{2}H$ / $\delta^{37}Cl$ Ratios from 3-D CSIA in Groundwater Samples from the Oak Grove Village Well Site

Figure 6a
TCE Class Distribution based on 2-D CSIA



Legend

- Class A
- Class B
- Not Classified
- Degraded Class A or B
- Production Well (Not Sampled)
- Surface Water Course
- Closed Sullivan Landfill
- La Jolla Springs Cave Complex
- Highway AF Well Area
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

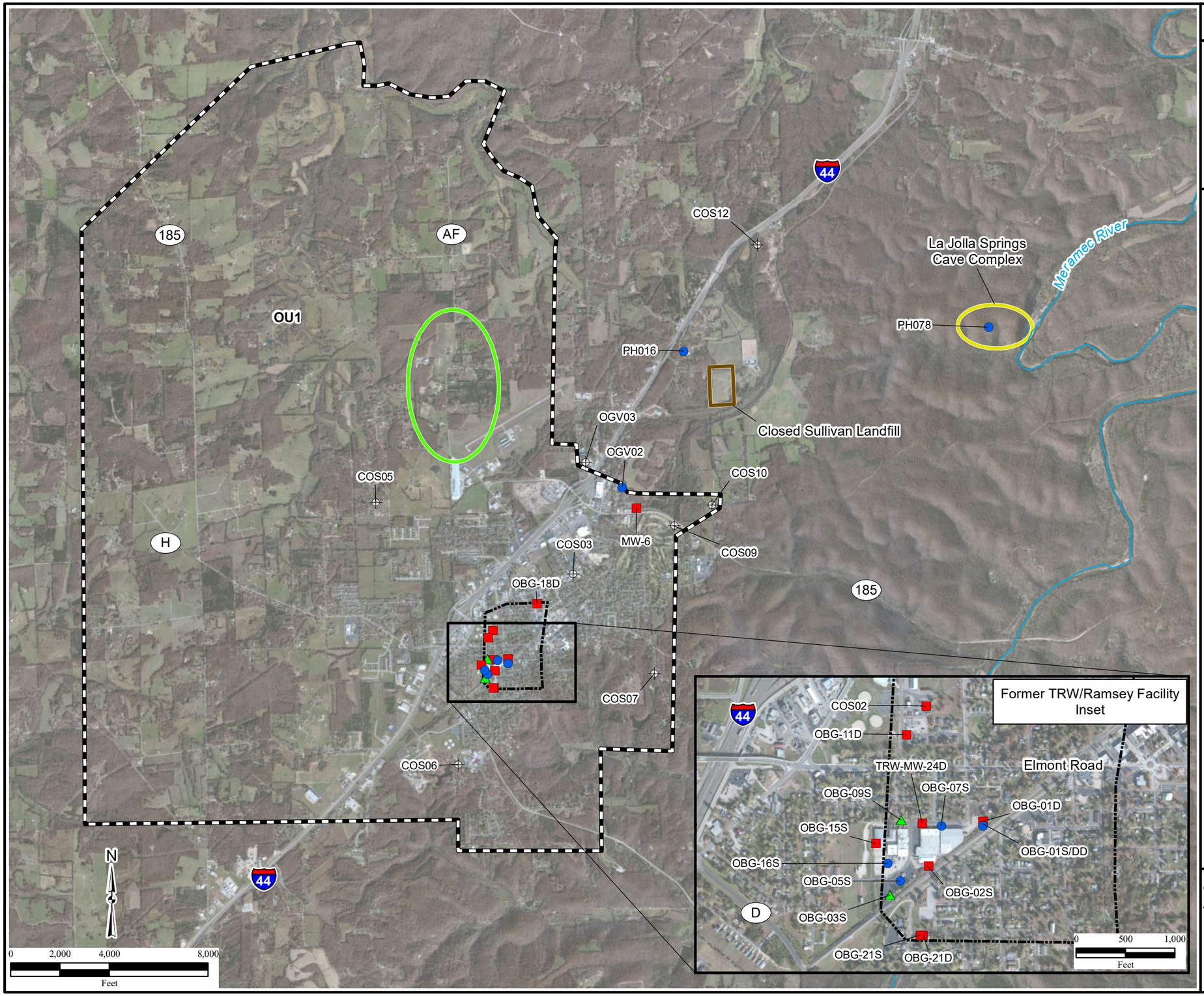
Notes:
Distribution of TCE classes based on compound specific isotope analysis.

OU=Operable Unit
TCE=trichloroethene

\\Gst-srv-01\hglgis\Oak_Grove_Village_MSIW\Final_DER\CSIA_Appendix\(06a)TCE_Group_Distributions_2D-CSIA.mxd
1/13/2020 JG
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc

Figure 6b
TCE Group Distribution based on 3-D CSIA



Legend

- Group 1
- Group 2
- Group 3
- Production Well (Not Sampled)
- Surface Water Course
- Closed Sullivan Landfill
- La Jolla Springs Cave Complex
- Highway AF Well Area
- Former TRW/Ramsey Facility
- Operable Unit 1 (OU1)

Notes:
Distribution of TCE groups based on compound specific isotope analysis.

OU=Operable Unit
TCE=trichloroethene

\\Gst-srv-01\hglgis\Oak_Grove_Village_MSIW\Final_DER\CSIA_Appendix\(06b)TCE_Group_Distributions_3D-CSIA.mxd
1/13/2020 JG
Source: HGL, ArcGIS Online Imagery
MDNR, 1992

HGL HydroGeoLogic, Inc

Table 1
Summary of EPA Contract Laboratory Analytical Results – 2014 CSIA Investigation
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	Vinyl Chloride	1,1,1-TCA	Freon 11	Freon 12	Freon 113	Isotope Analysis		
		µg/L										$\delta^{13}C$	$\delta^{37}Cl$	$\delta^{2}H$
Production Wells [1]														
OGV02	7/9/14	**42**	5.0 U	**0.89 J**	5.0 U	5.0 U	5.0 U	5.0 U	**2.6 J**	10 U	5.0 U	-24.7	0.38	159.3
COS02	7/9/14	**23**	5.0 U	**0.91 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	-25.1	0.50	-29.0
		22	5.0 U	**0.89 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	-25.1	0.74	-21.9
Monitoring Wells in OU1														
MW-6	7/16/14	**36**	5.0 U	**1.1 J**	5.0 U	5.0 U	5.0 U	5.0 U	10 U	10 U	5.0 U	-24.0	0.044	-21.6
Domestic Wells in OU2														
PH016	7/9/14	**4.5 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**4.6 J**	10 U	5.0 U	-26.0	1.56	223.1
Former TRW/Ramsey Facility Monitoring Wells														
OBG-01D	7/17/14	**2,500**	130 U	**65 J**	130 U	130 U	130 U	130 U	130 U	250 U	130 U	-24.6	0.41	-50.8
OBG-01DD	7/17/14	**220**	13 U	**4.1 J**	13 U	13 U	13 U	13 U	13 U	25 U	13 U	-24.5	-0.13	139.9
OBG-01S	7/9/14	**24**	**0.49 J**	**1.3 J**	5.0 U	5.0 U	5.0 U	**4.2 J**	**57**	10 U	5.0 U	-26.0	-0.30	230.9
OBG-02S	7/18/14	**11,000**	1000 U	**1,200**	1000 U	1000 U	1000 U	1000 U	1000 U	2000 U	1000 U	-26.3	0.86	-6.3
OBG-03S	7/11/14	**1,400**	5.0 U	**92**	**1.7 J**	5.0 U	5.0 U	**0.44 J**	**3.8 J**	10 U	5.0 U	-24.8	1.37	57.6
OBG-05S	7/18/14	**2,000**	50 U	**340**	50 U	50 U	**27 J**	50 U	50 U	100 U	50 U	-25.3	0.13	229.9
		1,700	50 U	**300**	50 U	50 U	**22 J**	50 U	50 U	100 U	4 U	-25.3	-0.08	234.0
OBG-07S	7/16/14	**210**	10 U	**25**	**2.1**	10 U	10 U	10 U	**1.3 J**	20 U	10 U	-25.8	0.12	190.2
OBG-09S	7/11/14	**1,300**	**1.1 J**	**51**	**0.31 J**	5.0 U	5.0 U	**3.3 J**	**240**	10 U	**330**	-25.6	0.94	98.3
OBG-11D	7/8/14	**8.2**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**2.8 J**	10 U	5.0 U	-24.9	2.02	-20.9
OBG-15S	7/10/14	**17**	**9.1**	**29**	**1.3 J**	**5.7**	**2.9 J**	**1,700**	**93**	10 U	5.0 U	-20.1	2.10	-156.4
OBG-16S	7/15/14	**840**	50 U	**170**	50 U	50 U	50 U	50 U	50 U	100 U	**7.5 J**	-24.3	0.40	265.6
OBG-18D	7/8/14	**1.7 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**0.28 J**	10 U	5.0 U	-22.8	2.65	-100.9
OBG-21D	7/9/14	**21**	5.0 U	**0.80 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	-26.2	1.60	-56.0
OBG-21S	7/10/14	**110**	5.0 U	**11**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	-26.9	1.35	-74.2
TRW-MW-24D	7/17/14	**1,300**	100 U	**39 J**	100 U	100 U	100 U	100 U	100 U	200 U	100 U	-24.1	0.58	-66.1
La Jolla Spring Cave Complex														
PH078	8/4/14	**4.03**	0.026 U	**0.099**	0.018 U	NA	0.06 U	5.0 U	**0.13**	0.1 U	0.022 U	-24.5	0.52	165.0

Notes:

[1] Influent samples only.

VOC analysis was conducted by TestAmerica Laboratory.

Isotope analysis was conducted by the University of Oklahoma.

Bolded results indicate a detection.

Shaded results indicate the RAO has been exceeded.

Samples were not analyzed for Freon 21.

CSIA = compound specific isotope analysis

EPA = Environmental Protection Agency

ID = identification

DCE = dichloroethene

NA = not analyzed

OU = operable unit

PCE = tetrachloroethene

RAO = Remedial Action Objective

TCA = trichloroethane

TCE = trichloroethene

µg/L = micrograms per liter

J = The result is less than the reporting limit but greater than or equal to the Method Detection Limit (MDL). The concentration is an approximate value.

< = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

$\delta^{13}C = {}^{13}C/{}^{12}C$

$\delta^{37}Cl = {}^{37}Cl/{}^{35}Cl$

$\delta^{2}H = {}^{2}H/{}^{1}H$

Table 2
Summary of Analytical Results – 2014 USGS Split Samples
Oak Grove Village Well Site OU1
Franklin County, Missouri

Well ID	Date	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	1,1,1-TCA	Freon 11	Freon 12	Freon 21	Freon 113
		µg/L									
Production Wells [1]											
OGV02	07/09/14	**43.1**	**0.01**	**1.15**	**0.01**	<0.06	**0.021**	**3.82**	<0.1	<0.1	**0.14**
COS02	07/09/14	**24**	**0.03**	**1.24**	**0.01**	<0.06	**0.108**	**0.42**	<0.1	<0.1	**0.26**
Monitoring Wells in OU1											
MW-06	07/16/14	**35.9**	<0.026	**1.39**	**0.02**	<0.06	<0.03	**0.02**	<0.1	<0.1	<0.022
Domestic Wells in OU2											
PH-016	07/09/14	**6.02**	**0.05**	<0.02	<0.018	<0.06	<0.03	**4.63**	**0.71**	<0.1	**0.21**
Former TRW/Ramsey Facility Monitoring Wells											
OBG-01D	07/17/14	**25,000**	<7	**65**	<4.5	<11	<7.3	**<5.5**	<11	NA	<11
OBG-01DD	07/17/14	**277**	<0.26	**4.69**	<0.18	<0.6	<0.3	**0.65**	<1	<1	<0.22
OBG-01S	07/09/14	**24**	**0.49 J**	**1.3 J**	<0.18	<0.43	<0.29	**57**	<0.45	NA	<0.25
OBG-02S	07/18/14	**16,560**	<26	**1,292**	<18	<60	<30	<80	<10	<10	<22
OBG-03S	07/11/14	**1,400**	<0.28	**92**	**1.7 J**	<0.43	<0.29	NA	<0.45	NA	<0.25
OBG-05S	07/18/14	**2,051**	<2.6	**323**	**1.8**	**28.6**	<3	<6	<10	<1	<4
		2,048	<2.6	**311**	**1.73**	**26.6**	<3	<6	<10	<1	<4
OBG-07S	07/16/14	**194**	<0.26	**26.2**	**0.19**	<0.6	<0.3	**1.02**	<1	<1	**0.76**
OBG-09S	07/11/14	**1,300**	<0.28	**51**	**0.31 J**	<0.43	**3.3 J**	**240**	<0.45	NA	**330**
OBG-11D	07/08/14	**8.2**	<0.28	<0.16	<0.18	<0.43	<0.29	**2.8 J**	<0.45	NA	<0.25
OBG-15S	07/10/14	**16.2**	**7.43**	**27.8**	**0.91**	**3.62**	**1,744**	**100.8**	<1	**46.2**	<1.1
OBG-16S	07/15/14	**942**	**2.6**	**169**	**0.73**	<6	2	**3.14**	<10	<10	<4
OBG-18D	07/18/14	**1.7 J**	<0.28	**<0.16**	<0.18	<0.43	<0.29	**0.28**	<0.45	NA	<0.25
OBG-21D	07/09/14	**21**	<0.28	**0.8 J**	<0.18	<0.43	<0.29	<0.22	<0.45	NA	<0.25
OBG-21S	07/10/14	**110**	<0.28	**11**	<0.18	<0.43	<0.29	<0.22	<0.45	NA	<0.25
OBG-24D	07/17/14	**1,300**	<5.6	**39 J**	<3.6	<8.6	<5.8	<4.4	<9	NA	<5
La Jolla Spring Cave Complex											
PH078	08/04/14	**4.03**	<0.026	**0.10**	<0.018	<0.06	<0.03	**0.13**	<0.1	**0.29**	<0.022

Notes:

[1] Influent samples only.
Bolded results indicate a detection.
Shaded results indicate the RAO has been exceeded.
ID = identification
DCE = dichloroethene
NA = not analyzed
OU = operable unit
PCE = tetrachloroethene
RAO = Remedial Action Objective
TCA = trichloroethane
TCE = trichloroethene
µg/L = micrograms per liter
J = The result is less than the reporting limit but greater than or equal to the Method Detection Level (MDL). The concentration is an approximate value.
< = The analyte was not detected at or above the reporting limit. The associated numerical value is the reporting limit.

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ATTACHMENT 2

ANALYTICAL RESULTS

(Provided on CD)

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3040 E. Cornwallis Road ▪ PO Box 12194 ▪ Research Triangle Park, NC 27709-2194 ▪ USA
Telephone 919.541.6000 ▪ Fax 919.541.5985 ▪ www.rti.org

Memorandum

To: John McKernan, Director, EPA/ORD ETSC

From: Coleen Northeim, RTI International

Subject: Task Order #21 TD R2-8, Oak Grove Project Deliverables

Date: November 24, 2014

This Package contains the laboratory portion of the deliverables for the Oak Grove CSIA study. Please note that as per the EPA TD, there is no comprehensive analysis performed on these data. I suggest that you create a separate folder on your computer and store all of these documents in that folder to make your electronic review easier. This deliverable package of 11 documents includes:

- This cover sheet (1 Summary Document) and The QAPP Deviations deliverable from August 2014 (1 Document).
- Two spreadsheets and two full reports on the volatile organic chemical analyses performed on the samples sent by the field team to the laboratory. The reports contain a thorough discussion of the project analyses (label: TAL spreadsheets and J7463 and J7570 reports; 4 documents total).
- The CSIA test reports and analytical data are included in the Project 849 spreadsheets which are divided into the QA/QC data and field sample data (2 documents total).
- The chain of custody forms from the University of Oklahoma laboratory (Project 849 COCs; 1 document).
- A special narrative on the continuing advancement of the Oklahoma low concentration CSIA method since the last modification of the Oak Grove QAPP (1 document).
- To avoid confusion and to provide important data on the analyses, we have also included a copy of all pages of the laboratory notebook for the CSIA analyses (1 document of scans).

These 11 project-related documents contain some additional information that I wish to highlight. On both of the Project 849 spreadsheet reports, there are tabs at the bottom of the page that must be utilized to see all of the data. Included on each spreadsheet is the required project cover sheet plus an additional tab for data notes. Please review these tabs first upon opening the spreadsheet. Finally, on the actual CSIA data summary tab (Data, Closed Loop), we have included a “Remarks” column to highlight some important data on the individual runs. On this page of data, the low concentration analyses can be located at the bottom of the spreadsheet. One will need the site sample worksheet table from the QAPP (see the attached Deviations Document) to connect the data with each individual well when you perform your final site analysis.

RTI International is a trade name of Research Triangle Institute.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-7463-1
Client Project/Site: Oak Grove Village, MO CSIA study

For:
RTI International
PO BOX 12106
Research Triangle Park, North Carolina 27709

Attn: Coleen Northheim

Authorized for release by:
7/28/2014 1:35:35 PM

Erika Gish, Project Manager II
(314)298-8566
erika.gish@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 5
Receipt Checklists 7
Definitions/Glossary 8
Method Summary 9
Sample Summary 10
Detection Summary 11
Client Sample Results 14
QC Sample Results 32
QC Association Summary 41
Surrogate Summary 42

Job ID: 160-7463-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: RTI International

Project: Oak Grove Village, MO CSIA study

Report Number: 160-7463-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 7/15/2014 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4º C.

VOLATILE ORGANIC COMPOUNDS (GC MS)

Samples OBG-18D (160-7463-1), OBG-11D (160-7463-2), PH019B (160-7463-3), C0S02 (160-7463-4), OBG-21D (160-7463-5), OBG-1S (160-7463-6), OBG-15S (160-7463-7), PH-016 (160-7463-8), OBG-21S (160-7463-9), OBG-3S (160-7463-10), OBG-9S (160-7463-11), C0S02 (160-7463-12) and TRIP BLANK (160-7463-13) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 07/17/2014, 07/18/2014 and 07/21/2014.

Analytical Batch 133423

TIC request : CFC-21

CFC-21 (Dichlorofluoromethane) could not be identified by a Tentatively Identified Compound (TIC) search because this compound co-elutes with Trichlorofluoromethane (CFC-11), a target analyte which was present in many of the samples. Any chromatographic peak already identified as a target analyte will not be recognized by the TIC program.

Job ID: 160-7463-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

An alternative method was used to detect CFC-21. This analyte is already present in our method but has not yet been fully validated, so although we can detect CFC-21 by its spectrum and retention time, the concentration result is only considered an estimate. CFC-21 was detected in three samples:

160-7463 #7 24ppb
160-7463 #8 1ppb
160-7463 #11 5ppb

CFC-21 was not detected in the Method Blank or any other samples in this batch.

Analytical Batch 133137
The following samples were analyzed at reduced volume due to high concentrations of target analytes: OBG-15S (160-7463-7), OBG-3S (160-7463-10), OBG-9S (160-7463-11). The calculation was done using an initial volume adjustment rather than a dilution factor. The reporting limits have been elevated by the appropriate factor.

Matrix spike/matrix spike duplicate (MS/MSD) was not performed with batch 133137. All samples in the batch are dilute re-analyses. MS/MSD was performed with original undiluted analyses.

Search for CFC-21 was performed with original undiluted analyses.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: U.S.G.S. Paul Brenden MOWSC	Lab PM: Gish, Erika K	Carrier Tracking No(s):	COC No: 160-1605-774.1
Client Contact: Coleen Northeim	Phone: 573-308-3673	E-Mail: erika.gish@testamericainc.com		Page: Page 1 of 29
Company: RTI International				Job #:
Address: PO BOX 12106	Due Date Requested:			
City: Research Triangle Park	TAT Requested (days):			
State, Zip: NC, 27709				
Phone: 919-541-5816(Tel)	PO #: Purchase Order Requested			
Email: cmn@rti.org	WO #:			
Project Name: EPA Project in Missouri	Project #: 16003358			
Site: Oak Grove Village, MO CSIA Study	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
OBG-18D	07/08/14	1055	G	W	NO		3	3	TCE Probably ~5 ppb
OBG-11D	07/08/14	1305	G	W	No		3	3	TCE Probably ~15 ppb
PH019B	07/09/14	0930	G	W	N		3	3	Field GC: 49ppb TCE
COS 02	07/09/14	1115	G	W	N		3	3	Field GC: 32 ppb TCE
OBG-21D	07/09/14	1135	G	W	N		3	3	TCE Probably ~25 ppb
OBG-1S	07/09/14	1440	G	W	N		3	3	Field GC: 37 ppb TCE
OBG-15S	07/10/14	1130	G	W	N		3	3	Probable High Vinylchloride Field GC: 17 ppb TCE
PH-016	07/09/14	1415	G	W	N		3	3	Field GC: 6ppb TCE
OBG-21S	07/10/14	1430	G	W	N		3	3	Field GC: 205 ppb TCE
OBG-3S	07/11/14	1240	G	W	N		3	3	Field GC: 2,700ppb TCE
OBG-9S	07/11/14	1415	G	W	N		3	3	Field GC: 3,100ppb TCE

160-7463 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Paul Brenden	Date/Time: 7/14/14 1600	Company: USGS	Received by: Rolla - FedEx	Date/Time: 7/14/14 1600	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 7/15/14 0925	Company TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: 115910
Cooler Temperature(s) °C and Other Remarks:

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information				
Client Contact: Coleen Northeim	Sampler: PAUL Brenden USGS MOWSC	Lab PM: Gish, Erika K	Carrier Tracking No(s):	COC No: 160-1605-774.2
	Phone: 573-308-3673	E-Mail: erika.gish@testamericainc.com		Page: Page 2 of 29
Company: RTI International				Job #:
Address: PO BOX 12106	Due Date Requested:			
City: Research Triangle Park	TAT Requested (days):			
State, Zip: NC, 27709				
Phone: 919-541-5816(Tel)	PO #: Purchase Order Requested			
Email: cmn@rti.org	WO #:			
Project Name: EPA Project in Missouri	Project #: 16003358			
Site: OAK Grove village, MO CSIA study	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
CoSO2	7/9/14	1116	G	W			3	3	Field GC = 32 ppb TCE
TRip Blank	7/11/14	1601	G	W			3	3	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Paul Brenden	Date/Time: 7/14/14 1600	Company: USGS	Received by: Rolla - FeDEX	Date/Time: 7/14/14 1600	Company
Relinquished by:	Date/Time:	Company	Received by: [illegible]	Date/Time: 7/15/14 0925	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: 115910
Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: RTI International

Job Number: 160-7463-1

Login Number: 7463
List Number: 1
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-7463-1	OBG-18D	Water	07/08/14 10:55	07/15/14 09:25
160-7463-2	OBG-11D	Water	07/08/14 13:05	07/15/14 09:25
160-7463-3	PH019B	Water	07/09/14 09:30	07/15/14 09:25
160-7463-4	C0S02	Water	07/09/14 11:15	07/15/14 09:25
160-7463-5	OBG-21D	Water	07/09/14 11:35	07/15/14 09:25
160-7463-6	OBG-1S	Water	07/09/14 14:40	07/15/14 09:25
160-7463-7	OBG-15S	Water	07/10/14 11:30	07/15/14 09:25
160-7463-8	PH-016	Water	07/09/14 14:15	07/15/14 09:25
160-7463-9	OBG-21S	Water	07/10/14 14:30	07/15/14 09:25
160-7463-10	OBG-3S	Water	07/11/14 12:40	07/15/14 09:25
160-7463-11	OBG-9S	Water	07/11/14 14:15	07/15/14 09:25
160-7463-12	C0S02	Water	07/09/14 11:16	07/15/14 09:25
160-7463-13	TRIP BLANK	Water	07/11/14 16:01	07/15/14 09:25

Detection Summary

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: OBG-18D — Lab Sample ID: 160-7463-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.7	J	5.0	0.29	ug/L	1		8260C	Total/NA
CFC-11	0.28	J	5.0	0.22	ug/L	1		8260C	Total/NA

Client Sample ID: OBG-11D — Lab Sample ID: 160-7463-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	8.2		5.0	0.29	ug/L	1		8260C	Total/NA
CFC-11	2.8	J	5.0	0.22	ug/L	1		8260C	Total/NA

Client Sample ID: PH019B — Lab Sample ID: 160-7463-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.89	J	5.0	0.16	ug/L	1		8260C	Total/NA
Trichloroethene	42		5.0	0.29	ug/L	1		8260C	Total/NA
CFC-11	2.6	J	5.0	0.22	ug/L	1		8260C	Total/NA

Client Sample ID: C0S02 — Lab Sample ID: 160-7463-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.89	J	5.0	0.16	ug/L	1		8260C	Total/NA
Trichloroethene	22		5.0	0.29	ug/L	1		8260C	Total/NA

Client Sample ID: OBG-21D — Lab Sample ID: 160-7463-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.80	J	5.0	0.16	ug/L	1		8260C	Total/NA
Trichloroethene	21		5.0	0.29	ug/L	1		8260C	Total/NA

Client Sample ID: OBG-1S — Lab Sample ID: 160-7463-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	4.2	J	5.0	0.29	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	6.7		5.0	0.37	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	1.3	J	5.0	0.16	ug/L	1		8260C	Total/NA
Tetrachloroethene	0.49	J	5.0	0.28	ug/L	1		8260C	Total/NA
Trichloroethene	24		5.0	0.29	ug/L	1		8260C	Total/NA
CFC-11	57		5.0	0.22	ug/L	1		8260C	Total/NA

Client Sample ID: OBG-15S — Lab Sample ID: 160-7463-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloroethane	8.7		5.0	0.57	ug/L	1		8260C	Total/NA
1,2-Dichloroethane	16		5.0	0.37	ug/L	1		8260C	Total/NA
Chloroform	1.5	J	5.0	0.15	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	29		5.0	0.16	ug/L	1		8260C	Total/NA
Cyclohexane	1.0	J	10	0.36	ug/L	1		8260C	Total/NA
Methylene Chloride	5.7		5.0	1.7	ug/L	1		8260C	Total/NA
Tetrachloroethene	9.1		5.0	0.28	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	1.3	J	5.0	0.18	ug/L	1		8260C	Total/NA
Trichloroethene	17		5.0	0.29	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: OBG-15S (Continued) — Lab Sample ID: 160-7463-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
CFC-11	93		5.0	0.22	ug/L	1		8260C	Total/NA
Vinyl chloride	2.9	J	5.0	0.43	ug/L	1		8260C	Total/NA
1,1,1-Trichloroethane - DL2	1700		250	15	ug/L	1		8260C	Total/NA
1,1-Dichloroethane - DL2	310		250	20	ug/L	1		8260C	Total/NA
1,1-Dichloroethene - DL2	6500		250	19	ug/L	1		8260C	Total/NA

Client Sample ID: PH-016 — Lab Sample ID: 160-7463-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	1.1	J	5.0	0.37	ug/L	1		8260C	Total/NA
Trichloroethene	4.5	J	5.0	0.29	ug/L	1		8260C	Total/NA
CFC-11	4.6	J	5.0	0.22	ug/L	1		8260C	Total/NA

Client Sample ID: OBG-21S — Lab Sample ID: 160-7463-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	1.1	J	5.0	0.37	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	11		5.0	0.16	ug/L	1		8260C	Total/NA
Trichloroethene	110		5.0	0.29	ug/L	1		8260C	Total/NA

Client Sample ID: OBG-3S — Lab Sample ID: 160-7463-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	0.44	J	5.0	0.29	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	2.6	J	5.0	0.37	ug/L	1		8260C	Total/NA
Chloroform	0.50	J	5.0	0.15	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	92		5.0	0.16	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	1.7	J	5.0	0.18	ug/L	1		8260C	Total/NA
CFC-11	3.8	J	5.0	0.22	ug/L	1		8260C	Total/NA
Trichloroethene - DL2	1400		50	2.9	ug/L	1		8260C	Total/NA

Client Sample ID: OBG-9S — Lab Sample ID: 160-7463-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	3.3	J	5.0	0.29	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	16		5.0	0.39	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	28		5.0	0.37	ug/L	1		8260C	Total/NA
Chloroform	1.3	J	5.0	0.15	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	51		5.0	0.16	ug/L	1		8260C	Total/NA
Tetrachloroethene	1.1	J	5.0	0.28	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	0.31	J	5.0	0.18	ug/L	1		8260C	Total/NA
CFC-113 - DL2	330		50	2.5	ug/L	1		8260C	Total/NA
Trichloroethene - DL2	1300		50	2.9	ug/L	1		8260C	Total/NA
CFC-11 - DL2	240		50	2.2	ug/L	1		8260C	Total/NA

Client Sample ID: C0S02 — Lab Sample ID: 160-7463-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.49	J	5.0	0.37	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	0.91	J	5.0	0.16	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: C0S02 (Continued) — Lab Sample ID: 160-7463-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	23		5.0	0.29	ug/L	1		8260C	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 160-7463-13

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: OBG-18D

Lab Sample ID: 160-7463-1

Date Collected: 07/08/14 10:55

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/17/14 20:14	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/17/14 20:14	1
CFC-113	ND		5.0	0.25	ug/L			07/17/14 20:14	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/17/14 20:14	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/17/14 20:14	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/17/14 20:14	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/17/14 20:14	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/17/14 20:14	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/17/14 20:14	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/17/14 20:14	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/17/14 20:14	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/17/14 20:14	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/17/14 20:14	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/17/14 20:14	1
2-Hexanone	ND		20	0.59	ug/L			07/17/14 20:14	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/17/14 20:14	1
Acetone	ND		20	6.7	ug/L			07/17/14 20:14	1
Benzene	ND		5.0	0.25	ug/L			07/17/14 20:14	1
Bromoform	ND		5.0	0.37	ug/L			07/17/14 20:14	1
Bromomethane	ND		10	0.40	ug/L			07/17/14 20:14	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/17/14 20:14	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/17/14 20:14	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/17/14 20:14	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/17/14 20:14	1
Chloroethane	ND		10	0.38	ug/L			07/17/14 20:14	1
Chloroform	ND		5.0	0.15	ug/L			07/17/14 20:14	1
Chloromethane	ND		10	0.55	ug/L			07/17/14 20:14	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			07/17/14 20:14	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/17/14 20:14	1
Cyclohexane	ND		10	0.36	ug/L			07/17/14 20:14	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/17/14 20:14	1
CFC-12	ND		10	0.45	ug/L			07/17/14 20:14	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/17/14 20:14	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/17/14 20:14	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/17/14 20:14	1
Methyl acetate	ND		25	2.3	ug/L			07/17/14 20:14	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/17/14 20:14	1
Methylcyclohexane	ND		10	0.26	ug/L			07/17/14 20:14	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/17/14 20:14	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/17/14 20:14	1
o-Xylene	ND		5.0	0.32	ug/L			07/17/14 20:14	1
Styrene	ND		5.0	0.35	ug/L			07/17/14 20:14	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/17/14 20:14	1
Toluene	ND		5.0	1.0	ug/L			07/17/14 20:14	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/17/14 20:14	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/17/14 20:14	1
Trichloroethene	**1.7**	**J**	5.0	0.29	ug/L			07/17/14 20:14	1
CFC-11	**0.28**	**J**	5.0	0.22	ug/L			07/17/14 20:14	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/17/14 20:14	1

Client Sample ID: OBG-18D

Lab Sample ID: 160-7463-1

Date Collected: 07/08/14 10:55

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			07/17/14 20:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/14 20:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/17/14 20:14*	*1*
Dibromofluoromethane (Surr)	*92*		*80 - 120*		*07/17/14 20:14*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 123*		*07/17/14 20:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*78 - 127*		*07/17/14 20:14*	*1*

Client Sample ID: OBG-11D

Lab Sample ID: 160-7463-2

Date Collected: 07/08/14 13:05

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/17/14 21:53	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/17/14 21:53	1
CFC-113	ND		5.0	0.25	ug/L			07/17/14 21:53	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/17/14 21:53	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/17/14 21:53	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/17/14 21:53	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/17/14 21:53	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/17/14 21:53	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/17/14 21:53	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/17/14 21:53	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/17/14 21:53	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/17/14 21:53	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/17/14 21:53	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/17/14 21:53	1
2-Hexanone	ND		20	0.59	ug/L			07/17/14 21:53	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/17/14 21:53	1
Acetone	ND		20	6.7	ug/L			07/17/14 21:53	1
Benzene	ND		5.0	0.25	ug/L			07/17/14 21:53	1
Bromoform	ND		5.0	0.37	ug/L			07/17/14 21:53	1
Bromomethane	ND		10	0.40	ug/L			07/17/14 21:53	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/17/14 21:53	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/17/14 21:53	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/17/14 21:53	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/17/14 21:53	1
Chloroethane	ND		10	0.38	ug/L			07/17/14 21:53	1
Chloroform	ND		5.0	0.15	ug/L			07/17/14 21:53	1
Chloromethane	ND		10	0.55	ug/L			07/17/14 21:53	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			07/17/14 21:53	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/17/14 21:53	1
Cyclohexane	ND		10	0.36	ug/L			07/17/14 21:53	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/17/14 21:53	1
CFC-12	ND		10	0.45	ug/L			07/17/14 21:53	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/17/14 21:53	1

Client Sample ID: OBG-11D

Lab Sample ID: 160-7463-2

Date Collected: 07/08/14 13:05

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/17/14 21:53	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/17/14 21:53	1
Methyl acetate	ND		25	2.3	ug/L			07/17/14 21:53	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/17/14 21:53	1
Methylcyclohexane	ND		10	0.26	ug/L			07/17/14 21:53	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/17/14 21:53	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/17/14 21:53	1
o-Xylene	ND		5.0	0.32	ug/L			07/17/14 21:53	1
Styrene	ND		5.0	0.35	ug/L			07/17/14 21:53	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/17/14 21:53	1
Toluene	ND		5.0	1.0	ug/L			07/17/14 21:53	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/17/14 21:53	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/17/14 21:53	1
Trichloroethene	**8.2**		5.0	0.29	ug/L			07/17/14 21:53	1
CFC-11	**2.8**	**J**	5.0	0.22	ug/L			07/17/14 21:53	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/17/14 21:53	1
Xylenes, Total	ND		10	0.85	ug/L			07/17/14 21:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/14 21:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/17/14 21:53*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*07/17/14 21:53*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 123*		*07/17/14 21:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*78 - 127*		*07/17/14 21:53*	*1*

Client Sample ID: PH019B

Lab Sample ID: 160-7463-3

Date Collected: 07/09/14 09:30

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/17/14 22:19	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/17/14 22:19	1
CFC-113	ND		5.0	0.25	ug/L			07/17/14 22:19	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/17/14 22:19	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/17/14 22:19	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/17/14 22:19	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/17/14 22:19	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/17/14 22:19	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/17/14 22:19	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/17/14 22:19	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/17/14 22:19	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/17/14 22:19	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/17/14 22:19	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/17/14 22:19	1
2-Hexanone	ND		20	0.59	ug/L			07/17/14 22:19	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/17/14 22:19	1
Acetone	ND		20	6.7	ug/L			07/17/14 22:19	1

Client Sample ID: PH019B

Lab Sample ID: 160-7463-3

Date Collected: 07/09/14 09:30

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.25	ug/L			07/17/14 22:19	1
Bromoform	ND		5.0	0.37	ug/L			07/17/14 22:19	1
Bromomethane	ND		10	0.40	ug/L			07/17/14 22:19	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/17/14 22:19	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/17/14 22:19	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/17/14 22:19	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/17/14 22:19	1
Chloroethane	ND		10	0.38	ug/L			07/17/14 22:19	1
Chloroform	ND		5.0	0.15	ug/L			07/17/14 22:19	1
Chloromethane	ND		10	0.55	ug/L			07/17/14 22:19	1
cis-1,2-Dichloroethene	**0.89**	**J**	5.0	0.16	ug/L			07/17/14 22:19	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/17/14 22:19	1
Cyclohexane	ND		10	0.36	ug/L			07/17/14 22:19	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/17/14 22:19	1
CFC-12	ND		10	0.45	ug/L			07/17/14 22:19	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/17/14 22:19	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/17/14 22:19	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/17/14 22:19	1
Methyl acetate	ND		25	2.3	ug/L			07/17/14 22:19	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/17/14 22:19	1
Methylcyclohexane	ND		10	0.26	ug/L			07/17/14 22:19	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/17/14 22:19	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/17/14 22:19	1
o-Xylene	ND		5.0	0.32	ug/L			07/17/14 22:19	1
Styrene	ND		5.0	0.35	ug/L			07/17/14 22:19	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/17/14 22:19	1
Toluene	ND		5.0	1.0	ug/L			07/17/14 22:19	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/17/14 22:19	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/17/14 22:19	1
Trichloroethene	**42**		5.0	0.29	ug/L			07/17/14 22:19	1
CFC-11	**2.6**	**J**	5.0	0.22	ug/L			07/17/14 22:19	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/17/14 22:19	1
Xylenes, Total	ND		10	0.85	ug/L			07/17/14 22:19	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/14 22:19*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/17/14 22:19*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*07/17/14 22:19*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 123*		*07/17/14 22:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*78 - 127*		*07/17/14 22:19*	*1*

Client Sample ID: C0S02

Lab Sample ID: 160-7463-4

Date Collected: 07/09/14 11:15

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/17/14 22:43	1

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: C0S02
Date Collected: 07/09/14 11:15
Date Received: 07/15/14 09:25

Lab Sample ID: 160-7463-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/17/14 22:43	1
CFC-113	ND		5.0	0.25	ug/L			07/17/14 22:43	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/17/14 22:43	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/17/14 22:43	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/17/14 22:43	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/17/14 22:43	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/17/14 22:43	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/17/14 22:43	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/17/14 22:43	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/17/14 22:43	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/17/14 22:43	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/17/14 22:43	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/17/14 22:43	1
2-Hexanone	ND		20	0.59	ug/L			07/17/14 22:43	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/17/14 22:43	1
Acetone	ND		20	6.7	ug/L			07/17/14 22:43	1
Benzene	ND		5.0	0.25	ug/L			07/17/14 22:43	1
Bromoform	ND		5.0	0.37	ug/L			07/17/14 22:43	1
Bromomethane	ND		10	0.40	ug/L			07/17/14 22:43	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/17/14 22:43	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/17/14 22:43	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/17/14 22:43	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/17/14 22:43	1
Chloroethane	ND		10	0.38	ug/L			07/17/14 22:43	1
Chloroform	ND		5.0	0.15	ug/L			07/17/14 22:43	1
Chloromethane	ND		10	0.55	ug/L			07/17/14 22:43	1
cis-1,2-Dichloroethene	**0.89**	**J**	5.0	0.16	ug/L			07/17/14 22:43	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/17/14 22:43	1
Cyclohexane	ND		10	0.36	ug/L			07/17/14 22:43	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/17/14 22:43	1
CFC-12	ND		10	0.45	ug/L			07/17/14 22:43	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/17/14 22:43	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/17/14 22:43	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/17/14 22:43	1
Methyl acetate	ND		25	2.3	ug/L			07/17/14 22:43	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/17/14 22:43	1
Methylcyclohexane	ND		10	0.26	ug/L			07/17/14 22:43	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/17/14 22:43	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/17/14 22:43	1
o-Xylene	ND		5.0	0.32	ug/L			07/17/14 22:43	1
Styrene	ND		5.0	0.35	ug/L			07/17/14 22:43	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/17/14 22:43	1
Toluene	ND		5.0	1.0	ug/L			07/17/14 22:43	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/17/14 22:43	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/17/14 22:43	1
Trichloroethene	**22**		5.0	0.29	ug/L			07/17/14 22:43	1
CFC-11	ND		5.0	0.22	ug/L			07/17/14 22:43	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/17/14 22:43	1
Xylenes, Total	ND		10	0.85	ug/L			07/17/14 22:43	1

Client Sample Results

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: C0S02

Lab Sample ID: 160-7463-4
Date Collected: 07/09/14 11:15
Matrix: Water
Date Received: 07/15/14 09:25

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/14 22:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/17/14 22:43*	*1*
Dibromofluoromethane (Surr)	*92*		*80 - 120*		*07/17/14 22:43*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 123*		*07/17/14 22:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*78 - 127*		*07/17/14 22:43*	*1*

Client Sample ID: OBG-21D

Lab Sample ID: 160-7463-5
Date Collected: 07/09/14 11:35
Matrix: Water
Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/17/14 23:08	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/17/14 23:08	1
CFC-113	ND		5.0	0.25	ug/L			07/17/14 23:08	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/17/14 23:08	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/17/14 23:08	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/17/14 23:08	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/17/14 23:08	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/17/14 23:08	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/17/14 23:08	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/17/14 23:08	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/17/14 23:08	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/17/14 23:08	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/17/14 23:08	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/17/14 23:08	1
2-Hexanone	ND		20	0.59	ug/L			07/17/14 23:08	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/17/14 23:08	1
Acetone	ND		20	6.7	ug/L			07/17/14 23:08	1
Benzene	ND		5.0	0.25	ug/L			07/17/14 23:08	1
Bromoform	ND		5.0	0.37	ug/L			07/17/14 23:08	1
Bromomethane	ND		10	0.40	ug/L			07/17/14 23:08	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/17/14 23:08	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/17/14 23:08	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/17/14 23:08	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/17/14 23:08	1
Chloroethane	ND		10	0.38	ug/L			07/17/14 23:08	1
Chloroform	ND		5.0	0.15	ug/L			07/17/14 23:08	1
Chloromethane	ND		10	0.55	ug/L			07/17/14 23:08	1
cis-1,2-Dichloroethene	**0.80**	**J**	5.0	0.16	ug/L			07/17/14 23:08	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/17/14 23:08	1
Cyclohexane	ND		10	0.36	ug/L			07/17/14 23:08	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/17/14 23:08	1
CFC-12	ND		10	0.45	ug/L			07/17/14 23:08	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/17/14 23:08	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/17/14 23:08	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/17/14 23:08	1
Methyl acetate	ND		25	2.3	ug/L			07/17/14 23:08	1

Client Sample ID: OBG-21D

Lab Sample ID: 160-7463-5

Date Collected: 07/09/14 11:35

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/17/14 23:08	1
Methylcyclohexane	ND		10	0.26	ug/L			07/17/14 23:08	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/17/14 23:08	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/17/14 23:08	1
o-Xylene	ND		5.0	0.32	ug/L			07/17/14 23:08	1
Styrene	ND		5.0	0.35	ug/L			07/17/14 23:08	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/17/14 23:08	1
Toluene	ND		5.0	1.0	ug/L			07/17/14 23:08	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/17/14 23:08	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/17/14 23:08	1
Trichloroethene	**21**		5.0	0.29	ug/L			07/17/14 23:08	1
CFC-11	ND		5.0	0.22	ug/L			07/17/14 23:08	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/17/14 23:08	1
Xylenes, Total	ND		10	0.85	ug/L			07/17/14 23:08	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/14 23:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/17/14 23:08*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*07/17/14 23:08*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 123*		*07/17/14 23:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*78 - 127*		*07/17/14 23:08*	*1*

Client Sample ID: OBG-1S

Lab Sample ID: 160-7463-6

Date Collected: 07/09/14 14:40

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**4.2**	**J**	5.0	0.29	ug/L			07/17/14 23:33	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/17/14 23:33	1
CFC-113	ND		5.0	0.25	ug/L			07/17/14 23:33	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/17/14 23:33	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/17/14 23:33	1
1,1-Dichloroethene	**6.7**		5.0	0.37	ug/L			07/17/14 23:33	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/17/14 23:33	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/17/14 23:33	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/17/14 23:33	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/17/14 23:33	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/17/14 23:33	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/17/14 23:33	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/17/14 23:33	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/17/14 23:33	1
2-Hexanone	ND		20	0.59	ug/L			07/17/14 23:33	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/17/14 23:33	1
Acetone	ND		20	6.7	ug/L			07/17/14 23:33	1
Benzene	ND		5.0	0.25	ug/L			07/17/14 23:33	1
Bromoform	ND		5.0	0.37	ug/L			07/17/14 23:33	1
Bromomethane	ND		10	0.40	ug/L			07/17/14 23:33	1

Client Sample Results

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: OBG-1S

Lab Sample ID: 160-7463-6

Date Collected: 07/09/14 14:40
Matrix: Water
Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	0.37	ug/L			07/17/14 23:33	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/17/14 23:33	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/17/14 23:33	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/17/14 23:33	1
Chloroethane	ND		10	0.38	ug/L			07/17/14 23:33	1
Chloroform	ND		5.0	0.15	ug/L			07/17/14 23:33	1
Chloromethane	ND		10	0.55	ug/L			07/17/14 23:33	1
cis-1,2-Dichloroethene	**1.3**	**J**	5.0	0.16	ug/L			07/17/14 23:33	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/17/14 23:33	1
Cyclohexane	ND		10	0.36	ug/L			07/17/14 23:33	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/17/14 23:33	1
CFC-12	ND		10	0.45	ug/L			07/17/14 23:33	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/17/14 23:33	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/17/14 23:33	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/17/14 23:33	1
Methyl acetate	ND		25	2.3	ug/L			07/17/14 23:33	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/17/14 23:33	1
Methylcyclohexane	ND		10	0.26	ug/L			07/17/14 23:33	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/17/14 23:33	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/17/14 23:33	1
o-Xylene	ND		5.0	0.32	ug/L			07/17/14 23:33	1
Styrene	ND		5.0	0.35	ug/L			07/17/14 23:33	1
Tetrachloroethene	**0.49**	**J**	5.0	0.28	ug/L			07/17/14 23:33	1
Toluene	ND		5.0	1.0	ug/L			07/17/14 23:33	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/17/14 23:33	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/17/14 23:33	1
Trichloroethene	**24**		5.0	0.29	ug/L			07/17/14 23:33	1
CFC-11	**57**		5.0	0.22	ug/L			07/17/14 23:33	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/17/14 23:33	1
Xylenes, Total	ND		10	0.85	ug/L			07/17/14 23:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/14 23:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/17/14 23:33*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*07/17/14 23:33*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 123*		*07/17/14 23:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*78 - 127*		*07/17/14 23:33*	*1*

Client Sample ID: OBG-15S

Lab Sample ID: 160-7463-7

Date Collected: 07/10/14 11:30
Matrix: Water
Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/17/14 23:58	1
CFC-113	ND		5.0	0.25	ug/L			07/17/14 23:58	1
1,1,2-Trichloroethane	**8.7**		5.0	0.57	ug/L			07/17/14 23:58	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/17/14 23:58	1

Client Sample Results

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: OBG-15S

Date Collected: 07/10/14 11:30
Date Received: 07/15/14 09:25

Lab Sample ID: 160-7463-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/17/14 23:58	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/17/14 23:58	1
1,2-Dichloroethane	**16**		5.0	0.37	ug/L			07/17/14 23:58	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/17/14 23:58	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/17/14 23:58	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/17/14 23:58	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/17/14 23:58	1
2-Hexanone	ND		20	0.59	ug/L			07/17/14 23:58	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/17/14 23:58	1
Acetone	ND		20	6.7	ug/L			07/17/14 23:58	1
Benzene	ND		5.0	0.25	ug/L			07/17/14 23:58	1
Bromoform	ND		5.0	0.37	ug/L			07/17/14 23:58	1
Bromomethane	ND		10	0.40	ug/L			07/17/14 23:58	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/17/14 23:58	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/17/14 23:58	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/17/14 23:58	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/17/14 23:58	1
Chloroethane	ND		10	0.38	ug/L			07/17/14 23:58	1
Chloroform	**1.5**	**J**	5.0	0.15	ug/L			07/17/14 23:58	1
Chloromethane	ND		10	0.55	ug/L			07/17/14 23:58	1
cis-1,2-Dichloroethene	**29**		5.0	0.16	ug/L			07/17/14 23:58	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/17/14 23:58	1
Cyclohexane	**1.0**	**J**	10	0.36	ug/L			07/17/14 23:58	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/17/14 23:58	1
CFC-12	ND		10	0.45	ug/L			07/17/14 23:58	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/17/14 23:58	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/17/14 23:58	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/17/14 23:58	1
Methyl acetate	ND		25	2.3	ug/L			07/17/14 23:58	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/17/14 23:58	1
Methylcyclohexane	ND		10	0.26	ug/L			07/17/14 23:58	1
Methylene Chloride	**5.7**		5.0	1.7	ug/L			07/17/14 23:58	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/17/14 23:58	1
o-Xylene	ND		5.0	0.32	ug/L			07/17/14 23:58	1
Styrene	ND		5.0	0.35	ug/L			07/17/14 23:58	1
Tetrachloroethene	**9.1**		5.0	0.28	ug/L			07/17/14 23:58	1
Toluene	ND		5.0	1.0	ug/L			07/17/14 23:58	1
trans-1,2-Dichloroethene	**1.3**	**J**	5.0	0.18	ug/L			07/17/14 23:58	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/17/14 23:58	1
Trichloroethene	**17**		5.0	0.29	ug/L			07/17/14 23:58	1
CFC-11	**93**		5.0	0.22	ug/L			07/17/14 23:58	1
Vinyl chloride	**2.9**	**J**	5.0	0.43	ug/L			07/17/14 23:58	1
Xylenes, Total	ND		10	0.85	ug/L			07/17/14 23:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/14 23:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/17/14 23:58*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*07/17/14 23:58*	*1*

Client Sample ID: OBG-15S

Lab Sample ID: 160-7463-7

Date Collected: 07/10/14 11:30

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		75 - 123		07/17/14 23:58	1
1,2-Dichloroethane-d4 (Surr)	91		78 - 127		07/17/14 23:58	1

Method: 8260C - Volatile Organic Compounds by GC/MS - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**1700**		250	15	ug/L			07/21/14 21:08	1
1,1-Dichloroethane	**310**		250	20	ug/L			07/21/14 21:08	1
1,1-Dichloroethene	**6500**		250	19	ug/L			07/21/14 21:08	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/21/14 21:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		07/21/14 21:08	1
Dibromofluoromethane (Surr)	91		80 - 120		07/21/14 21:08	1
4-Bromofluorobenzene (Surr)	91		75 - 123		07/21/14 21:08	1
1,2-Dichloroethane-d4 (Surr)	88		78 - 127		07/21/14 21:08	1

Client Sample ID: PH-016

Lab Sample ID: 160-7463-8

Date Collected: 07/09/14 14:15

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/18/14 00:23	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/18/14 00:23	1
CFC-113	ND		5.0	0.25	ug/L			07/18/14 00:23	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/18/14 00:23	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/18/14 00:23	1
1,1-Dichloroethene	**1.1**	**J**	5.0	0.37	ug/L			07/18/14 00:23	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/18/14 00:23	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/18/14 00:23	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/18/14 00:23	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/18/14 00:23	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/18/14 00:23	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/18/14 00:23	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/18/14 00:23	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/18/14 00:23	1
2-Hexanone	ND		20	0.59	ug/L			07/18/14 00:23	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/18/14 00:23	1
Acetone	ND		20	6.7	ug/L			07/18/14 00:23	1
Benzene	ND		5.0	0.25	ug/L			07/18/14 00:23	1
Bromoform	ND		5.0	0.37	ug/L			07/18/14 00:23	1
Bromomethane	ND		10	0.40	ug/L			07/18/14 00:23	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/18/14 00:23	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/18/14 00:23	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/18/14 00:23	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/18/14 00:23	1
Chloroethane	ND		10	0.38	ug/L			07/18/14 00:23	1
Chloroform	ND		5.0	0.15	ug/L			07/18/14 00:23	1

Client Sample ID: PH-016

Lab Sample ID: 160-7463-8

Date Collected: 07/09/14 14:15

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		10	0.55	ug/L			07/18/14 00:23	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			07/18/14 00:23	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/18/14 00:23	1
Cyclohexane	ND		10	0.36	ug/L			07/18/14 00:23	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/18/14 00:23	1
CFC-12	ND		10	0.45	ug/L			07/18/14 00:23	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/18/14 00:23	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/18/14 00:23	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/18/14 00:23	1
Methyl acetate	ND		25	2.3	ug/L			07/18/14 00:23	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/18/14 00:23	1
Methylcyclohexane	ND		10	0.26	ug/L			07/18/14 00:23	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/18/14 00:23	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/18/14 00:23	1
o-Xylene	ND		5.0	0.32	ug/L			07/18/14 00:23	1
Styrene	ND		5.0	0.35	ug/L			07/18/14 00:23	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/18/14 00:23	1
Toluene	ND		5.0	1.0	ug/L			07/18/14 00:23	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/18/14 00:23	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/18/14 00:23	1
Trichloroethene	**4.5**	**J**	5.0	0.29	ug/L			07/18/14 00:23	1
CFC-11	**4.6**	**J**	5.0	0.22	ug/L			07/18/14 00:23	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/18/14 00:23	1
Xylenes, Total	ND		10	0.85	ug/L			07/18/14 00:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/14 00:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/18/14 00:23*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*07/18/14 00:23*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 123*		*07/18/14 00:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*88*		*78 - 127*		*07/18/14 00:23*	*1*

Client Sample ID: OBG-21S

Lab Sample ID: 160-7463-9

Date Collected: 07/10/14 14:30

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/18/14 00:48	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/18/14 00:48	1
CFC-113	ND		5.0	0.25	ug/L			07/18/14 00:48	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/18/14 00:48	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/18/14 00:48	1
1,1-Dichloroethene	**1.1**	**J**	5.0	0.37	ug/L			07/18/14 00:48	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/18/14 00:48	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/18/14 00:48	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/18/14 00:48	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/18/14 00:48	1

Client Sample Results

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: OBG-21S

Date Collected: 07/10/14 14:30
Date Received: 07/15/14 09:25

Lab Sample ID: 160-7463-9

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/18/14 00:48	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/18/14 00:48	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/18/14 00:48	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/18/14 00:48	1
2-Hexanone	ND		20	0.59	ug/L			07/18/14 00:48	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/18/14 00:48	1
Acetone	ND		20	6.7	ug/L			07/18/14 00:48	1
Benzene	ND		5.0	0.25	ug/L			07/18/14 00:48	1
Bromoform	ND		5.0	0.37	ug/L			07/18/14 00:48	1
Bromomethane	ND		10	0.40	ug/L			07/18/14 00:48	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/18/14 00:48	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/18/14 00:48	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/18/14 00:48	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/18/14 00:48	1
Chloroethane	ND		10	0.38	ug/L			07/18/14 00:48	1
Chloroform	ND		5.0	0.15	ug/L			07/18/14 00:48	1
Chloromethane	ND		10	0.55	ug/L			07/18/14 00:48	1
cis-1,2-Dichloroethene	**11**		5.0	0.16	ug/L			07/18/14 00:48	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/18/14 00:48	1
Cyclohexane	ND		10	0.36	ug/L			07/18/14 00:48	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/18/14 00:48	1
CFC-12	ND		10	0.45	ug/L			07/18/14 00:48	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/18/14 00:48	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/18/14 00:48	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/18/14 00:48	1
Methyl acetate	ND		25	2.3	ug/L			07/18/14 00:48	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/18/14 00:48	1
Methylcyclohexane	ND		10	0.26	ug/L			07/18/14 00:48	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/18/14 00:48	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/18/14 00:48	1
o-Xylene	ND		5.0	0.32	ug/L			07/18/14 00:48	1
Styrene	ND		5.0	0.35	ug/L			07/18/14 00:48	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/18/14 00:48	1
Toluene	ND		5.0	1.0	ug/L			07/18/14 00:48	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/18/14 00:48	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/18/14 00:48	1
Trichloroethene	**110**		5.0	0.29	ug/L			07/18/14 00:48	1
CFC-11	ND		5.0	0.22	ug/L			07/18/14 00:48	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/18/14 00:48	1
Xylenes, Total	ND		10	0.85	ug/L			07/18/14 00:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/14 00:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/18/14 00:48*	*1*
Dibromofluoromethane (Surr)	*91*		*80 - 120*		*07/18/14 00:48*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 123*		*07/18/14 00:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*78 - 127*		*07/18/14 00:48*	*1*

Client Sample Results

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: OBG-3S

Date Collected: 07/11/14 12:40
Date Received: 07/15/14 09:25

Lab Sample ID: 160-7463-10

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.44**	**J**	5.0	0.29	ug/L			07/18/14 01:13	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/18/14 01:13	1
CFC-113	ND		5.0	0.25	ug/L			07/18/14 01:13	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/18/14 01:13	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/18/14 01:13	1
1,1-Dichloroethene	**2.6**	**J**	5.0	0.37	ug/L			07/18/14 01:13	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/18/14 01:13	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/18/14 01:13	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/18/14 01:13	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/18/14 01:13	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/18/14 01:13	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/18/14 01:13	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/18/14 01:13	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/18/14 01:13	1
2-Hexanone	ND		20	0.59	ug/L			07/18/14 01:13	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/18/14 01:13	1
Acetone	ND		20	6.7	ug/L			07/18/14 01:13	1
Benzene	ND		5.0	0.25	ug/L			07/18/14 01:13	1
Bromoform	ND		5.0	0.37	ug/L			07/18/14 01:13	1
Bromomethane	ND		10	0.40	ug/L			07/18/14 01:13	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/18/14 01:13	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/18/14 01:13	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/18/14 01:13	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/18/14 01:13	1
Chloroethane	ND		10	0.38	ug/L			07/18/14 01:13	1
Chloroform	**0.50**	**J**	5.0	0.15	ug/L			07/18/14 01:13	1
Chloromethane	ND		10	0.55	ug/L			07/18/14 01:13	1
cis-1,2-Dichloroethene	**92**		5.0	0.16	ug/L			07/18/14 01:13	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/18/14 01:13	1
Cyclohexane	ND		10	0.36	ug/L			07/18/14 01:13	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/18/14 01:13	1
CFC-12	ND		10	0.45	ug/L			07/18/14 01:13	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/18/14 01:13	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/18/14 01:13	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/18/14 01:13	1
Methyl acetate	ND		25	2.3	ug/L			07/18/14 01:13	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/18/14 01:13	1
Methylcyclohexane	ND		10	0.26	ug/L			07/18/14 01:13	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/18/14 01:13	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/18/14 01:13	1
o-Xylene	ND		5.0	0.32	ug/L			07/18/14 01:13	1
Styrene	ND		5.0	0.35	ug/L			07/18/14 01:13	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/18/14 01:13	1
Toluene	ND		5.0	1.0	ug/L			07/18/14 01:13	1
trans-1,2-Dichloroethene	**1.7**	**J**	5.0	0.18	ug/L			07/18/14 01:13	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/18/14 01:13	1
CFC-11	**3.8**	**J**	5.0	0.22	ug/L			07/18/14 01:13	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/18/14 01:13	1
Xylenes, Total	ND		10	0.85	ug/L			07/18/14 01:13	1

Client Sample ID: OBG-3S

Lab Sample ID: 160-7463-10

Date Collected: 07/11/14 12:40

Matrix: Water

Date Received: 07/15/14 09:25

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/18/14 01:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 120		07/18/14 01:13	1
Dibromofluoromethane (Surr)	93		80 - 120		07/18/14 01:13	1
4-Bromofluorobenzene (Surr)	96		75 - 123		07/18/14 01:13	1
1,2-Dichloroethane-d4 (Surr)	89		78 - 127		07/18/14 01:13	1

Method: 8260C - Volatile Organic Compounds by GC/MS - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**1400**		50	2.9	ug/L			07/21/14 21:33	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/21/14 21:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 120		07/21/14 21:33	1
Dibromofluoromethane (Surr)	93		80 - 120		07/21/14 21:33	1
4-Bromofluorobenzene (Surr)	98		75 - 123		07/21/14 21:33	1
1,2-Dichloroethane-d4 (Surr)	91		78 - 127		07/21/14 21:33	1

Client Sample ID: OBG-9S

Lab Sample ID: 160-7463-11

Date Collected: 07/11/14 14:15

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**3.3**	**J**	5.0	0.29	ug/L			07/18/14 01:38	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/18/14 01:38	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/18/14 01:38	1
1,1-Dichloroethane	**16**		5.0	0.39	ug/L			07/18/14 01:38	1
1,1-Dichloroethene	**28**		5.0	0.37	ug/L			07/18/14 01:38	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/18/14 01:38	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/18/14 01:38	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/18/14 01:38	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/18/14 01:38	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/18/14 01:38	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/18/14 01:38	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/18/14 01:38	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/18/14 01:38	1
2-Hexanone	ND		20	0.59	ug/L			07/18/14 01:38	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/18/14 01:38	1
Acetone	ND		20	6.7	ug/L			07/18/14 01:38	1
Benzene	ND		5.0	0.25	ug/L			07/18/14 01:38	1
Bromoform	ND		5.0	0.37	ug/L			07/18/14 01:38	1
Bromomethane	ND		10	0.40	ug/L			07/18/14 01:38	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/18/14 01:38	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/18/14 01:38	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/18/14 01:38	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/18/14 01:38	1
Chloroethane	ND		10	0.38	ug/L			07/18/14 01:38	1

Client Sample Results

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: OBG-9S

Date Collected: 07/11/14 14:15
Date Received: 07/15/14 09:25

Lab Sample ID: 160-7463-11

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**1.3**	**J**	5.0	0.15	ug/L			07/18/14 01:38	1
Chloromethane	ND		10	0.55	ug/L			07/18/14 01:38	1
cis-1,2-Dichloroethene	**51**		5.0	0.16	ug/L			07/18/14 01:38	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/18/14 01:38	1
Cyclohexane	ND		10	0.36	ug/L			07/18/14 01:38	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/18/14 01:38	1
CFC-12	ND		10	0.45	ug/L			07/18/14 01:38	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/18/14 01:38	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/18/14 01:38	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/18/14 01:38	1
Methyl acetate	ND		25	2.3	ug/L			07/18/14 01:38	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/18/14 01:38	1
Methylcyclohexane	ND		10	0.26	ug/L			07/18/14 01:38	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/18/14 01:38	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/18/14 01:38	1
o-Xylene	ND		5.0	0.32	ug/L			07/18/14 01:38	1
Styrene	ND		5.0	0.35	ug/L			07/18/14 01:38	1
Tetrachloroethene	**1.1**	**J**	5.0	0.28	ug/L			07/18/14 01:38	1
Toluene	ND		5.0	1.0	ug/L			07/18/14 01:38	1
trans-1,2-Dichloroethene	**0.31**	**J**	5.0	0.18	ug/L			07/18/14 01:38	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/18/14 01:38	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/18/14 01:38	1
Xylenes, Total	ND		10	0.85	ug/L			07/18/14 01:38	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/14 01:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/18/14 01:38*	*1*
Dibromofluoromethane (Surr)	*92*		*80 - 120*		*07/18/14 01:38*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 123*		*07/18/14 01:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*78 - 127*		*07/18/14 01:38*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
CFC-113	**330**		50	2.5	ug/L			07/21/14 21:57	1
Trichloroethene	**1300**		50	2.9	ug/L			07/21/14 21:57	1
CFC-11	**240**		50	2.2	ug/L			07/21/14 21:57	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/21/14 21:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/21/14 21:57*	*1*
Dibromofluoromethane (Surr)	*92*		*80 - 120*		*07/21/14 21:57*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 123*		*07/21/14 21:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*78 - 127*		*07/21/14 21:57*	*1*

Client Sample Results

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: C0S02

Date Collected: 07/09/14 11:16
Date Received: 07/15/14 09:25

Lab Sample ID: 160-7463-12

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/18/14 02:04	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/18/14 02:04	1
CFC-113	ND		5.0	0.25	ug/L			07/18/14 02:04	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/18/14 02:04	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/18/14 02:04	1
1,1-Dichloroethene	**0.49**	**J**	5.0	0.37	ug/L			07/18/14 02:04	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/18/14 02:04	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/18/14 02:04	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/18/14 02:04	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/18/14 02:04	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/18/14 02:04	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/18/14 02:04	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/18/14 02:04	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/18/14 02:04	1
2-Hexanone	ND		20	0.59	ug/L			07/18/14 02:04	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/18/14 02:04	1
Acetone	ND		20	6.7	ug/L			07/18/14 02:04	1
Benzene	ND		5.0	0.25	ug/L			07/18/14 02:04	1
Bromoform	ND		5.0	0.37	ug/L			07/18/14 02:04	1
Bromomethane	ND		10	0.40	ug/L			07/18/14 02:04	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/18/14 02:04	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/18/14 02:04	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/18/14 02:04	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/18/14 02:04	1
Chloroethane	ND		10	0.38	ug/L			07/18/14 02:04	1
Chloroform	ND		5.0	0.15	ug/L			07/18/14 02:04	1
Chloromethane	ND		10	0.55	ug/L			07/18/14 02:04	1
cis-1,2-Dichloroethene	**0.91**	**J**	5.0	0.16	ug/L			07/18/14 02:04	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/18/14 02:04	1
Cyclohexane	ND		10	0.36	ug/L			07/18/14 02:04	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/18/14 02:04	1
CFC-12	ND		10	0.45	ug/L			07/18/14 02:04	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/18/14 02:04	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/18/14 02:04	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/18/14 02:04	1
Methyl acetate	ND		25	2.3	ug/L			07/18/14 02:04	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/18/14 02:04	1
Methylcyclohexane	ND		10	0.26	ug/L			07/18/14 02:04	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/18/14 02:04	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/18/14 02:04	1
o-Xylene	ND		5.0	0.32	ug/L			07/18/14 02:04	1
Styrene	ND		5.0	0.35	ug/L			07/18/14 02:04	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/18/14 02:04	1
Toluene	ND		5.0	1.0	ug/L			07/18/14 02:04	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/18/14 02:04	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/18/14 02:04	1
Trichloroethene	**23**		5.0	0.29	ug/L			07/18/14 02:04	1
CFC-11	ND		5.0	0.22	ug/L			07/18/14 02:04	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/18/14 02:04	1

Client Sample ID: C0S02

Lab Sample ID: 160-7463-12

Date Collected: 07/09/14 11:16

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			07/18/14 02:04	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/14 02:04*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/18/14 02:04*	*1*
Dibromofluoromethane (Surr)	*90*		*80 - 120*		*07/18/14 02:04*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 123*		*07/18/14 02:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*78 - 127*		*07/18/14 02:04*	*1*

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-7463-13

Date Collected: 07/11/14 16:01

Matrix: Water

Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/17/14 19:49	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/17/14 19:49	1
CFC-113	ND		5.0	0.25	ug/L			07/17/14 19:49	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/17/14 19:49	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/17/14 19:49	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/17/14 19:49	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/17/14 19:49	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/17/14 19:49	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/17/14 19:49	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/17/14 19:49	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/17/14 19:49	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/17/14 19:49	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/17/14 19:49	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/17/14 19:49	1
2-Hexanone	ND		20	0.59	ug/L			07/17/14 19:49	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/17/14 19:49	1
Acetone	ND		20	6.7	ug/L			07/17/14 19:49	1
Benzene	ND		5.0	0.25	ug/L			07/17/14 19:49	1
Bromoform	ND		5.0	0.37	ug/L			07/17/14 19:49	1
Bromomethane	ND		10	0.40	ug/L			07/17/14 19:49	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/17/14 19:49	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/17/14 19:49	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/17/14 19:49	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/17/14 19:49	1
Chloroethane	ND		10	0.38	ug/L			07/17/14 19:49	1
Chloroform	ND		5.0	0.15	ug/L			07/17/14 19:49	1
Chloromethane	ND		10	0.55	ug/L			07/17/14 19:49	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			07/17/14 19:49	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/17/14 19:49	1
Cyclohexane	ND		10	0.36	ug/L			07/17/14 19:49	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/17/14 19:49	1
CFC-12	ND		10	0.45	ug/L			07/17/14 19:49	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/17/14 19:49	1

Client Sample Results

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-7463-13

Date Collected: 07/11/14 16:01
Matrix: Water
Date Received: 07/15/14 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/17/14 19:49	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/17/14 19:49	1
Methyl acetate	ND		25	2.3	ug/L			07/17/14 19:49	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/17/14 19:49	1
Methylcyclohexane	ND		10	0.26	ug/L			07/17/14 19:49	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/17/14 19:49	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/17/14 19:49	1
o-Xylene	ND		5.0	0.32	ug/L			07/17/14 19:49	1
Styrene	ND		5.0	0.35	ug/L			07/17/14 19:49	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/17/14 19:49	1
Toluene	ND		5.0	1.0	ug/L			07/17/14 19:49	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/17/14 19:49	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/17/14 19:49	1
Trichloroethene	ND		5.0	0.29	ug/L			07/17/14 19:49	1
CFC-11	ND		5.0	0.22	ug/L			07/17/14 19:49	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/17/14 19:49	1
Xylenes, Total	ND		10	0.85	ug/L			07/17/14 19:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/14 19:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/17/14 19:49*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*07/17/14 19:49*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 123*		*07/17/14 19:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*87*		*78 - 127*		*07/17/14 19:49*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 160-133137/3-A
Matrix: Water
Analysis Batch: 133137

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/21/14 18:38	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/21/14 18:38	1
CFC-113	ND		5.0	0.25	ug/L			07/21/14 18:38	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/21/14 18:38	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/21/14 18:38	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/21/14 18:38	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/21/14 18:38	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/21/14 18:38	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/21/14 18:38	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/21/14 18:38	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/21/14 18:38	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/21/14 18:38	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/21/14 18:38	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/21/14 18:38	1
2-Hexanone	ND		20	0.59	ug/L			07/21/14 18:38	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/21/14 18:38	1
Acetone	ND		20	6.7	ug/L			07/21/14 18:38	1
Benzene	ND		5.0	0.25	ug/L			07/21/14 18:38	1
Bromoform	ND		5.0	0.37	ug/L			07/21/14 18:38	1
Bromomethane	ND		10	0.40	ug/L			07/21/14 18:38	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/21/14 18:38	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/21/14 18:38	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/21/14 18:38	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/21/14 18:38	1
Chloroethane	ND		10	0.38	ug/L			07/21/14 18:38	1
Chloroform	ND		5.0	0.15	ug/L			07/21/14 18:38	1
Chloromethane	ND		10	0.55	ug/L			07/21/14 18:38	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			07/21/14 18:38	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/21/14 18:38	1
Cyclohexane	ND		10	0.36	ug/L			07/21/14 18:38	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/21/14 18:38	1
CFC-12	ND		10	0.45	ug/L			07/21/14 18:38	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/21/14 18:38	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/21/14 18:38	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/21/14 18:38	1
Methyl acetate	ND		25	2.3	ug/L			07/21/14 18:38	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/21/14 18:38	1
Methylcyclohexane	ND		10	0.26	ug/L			07/21/14 18:38	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/21/14 18:38	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/21/14 18:38	1
o-Xylene	ND		5.0	0.32	ug/L			07/21/14 18:38	1
Styrene	ND		5.0	0.35	ug/L			07/21/14 18:38	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/21/14 18:38	1
Toluene	ND		5.0	1.0	ug/L			07/21/14 18:38	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/21/14 18:38	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/21/14 18:38	1
Trichloroethene	ND		5.0	0.29	ug/L			07/21/14 18:38	1
CFC-11	ND		5.0	0.22	ug/L			07/21/14 18:38	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 160-133137/3-A
Matrix: Water
Analysis Batch: 133137

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.0	0.43	ug/L			07/21/14 18:38	1
Xylenes, Total	ND		10	0.85	ug/L			07/21/14 18:38	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/21/14 18:38*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/21/14 18:38*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*07/21/14 18:38*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 123*		*07/21/14 18:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*78 - 127*		*07/21/14 18:38*	*1*

Lab Sample ID: LCS 160-133137/4-A
Matrix: Water
Analysis Batch: 133137

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	49.0		ug/L		98	75 - 127
1,1,2,2-Tetrachloroethane	50.0	48.3		ug/L		97	80 - 120
1,1,2-Trichloroethane	50.0	49.5		ug/L		99	80 - 120
1,1-Dichloroethane	50.0	48.3		ug/L		97	80 - 120
1,1-Dichloroethene	50.0	51.4		ug/L		103	77 - 121
1,2,4-Trichlorobenzene	50.0	54.0		ug/L		108	82 - 124
1,2-Dibromo-3-Chloropropane	50.0	43.5		ug/L		87	69 - 135
1,2-Dichlorobenzene	50.0	49.8		ug/L		100	76 - 122
1,2-Dichloroethane	50.0	46.7		ug/L		93	80 - 120
1,2-Dichloropropane	50.0	49.8		ug/L		100	80 - 120
1,3-Dichlorobenzene	50.0	50.9		ug/L		102	77 - 122
1,4-Dichlorobenzene	50.0	49.8		ug/L		100	80 - 120
2-Butanone (MEK)	50.0	43.1		ug/L		86	68 - 128
2-Hexanone	50.0	48.0		ug/L		96	64 - 136
4-Methyl-2-pentanone (MIBK)	50.0	51.7		ug/L		103	74 - 129
Acetone	50.0	50.9		ug/L		102	72 - 139
Benzene	50.0	47.8		ug/L		96	80 - 120
Bromoform	50.0	47.1		ug/L		94	80 - 120
Bromomethane	50.0	52.2		ug/L		104	48 - 140
Carbon disulfide	50.0	51.8		ug/L		104	79 - 120
Carbon tetrachloride	50.0	52.3		ug/L		105	74 - 128
Chlorobenzene	50.0	51.2		ug/L		102	80 - 120
Dibromochloromethane	50.0	53.1		ug/L		106	80 - 120
Chloroethane	50.0	49.5		ug/L		99	55 - 140
Chloroform	50.0	47.8		ug/L		96	80 - 120
Chloromethane	50.0	51.1		ug/L		102	72 - 123
cis-1,2-Dichloroethene	50.0	48.1		ug/L		96	80 - 120
cis-1,3-Dichloropropene	50.0	49.9		ug/L		100	80 - 120
Cyclohexane	50.0	49.2		ug/L		98	77 - 127
Bromodichloromethane	50.0	50.1		ug/L		100	80 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 160-133137/4-A
Matrix: Water
Analysis Batch: 133137

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
CFC-12	50.0	45.3		ug/L		91	49 - 140
Ethylbenzene	50.0	48.8		ug/L		98	80 - 120
1,2-Dibromoethane (EDB)	50.0	49.2		ug/L		98	80 - 120
Isopropylbenzene	50.0	53.2		ug/L		106	80 - 127
Methyl acetate	250	246		ug/L		98	66 - 132
Methyl tert-butyl ether	50.0	47.3		ug/L		95	77 - 124
Methylcyclohexane	50.0	50.8		ug/L		102	75 - 131
Methylene Chloride	50.0	48.6		ug/L		97	79 - 115
m-Xylene & p-Xylene	50.0	52.7		ug/L		105	80 - 120
o-Xylene	50.0	53.5		ug/L		107	79 - 126
Styrene	50.0	53.3		ug/L		107	80 - 120
Tetrachloroethene	50.0	52.5		ug/L		105	80 - 120
Toluene	50.0	51.3		ug/L		103	80 - 120
trans-1,2-Dichloroethene	50.0	49.2		ug/L		98	80 - 120
trans-1,3-Dichloropropene	50.0	49.0		ug/L		98	80 - 120
Trichloroethene	50.0	46.7		ug/L		93	80 - 120
CFC-11	50.0	52.1		ug/L		104	72 - 132
Vinyl chloride	50.0	48.4		ug/L		97	68 - 120
Xylenes, Total	100	106		ug/L		106	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*75 - 123*
1,2-Dichloroethane-d4 (Surr)	*92*		*78 - 127*

Lab Sample ID: LCSD 160-133137/5-A
Matrix: Water
Analysis Batch: 133137

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	49.5		ug/L		99	75 - 127	1	20
1,1,2,2-Tetrachloroethane	50.0	46.6		ug/L		93	80 - 120	3	20
1,1,2-Trichloroethane	50.0	49.1		ug/L		98	80 - 120	1	20
1,1-Dichloroethane	50.0	49.1		ug/L		98	80 - 120	2	20
1,1-Dichloroethene	50.0	51.0		ug/L		102	77 - 121	1	20
1,2,4-Trichlorobenzene	50.0	56.9		ug/L		114	82 - 124	5	20
1,2-Dibromo-3-Chloropropane	50.0	45.5		ug/L		91	69 - 135	5	20
1,2-Dichlorobenzene	50.0	52.0		ug/L		104	76 - 122	4	20
1,2-Dichloroethane	50.0	46.5		ug/L		93	80 - 120	0	20
1,2-Dichloropropane	50.0	49.1		ug/L		98	80 - 120	1	20
1,3-Dichlorobenzene	50.0	52.4		ug/L		105	77 - 122	3	20
1,4-Dichlorobenzene	50.0	51.4		ug/L		103	80 - 120	3	20
2-Butanone (MEK)	50.0	49.4		ug/L		99	68 - 128	14	20
2-Hexanone	50.0	52.0		ug/L		104	64 - 136	8	20
4-Methyl-2-pentanone (MIBK)	50.0	51.5		ug/L		103	74 - 129	0	20
Acetone	50.0	44.9		ug/L		90	72 - 139	13	20
Benzene	50.0	47.8		ug/L		96	80 - 120	0	20

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 160-133137/5-A
Matrix: Water
Analysis Batch: 133137

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromoform	50.0	46.4		ug/L		93	80 - 120	1	20
Bromomethane	50.0	51.9		ug/L		104	48 - 140	1	20
Carbon disulfide	50.0	51.2		ug/L		102	79 - 120	1	20
Carbon tetrachloride	50.0	52.0		ug/L		104	74 - 128	0	20
Chlorobenzene	50.0	51.7		ug/L		103	80 - 120	1	20
Dibromochloromethane	50.0	53.1		ug/L		106	80 - 120	0	20
Chloroethane	50.0	48.3		ug/L		97	55 - 140	2	20
Chloroform	50.0	47.9		ug/L		96	80 - 120	0	20
Chloromethane	50.0	52.8		ug/L		106	72 - 123	3	20
cis-1,2-Dichloroethene	50.0	48.9		ug/L		98	80 - 120	1	20
cis-1,3-Dichloropropene	50.0	48.9		ug/L		98	80 - 120	2	20
Cyclohexane	50.0	49.8		ug/L		100	77 - 127	1	20
Bromodichloromethane	50.0	49.3		ug/L		99	80 - 120	1	20
CFC-12	50.0	46.0		ug/L		92	49 - 140	2	20
Ethylbenzene	50.0	48.7		ug/L		97	80 - 120	0	20
1,2-Dibromoethane (EDB)	50.0	48.9		ug/L		98	80 - 120	1	20
Isopropylbenzene	50.0	54.8		ug/L		110	80 - 127	3	20
Methyl acetate	250	236		ug/L		94	66 - 132	4	20
Methyl tert-butyl ether	50.0	47.4		ug/L		95	77 - 124	0	20
Methylcyclohexane	50.0	50.8		ug/L		102	75 - 131	0	20
Methylene Chloride	50.0	49.2		ug/L		98	79 - 115	1	20
m-Xylene & p-Xylene	50.0	53.0		ug/L		106	80 - 120	1	20
o-Xylene	50.0	53.4		ug/L		107	79 - 126	0	20
Styrene	50.0	54.0		ug/L		108	80 - 120	1	20
Tetrachloroethene	50.0	51.9		ug/L		104	80 - 120	1	20
Toluene	50.0	51.8		ug/L		104	80 - 120	1	20
trans-1,2-Dichloroethene	50.0	49.2		ug/L		98	80 - 120	0	20
trans-1,3-Dichloropropene	50.0	48.8		ug/L		98	80 - 120	0	20
Trichloroethene	50.0	47.2		ug/L		94	80 - 120	1	20
CFC-11	50.0	52.3		ug/L		105	72 - 132	0	20
Vinyl chloride	50.0	49.0		ug/L		98	68 - 120	1	20
Xylenes, Total	100	106		ug/L		106	80 - 120	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*75 - 123*
1,2-Dichloroethane-d4 (Surr)	*92*		*78 - 127*

Lab Sample ID: MB 160-133423/3
Matrix: Water
Analysis Batch: 133423

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/17/14 19:23	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/17/14 19:23	1
CFC-113	ND		5.0	0.25	ug/L			07/17/14 19:23	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/17/14 19:23	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 160-133423/3
Matrix: Water
Analysis Batch: 133423

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/17/14 19:23	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/17/14 19:23	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/17/14 19:23	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/17/14 19:23	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/17/14 19:23	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/17/14 19:23	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/17/14 19:23	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/17/14 19:23	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/17/14 19:23	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/17/14 19:23	1
2-Hexanone	ND		20	0.59	ug/L			07/17/14 19:23	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/17/14 19:23	1
Acetone	ND		20	6.7	ug/L			07/17/14 19:23	1
Benzene	ND		5.0	0.25	ug/L			07/17/14 19:23	1
Bromoform	ND		5.0	0.37	ug/L			07/17/14 19:23	1
Bromomethane	ND		10	0.40	ug/L			07/17/14 19:23	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/17/14 19:23	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/17/14 19:23	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/17/14 19:23	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/17/14 19:23	1
Chloroethane	ND		10	0.38	ug/L			07/17/14 19:23	1
Chloroform	ND		5.0	0.15	ug/L			07/17/14 19:23	1
Chloromethane	ND		10	0.55	ug/L			07/17/14 19:23	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			07/17/14 19:23	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/17/14 19:23	1
Cyclohexane	ND		10	0.36	ug/L			07/17/14 19:23	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/17/14 19:23	1
CFC-12	ND		10	0.45	ug/L			07/17/14 19:23	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/17/14 19:23	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/17/14 19:23	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/17/14 19:23	1
Methyl acetate	ND		25	2.3	ug/L			07/17/14 19:23	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/17/14 19:23	1
Methylcyclohexane	ND		10	0.26	ug/L			07/17/14 19:23	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/17/14 19:23	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/17/14 19:23	1
o-Xylene	ND		5.0	0.32	ug/L			07/17/14 19:23	1
Styrene	ND		5.0	0.35	ug/L			07/17/14 19:23	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/17/14 19:23	1
Toluene	ND		5.0	1.0	ug/L			07/17/14 19:23	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/17/14 19:23	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/17/14 19:23	1
Trichloroethene	ND		5.0	0.29	ug/L			07/17/14 19:23	1
CFC-11	ND		5.0	0.22	ug/L			07/17/14 19:23	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/17/14 19:23	1
Xylenes, Total	ND		10	0.85	ug/L			07/17/14 19:23	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 160-133423/3
Matrix: Water
Analysis Batch: 133423

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/17/14 19:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		07/17/14 19:23	1
Dibromofluoromethane (Surr)	92		80 - 120		07/17/14 19:23	1
4-Bromofluorobenzene (Surr)	97		75 - 123		07/17/14 19:23	1
1,2-Dichloroethane-d4 (Surr)	91		78 - 127		07/17/14 19:23	1

Lab Sample ID: LCS 160-133423/4-A
Matrix: Water
Analysis Batch: 133423

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	50.5		ug/L		101	75 - 127
1,1,2,2-Tetrachloroethane	50.0	52.9		ug/L		106	80 - 120
1,1,2-Trichloroethane	50.0	51.8		ug/L		104	80 - 120
1,1-Dichloroethane	50.0	51.0		ug/L		102	80 - 120
1,1-Dichloroethene	50.0	49.4		ug/L		99	77 - 121
1,2,4-Trichlorobenzene	50.0	54.9		ug/L		110	82 - 124
1,2-Dibromo-3-Chloropropane	50.0	50.5		ug/L		101	69 - 135
1,2-Dichlorobenzene	50.0	54.6		ug/L		109	76 - 122
1,2-Dichloroethane	50.0	48.5		ug/L		97	80 - 120
1,2-Dichloropropane	50.0	52.6		ug/L		105	80 - 120
1,3-Dichlorobenzene	50.0	54.5		ug/L		109	77 - 122
1,4-Dichlorobenzene	50.0	54.5		ug/L		109	80 - 120
2-Butanone (MEK)	50.0	46.2		ug/L		92	68 - 128
2-Hexanone	50.0	49.4		ug/L		99	64 - 136
4-Methyl-2-pentanone (MIBK)	50.0	55.2		ug/L		110	74 - 129
Acetone	50.0	44.8		ug/L		90	72 - 139
Benzene	50.0	50.1		ug/L		100	80 - 120
Bromoform	50.0	50.4		ug/L		101	80 - 120
Bromomethane	50.0	51.3		ug/L		103	48 - 140
Carbon disulfide	50.0	48.0		ug/L		96	79 - 120
Carbon tetrachloride	50.0	54.5		ug/L		109	74 - 128
Chlorobenzene	50.0	54.6		ug/L		109	80 - 120
Dibromochloromethane	50.0	56.0		ug/L		112	80 - 120
Chloroethane	50.0	54.3		ug/L		109	55 - 140
Chloroform	50.0	50.3		ug/L		101	80 - 120
Chloromethane	50.0	49.2		ug/L		98	72 - 123
cis-1,2-Dichloroethene	50.0	50.9		ug/L		102	80 - 120
cis-1,3-Dichloropropene	50.0	52.7		ug/L		105	80 - 120
Cyclohexane	50.0	48.4		ug/L		97	77 - 127
Bromodichloromethane	50.0	51.9		ug/L		104	80 - 120
CFC-12	50.0	43.8		ug/L		88	49 - 140
Ethylbenzene	50.0	51.2		ug/L		102	80 - 120
1,2-Dibromoethane (EDB)	50.0	51.0		ug/L		102	80 - 120
Isopropylbenzene	50.0	57.7		ug/L		115	80 - 127

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 160-133423/4-A
Matrix: Water
Analysis Batch: 133423

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl acetate	250	246		ug/L		98	66 - 132
Methyl tert-butyl ether	50.0	48.7		ug/L		97	77 - 124
Methylcyclohexane	50.0	50.8		ug/L		102	75 - 131
Methylene Chloride	50.0	49.9		ug/L		100	79 - 115
m-Xylene & p-Xylene	50.0	54.8		ug/L		110	80 - 120
o-Xylene	50.0	55.5		ug/L		111	79 - 126
Styrene	50.0	55.0		ug/L		110	80 - 120
Tetrachloroethene	50.0	53.8		ug/L		108	80 - 120
Toluene	50.0	54.3		ug/L		109	80 - 120
trans-1,2-Dichloroethene	50.0	51.1		ug/L		102	80 - 120
trans-1,3-Dichloropropene	50.0	56.0		ug/L		112	80 - 120
Trichloroethene	50.0	50.9		ug/L		102	80 - 120
CFC-11	50.0	51.8		ug/L		104	72 - 132
Vinyl chloride	50.0	46.6		ug/L		93	68 - 120
Xylenes, Total	100	110		ug/L		110	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*110*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*105*		*75 - 123*
1,2-Dichloroethane-d4 (Surr)	*97*		*78 - 127*

Lab Sample ID: 160-7463-1 MS
Matrix: Water
Analysis Batch: 133423

Client Sample ID: OBG-18D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		50.0	45.8		ug/L		92	81 - 123
1,1,2,2-Tetrachloroethane	ND		50.0	46.4		ug/L		93	72 - 125
1,1,2-Trichloroethane	ND		50.0	47.3		ug/L		95	76 - 119
1,1-Dichloroethane	ND		50.0	47.1		ug/L		94	80 - 120
1,1-Dichloroethene	ND		50.0	44.8		ug/L		90	80 - 120
1,2,4-Trichlorobenzene	ND		50.0	52.1		ug/L		104	78 - 124
1,2-Dibromo-3-Chloropropane	ND		50.0	41.6		ug/L		83	59 - 144
1,2-Dichlorobenzene	ND		50.0	49.6		ug/L		99	77 - 117
1,2-Dichloroethane	ND		50.0	43.1		ug/L		86	80 - 120
1,2-Dichloropropane	ND		50.0	47.8		ug/L		96	80 - 120
1,3-Dichlorobenzene	ND		50.0	49.6		ug/L		99	80 - 120
1,4-Dichlorobenzene	ND		50.0	50.1		ug/L		100	80 - 120
2-Butanone (MEK)	ND		50.0	38.5		ug/L		77	62 - 135
2-Hexanone	ND		50.0	38.8		ug/L		78	65 - 136
4-Methyl-2-pentanone (MIBK)	ND		50.0	46.1		ug/L		92	74 - 132
Acetone	ND		50.0	38.4		ug/L		77	54 - 140
Benzene	ND		50.0	46.4		ug/L		93	72 - 123
Bromoform	ND		50.0	43.4		ug/L		87	78 - 122
Bromomethane	ND		50.0	46.0		ug/L		92	51 - 146
Carbon disulfide	ND		50.0	44.2		ug/L		88	80 - 120
Carbon tetrachloride	ND		50.0	49.5		ug/L		99	80 - 124

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 160-7463-1 MS
Matrix: Water
Analysis Batch: 133423

Client Sample ID: OBG-18D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	ND		50.0	50.2		ug/L		100	80 - 120
Dibromochloromethane	ND		50.0	51.3		ug/L		103	80 - 120
Chloroethane	ND		50.0	43.0		ug/L		86	53 - 148
Chloroform	ND		50.0	45.3		ug/L		91	80 - 120
Chloromethane	ND		50.0	43.4		ug/L		87	80 - 120
cis-1,2-Dichloroethene	ND		50.0	46.3		ug/L		93	80 - 120
cis-1,3-Dichloropropene	ND		50.0	47.4		ug/L		95	80 - 120
Cyclohexane	ND		50.0	44.6		ug/L		89	80 - 120
Bromodichloromethane	ND		50.0	47.4		ug/L		95	80 - 120
CFC-12	ND		50.0	40.9		ug/L		82	70 - 131
Ethylbenzene	ND		50.0	47.8		ug/L		96	80 - 120
1,2-Dibromoethane (EDB)	ND		50.0	45.9		ug/L		92	80 - 120
Isopropylbenzene	ND		50.0	53.2		ug/L		106	78 - 125
Methyl acetate	ND		250	216		ug/L		87	70 - 126
Methyl tert-butyl ether	ND		50.0	44.6		ug/L		89	78 - 124
Methylcyclohexane	ND		50.0	46.0		ug/L		92	83 - 124
Methylene Chloride	ND		50.0	46.9		ug/L		94	80 - 120
m-Xylene & p-Xylene	ND		50.0	50.4		ug/L		101	80 - 120
o-Xylene	ND		50.0	52.3		ug/L		105	79 - 124
Styrene	ND		50.0	51.1		ug/L		102	80 - 120
Tetrachloroethene	ND		50.0	49.9		ug/L		100	80 - 120
Toluene	ND		50.0	50.8		ug/L		102	80 - 120
trans-1,2-Dichloroethene	ND		50.0	46.5		ug/L		93	80 - 120
trans-1,3-Dichloropropene	ND		50.0	51.3		ug/L		103	77 - 122
Trichloroethene	1.7	J	50.0	46.8		ug/L		90	80 - 120
CFC-11	0.28	J	50.0	48.4		ug/L		96	79 - 128
Vinyl chloride	ND		50.0	43.2		ug/L		86	75 - 118
Xylenes, Total	ND		100	103		ug/L		103	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*75 - 123*
1,2-Dichloroethane-d4 (Surr)	*89*		*78 - 127*

Lab Sample ID: 160-7463-1 MSD
Matrix: Water
Analysis Batch: 133423

Client Sample ID: OBG-18D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		50.0	46.8		ug/L		94	81 - 123	2	20
1,1,2,2-Tetrachloroethane	ND		50.0	47.7		ug/L		95	72 - 125	3	20
1,1,2-Trichloroethane	ND		50.0	47.3		ug/L		95	76 - 119	0	20
1,1-Dichloroethane	ND		50.0	47.2		ug/L		94	80 - 120	0	20
1,1-Dichloroethene	ND		50.0	45.8		ug/L		92	80 - 120	2	20
1,2,4-Trichlorobenzene	ND		50.0	49.9		ug/L		100	78 - 124	4	20
1,2-Dibromo-3-Chloropropane	ND		50.0	42.5		ug/L		85	59 - 144	2	20
1,2-Dichlorobenzene	ND		50.0	49.2		ug/L		98	77 - 117	1	20

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 160-7463-1 MSD
Matrix: Water
Analysis Batch: 133423

Client Sample ID: OBG-18D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	ND		50.0	44.7		ug/L		89	80 - 120	4	20
1,2-Dichloropropane	ND		50.0	48.2		ug/L		96	80 - 120	1	20
1,3-Dichlorobenzene	ND		50.0	49.9		ug/L		100	80 - 120	1	20
1,4-Dichlorobenzene	ND		50.0	49.4		ug/L		99	80 - 120	1	20
2-Butanone (MEK)	ND		50.0	39.7		ug/L		79	62 - 135	3	20
2-Hexanone	ND		50.0	45.0		ug/L		90	65 - 136	15	20
4-Methyl-2-pentanone (MIBK)	ND		50.0	48.5		ug/L		97	74 - 132	5	20
Acetone	ND		50.0	34.9		ug/L		70	54 - 140	10	20
Benzene	ND		50.0	45.9		ug/L		92	72 - 123	1	20
Bromoform	ND		50.0	44.1		ug/L		88	78 - 122	2	20
Bromomethane	ND		50.0	48.1		ug/L		96	51 - 146	5	20
Carbon disulfide	ND		50.0	44.8		ug/L		90	80 - 120	1	20
Carbon tetrachloride	ND		50.0	50.3		ug/L		101	80 - 124	2	20
Chlorobenzene	ND		50.0	50.4		ug/L		101	80 - 120	0	20
Dibromochloromethane	ND		50.0	50.9		ug/L		102	80 - 120	1	20
Chloroethane	ND		50.0	45.2		ug/L		90	53 - 148	5	20
Chloroform	ND		50.0	46.4		ug/L		93	80 - 120	2	20
Chloromethane	ND		50.0	43.6		ug/L		87	80 - 120	0	20
cis-1,2-Dichloroethene	ND		50.0	46.9		ug/L		94	80 - 120	1	20
cis-1,3-Dichloropropene	ND		50.0	49.1		ug/L		98	80 - 120	3	20
Cyclohexane	ND		50.0	45.2		ug/L		90	80 - 120	1	20
Bromodichloromethane	ND		50.0	47.3		ug/L		95	80 - 120	0	20
CFC-12	ND		50.0	40.7		ug/L		81	70 - 131	0	20
Ethylbenzene	ND		50.0	47.3		ug/L		95	80 - 120	1	20
1,2-Dibromoethane (EDB)	ND		50.0	46.4		ug/L		93	80 - 120	1	20
Isopropylbenzene	ND		50.0	53.5		ug/L		107	78 - 125	1	20
Methyl acetate	ND		250	225		ug/L		90	70 - 126	4	20
Methyl tert-butyl ether	ND		50.0	45.7		ug/L		91	78 - 124	2	20
Methylcyclohexane	ND		50.0	47.6		ug/L		95	83 - 124	3	20
Methylene Chloride	ND		50.0	47.0		ug/L		94	80 - 120	0	20
m-Xylene & p-Xylene	ND		50.0	51.2		ug/L		102	80 - 120	1	20
o-Xylene	ND		50.0	51.3		ug/L		103	79 - 124	2	20
Styrene	ND		50.0	50.0		ug/L		100	80 - 120	2	20
Tetrachloroethene	ND		50.0	50.0		ug/L		100	80 - 120	0	20
Toluene	ND		50.0	50.6		ug/L		101	80 - 120	0	20
trans-1,2-Dichloroethene	ND		50.0	47.0		ug/L		94	80 - 120	1	20
trans-1,3-Dichloropropene	ND		50.0	53.2		ug/L		106	77 - 122	4	20
Trichloroethene	1.7	J	50.0	47.0		ug/L		91	80 - 120	0	20
CFC-11	0.28	J	50.0	47.7		ug/L		95	79 - 128	1	20
Vinyl chloride	ND		50.0	43.2		ug/L		86	75 - 118	0	20
Xylenes, Total	ND		100	103		ug/L		103	80 - 120	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*75 - 123*
1,2-Dichloroethane-d4 (Surr)	*89*		*78 - 127*

QC Association Summary

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

GC/MS VOA

Analysis Batch: 133137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7463-7 - DL2	OBG-15S	Total/NA	Water	8260C	
160-7463-10 - DL2	OBG-3S	Total/NA	Water	8260C	
160-7463-11 - DL2	OBG-9S	Total/NA	Water	8260C	
LCS 160-133137/4-A	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-133137/5-A	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-133137/3-A	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 133423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7463-1	OBG-18D	Total/NA	Water	8260C	
160-7463-1 MS	OBG-18D	Total/NA	Water	8260C	
160-7463-1 MSD	OBG-18D	Total/NA	Water	8260C	
160-7463-2	OBG-11D	Total/NA	Water	8260C	
160-7463-3	PH019B	Total/NA	Water	8260C	
160-7463-4	C0S02	Total/NA	Water	8260C	
160-7463-5	OBG-21D	Total/NA	Water	8260C	
160-7463-6	OBG-1S	Total/NA	Water	8260C	
160-7463-7	OBG-15S	Total/NA	Water	8260C	
160-7463-8	PH-016	Total/NA	Water	8260C	
160-7463-9	OBG-21S	Total/NA	Water	8260C	
160-7463-10	OBG-3S	Total/NA	Water	8260C	
160-7463-11	OBG-9S	Total/NA	Water	8260C	
160-7463-12	C0S02	Total/NA	Water	8260C	
160-7463-13	TRIP BLANK	Total/NA	Water	8260C	
LCS 160-133423/4-A	Lab Control Sample	Total/NA	Water	8260C	
MB 160-133423/3	Method Blank	Total/NA	Water	8260C	

Surrogate Summary

Client: RTI International
Project/Site: Oak Grove Village, MO CSIA study

TestAmerica Job ID: 160-7463-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TOL	DBFM	BFB	12DCE
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(75-123)	(78-127)
160-7463-1	OBG-18D	97	92	97	89
160-7463-1 MS	OBG-18D	101	93	97	89
160-7463-1 MSD	OBG-18D	101	94	98	89
160-7463-2	OBG-11D	98	95	96	91
160-7463-3	PH019B	100	93	98	91
160-7463-4	C0S02	98	92	97	91
160-7463-5	OBG-21D	99	95	97	92
160-7463-6	OBG-1S	100	93	99	90
160-7463-7 - DL2	OBG-15S	97	91	91	88
160-7463-7	OBG-15S	100	93	99	91
160-7463-8	PH-016	98	93	95	88
160-7463-9	OBG-21S	100	91	100	90
160-7463-10 - DL2	OBG-3S	102	93	98	91
160-7463-10	OBG-3S	102	93	96	89
160-7463-11 - DL2	OBG-9S	101	92	95	90
160-7463-11	OBG-9S	100	92	100	89
160-7463-12	C0S02	98	90	98	91
160-7463-13	TRIP BLANK	99	93	97	87
LCS 160-133137/4-A	Lab Control Sample	103	96	95	92
LCS 160-133423/4-A	Lab Control Sample	110	102	105	97
LCSD 160-133137/5-A	Lab Control Sample Dup	105	95	100	92
MB 160-133137/3-A	Method Blank	102	94	96	92
MB 160-133423/3	Method Blank	97	92	97	91

Surrogate Legend

TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-7570-1
Client Project/Site: Oak Grove EPA CSIA Study

For:
RTI International
PO BOX 12106
Research Triangle Park, North Carolina 27709

Attn: Coleen Northheim

Authorized for release by:
7/31/2014 10:31:37 AM

Erika Gish, Project Manager II
(314)298-8566
erika.gish@testamericainc.com

LINKS

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 5
Receipt Checklists 7
Definitions/Glossary 8
Method Summary 9
Sample Summary 10
Detection Summary 11
Client Sample Results 13
QC Sample Results 28
QC Association Summary 35
Surrogate Summary 36

Job ID: 160-7570-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: RTI International

Project: Oak Grove EPA CSIA Study

Report Number: 160-7570-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 7/22/2014 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.4º C and 4.4º C.

Except:
The container label for the following samples did not match the information listed on the Chain-of-Custody (COC). The container labels lists MW-24D, while the COC lists OBG-24D. The client was contacted, and the lab was instructed to use container label.

VOLATILE ORGANIC COMPOUNDS (GC MS)

Samples OBG-16S (160-7570-1), MW-06 (160-7570-2), OBG-7S (160-7570-3), MW-6 FIELD BLANK (160-7570-4), OBG-01D (160-7570-5), MW-24D (160-7570-6), OBG-1DD (160-7570-7), TRIP BLANK (160-7570-8), OBG-055 (160-7570-9), OBG-055 DUP (160-7570-10) and OBG-2S (160-7570-11) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 07/22/2014 and 07/23/2014.

Analytical Batch 133340

Job ID: 160-7570-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The following samples were analyzed at reduced volume due to high concentrations of target analytes: MW-24D (160-7570-6), OBG-01D (160-7570-5), OBG-055 (160-7570-9), OBG-055 DUP (160-7570-10), OBG-16S (160-7570-1), OBG-1DD (160-7570-7), OBG-2S (160-7570-11), OBG-7S (160-7570-3). The calculation was done using an initial volume adjustment rather than a dilution factor. The reporting limits have been elevated by the appropriate factor. These initial analyses were performed at a dilution based on field-screening data provided by the client.

The dilution performed on these samples resulted in the highest target-analyte concentration being less than the CCV level. Samples were re-analyzed at a lesser dilution in a subsequent batch: OBG-055 (160-7570-9), OBG-055 DUP (160-7570-10).

A Tentatively Identified Compound (TIC) search did not detect CFC-21 (Dichlorofluoromethane) in any of the samples in this batch.

Analytical Batch 133478

The following samples were analyzed at reduced volume due to high concentrations of target analytes: OBG-055 (160-7570-9), OBG-055 DUP (160-7570-10). The calculation was done using an initial volume adjustment rather than a dilution factor. The reporting limits have been elevated by the appropriate factor.

BFB Working Standard used to check instrument tune had expired at the end of the previous day. Tune check met all method criteria. Expired standard noted the following day and new Working Standard prepared.

A Tentatively Identified Compound (TIC) search did not detect CFC-21 (Dichlorofluoromethane) in any of the samples in this batch.

A matrix spike/matrix spike duplicate(MS/MSD) was not performed with batch 133478. The only associated samples are dilultions. An LCS/LCSD was performed to demonstrate accuracy and precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TestAmerica St. Louis
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Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-87

160-7570 Chain of Custody

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Lab PM: Gish, Erika K	Carrier Tracking No(s):	COC No: 160-1605-774.4
Client Contact: Coleen Northeim	Phone: 573-308-3673 (Paul Brenden)	E-Mail: erika.gish@testamericainc.com		Page: Page 4 of 29
Company: RTI International				Job #:
Address: PO BOX 12106	Due Date Requested:			
City: Research Triangle Park	TAT Requested (days):			
State, Zip: NC, 27709				
Phone: 919-541-5816(Tel)	PO #: Purchase Order Requested			
Email: cmn@rti.org	WO #:			
Project Name: EPA Project in Missouri	Project #: 16003358			
Site: OAK Grove EPA CSIA study	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C	8260C	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A			
OBG-16S	7-15-14	1335	G	W	No		3		3	Field GC: 1840 ppb TCE
MW-06	7-16-14	1245	G	W	No		3		3	Field GC: 56 ppb TCE
OBG-7S	7-16-14	1445	G	W	No		3		3	Field GC: 302 ppb TCE
MW-6 Field Blank	7-16-14	1200	G	W	No		3		3	
OBG-01D	7-17-14	1035	G	W	No		3		3	No Field GC: Expect 1,000-5000 ppb TCE
OBG-24D	7-17-14	1400	G	W	No		3		3	Field GC: 2250 ppb TCE
OBG-1DD	7-17-14	~~1430~~ 1350	G	W	No		3		3	Field GC: 389 ppb TCE
TRIP Blank	7-18-14	1505 PDB	G	W	No			3	3	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Paul Brenden	7/21/14 1615	USGS	Rolla - FedEx	7-21-14 1615	
			[illegible]	7.22.14/0915	TASTLouis

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No		

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Paul Brenden	Lab PM: Gish, Erika K	Carrier Tracking No(s):	COC No: 160-1605-774.5
Client Contact: Coleen Northeim	Phone: 573-308-3673	E-Mail: erika.gish@testamericainc.com		Page: Page 5 of 29
Company: RTI International				Job #:
Address: PO BOX 12106	Due Date Requested:			
City: Research Triangle Park	TAT Requested (days):			
State, Zip: NC, 27709				
Phone: 919-541-5816(Tel)	PO #: Purchase Order Requested			
Email: cmn@rti.org	WO #:			
Project Name: EPA Project in Missouri	Project #: 16003358			
Site: OAK Grove EPA CSIA Study	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260 C	Total Number of containers	Special Instructions/Note:
			Preservation Code				A		
OBG-05S	7-18-14	1040	G	W	No		3	3	No Field GC: Expect 10,000 - 30,000 ppbTCE
OBG-05S Dup	7-18-14	1041	G	W	No		3	3	No Field GC: Expect 10,000 - 30,000 ppbTCE
OBG-2S	7-18-14	1335	G	W	No		3	3	No Field GC: Expect 10,000 - 50,000 ppbTCE

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Paul Brenden	7-21-14 1615	USGS	Rolla- FEDEX	7-21-14 1615	
			[signature]	7.22.14 / 0915	TAS Fairview

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

7/31/2014

Login Sample Receipt Checklist

Client: RTI International

Job Number: 160-7570-1

Login Number: 7570

List Source: TestAmerica St. Louis

List Number: 1

Creator: Daniels, Brian J

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per container.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-7570-1	OBG-16S	Water	07/15/14 13:35	07/22/14 09:15
160-7570-2	MW-06	Water	07/16/14 12:45	07/22/14 09:15
160-7570-3	OBG-7S	Water	07/16/14 14:45	07/22/14 09:15
160-7570-4	MW-6 FIELD BLANK	Water	07/16/14 12:00	07/22/14 09:15
160-7570-5	OBG-01D	Water	07/17/14 10:35	07/22/14 09:15
160-7570-6	MW-24D	Water	07/17/14 14:00	07/22/14 09:15
160-7570-7	OBG-1DD	Water	07/17/14 13:50	07/22/14 09:15
160-7570-8	TRIP BLANK	Water	07/18/14 15:05	07/22/14 09:15
160-7570-9	OBG-055	Water	07/18/14 10:40	07/22/14 09:15
160-7570-10	OBG-055 DUP	Water	07/18/14 10:41	07/22/14 09:15
160-7570-11	OBG-2S	Water	07/18/14 13:35	07/22/14 09:15

Detection Summary

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Client Sample ID: OBG-16S — Lab Sample ID: 160-7570-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
CFC-113 - DL	7.5	J	50	2.5	ug/L	1		8260C	Total/NA
1,1-Dichloroethene - DL	14	J	50	3.7	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene - DL	170		50	1.6	ug/L	1		8260C	Total/NA
Trichloroethene - DL	840		50	2.9	ug/L	1		8260C	Total/NA

Client Sample ID: MW-06 — Lab Sample ID: 160-7570-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1	J	5.0	0.16	ug/L	1		8260C	Total/NA
Trichloroethene	36		5.0	0.29	ug/L	1		8260C	Total/NA

Client Sample ID: OBG-7S — Lab Sample ID: 160-7570-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	25		10	0.32	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene - DL	2.1	J	10	0.36	ug/L	1		8260C	Total/NA
Trichloroethene - DL	210		10	0.58	ug/L	1		8260C	Total/NA
CFC-11 - DL	1.3	J	10	0.44	ug/L	1		8260C	Total/NA

Client Sample ID: MW-6 FIELD BLANK — Lab Sample ID: 160-7570-4

No Detections.

Client Sample ID: OBG-01D — Lab Sample ID: 160-7570-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	65	J	130	4.0	ug/L	1		8260C	Total/NA
Trichloroethene - DL	2500		130	7.3	ug/L	1		8260C	Total/NA

Client Sample ID: MW-24D — Lab Sample ID: 160-7570-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	39	J	100	3.2	ug/L	1		8260C	Total/NA
Trichloroethene - DL	1300		100	5.8	ug/L	1		8260C	Total/NA

Client Sample ID: OBG-1DD — Lab Sample ID: 160-7570-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4.1	J	13	0.40	ug/L	1		8260C	Total/NA
Trichloroethene - DL	220		13	0.73	ug/L	1		8260C	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 160-7570-8

No Detections.

Client Sample ID: OBG-055 — Lab Sample ID: 160-7570-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	340		50	1.6	ug/L	1		8260C	Total/NA
Trichloroethene - DL	2000		50	2.9	ug/L	1		8260C	Total/NA
Vinyl chloride - DL	27	J	50	4.3	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Client Sample ID: OBG-055 DUP — Lab Sample ID: 160-7570-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	300		50	1.6	ug/L	1		8260C	Total/NA
Trichloroethene - DL	1700		50	2.9	ug/L	1		8260C	Total/NA
Vinyl chloride - DL	22	J	50	4.3	ug/L	1		8260C	Total/NA

Client Sample ID: OBG-2S — Lab Sample ID: 160-7570-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1200		1000	32	ug/L	1		8260C	Total/NA
Trichloroethene - DL	11000		1000	58	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Client Sample ID: OBG-16S

Lab Sample ID: 160-7570-1

Date Collected: 07/15/14 13:35

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		50	2.9	ug/L			07/23/14 01:01	1
1,1,2,2-Tetrachloroethane	ND		50	4.3	ug/L			07/23/14 01:01	1
CFC-113	**7.5**	**J**	50	2.5	ug/L			07/23/14 01:01	1
1,1,2-Trichloroethane	ND		50	5.7	ug/L			07/23/14 01:01	1
1,1-Dichloroethane	ND		50	3.9	ug/L			07/23/14 01:01	1
1,1-Dichloroethene	**14**	**J**	50	3.7	ug/L			07/23/14 01:01	1
1,2,4-Trichlorobenzene	ND		50	5.5	ug/L			07/23/14 01:01	1
1,2-Dibromo-3-Chloropropane	ND		100	12	ug/L			07/23/14 01:01	1
1,2-Dichlorobenzene	ND		50	2.8	ug/L			07/23/14 01:01	1
1,2-Dichloroethane	ND		50	3.7	ug/L			07/23/14 01:01	1
1,2-Dichloropropane	ND		50	3.2	ug/L			07/23/14 01:01	1
1,3-Dichlorobenzene	ND		50	2.3	ug/L			07/23/14 01:01	1
1,4-Dichlorobenzene	ND		50	3.5	ug/L			07/23/14 01:01	1
2-Butanone (MEK)	ND		200	3.9	ug/L			07/23/14 01:01	1
2-Hexanone	ND		200	5.9	ug/L			07/23/14 01:01	1
4-Methyl-2-pentanone (MIBK)	ND		200	3.3	ug/L			07/23/14 01:01	1
Acetone	ND		200	67	ug/L			07/23/14 01:01	1
Benzene	ND		50	2.5	ug/L			07/23/14 01:01	1
Bromoform	ND		50	3.7	ug/L			07/23/14 01:01	1
Bromomethane	ND		100	4.0	ug/L			07/23/14 01:01	1
Carbon disulfide	ND		50	3.7	ug/L			07/23/14 01:01	1
Carbon tetrachloride	ND		50	3.6	ug/L			07/23/14 01:01	1
Chlorobenzene	ND		50	3.8	ug/L			07/23/14 01:01	1
Dibromochloromethane	ND		50	3.3	ug/L			07/23/14 01:01	1
Chloroethane	ND		100	3.8	ug/L			07/23/14 01:01	1
Chloroform	ND		50	1.5	ug/L			07/23/14 01:01	1
Chloromethane	ND		100	5.5	ug/L			07/23/14 01:01	1
cis-1,2-Dichloroethene	**170**		50	1.6	ug/L			07/23/14 01:01	1
cis-1,3-Dichloropropene	ND		50	3.4	ug/L			07/23/14 01:01	1
Cyclohexane	ND		100	3.6	ug/L			07/23/14 01:01	1
Bromodichloromethane	ND		50	2.5	ug/L			07/23/14 01:01	1
CFC-12	ND		100	4.5	ug/L			07/23/14 01:01	1
Ethylbenzene	ND		50	3.0	ug/L			07/23/14 01:01	1
1,2-Dibromoethane (EDB)	ND		50	4.4	ug/L			07/23/14 01:01	1
Isopropylbenzene	ND		50	2.6	ug/L			07/23/14 01:01	1
Methyl acetate	ND		250	23	ug/L			07/23/14 01:01	1
Methyl tert-butyl ether	ND		50	4.0	ug/L			07/23/14 01:01	1
Methylcyclohexane	ND		100	2.6	ug/L			07/23/14 01:01	1
Methylene Chloride	ND		50	17	ug/L			07/23/14 01:01	1
m-Xylene & p-Xylene	ND		50	5.7	ug/L			07/23/14 01:01	1
o-Xylene	ND		50	3.2	ug/L			07/23/14 01:01	1
Styrene	ND		50	3.5	ug/L			07/23/14 01:01	1
Tetrachloroethene	ND		50	2.8	ug/L			07/23/14 01:01	1
Toluene	ND		50	10	ug/L			07/23/14 01:01	1
trans-1,2-Dichloroethene	ND		50	1.8	ug/L			07/23/14 01:01	1
trans-1,3-Dichloropropene	ND		50	3.5	ug/L			07/23/14 01:01	1
Trichloroethene	**840**		50	2.9	ug/L			07/23/14 01:01	1
CFC-11	ND		50	2.2	ug/L			07/23/14 01:01	1
Vinyl chloride	ND		50	4.3	ug/L			07/23/14 01:01	1

Client Sample Results

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Client Sample ID: OBG-16S

Lab Sample ID: 160-7570-1
Matrix: Water

Date Collected: 07/15/14 13:35
Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		100	8.5	ug/L			07/23/14 01:01	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/14 01:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/23/14 01:01*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*07/23/14 01:01*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 123*		*07/23/14 01:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*78 - 127*		*07/23/14 01:01*	*1*

Client Sample ID: MW-06

Lab Sample ID: 160-7570-2
Matrix: Water

Date Collected: 07/16/14 12:45
Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/23/14 00:35	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/23/14 00:35	1
CFC-113	ND		5.0	0.25	ug/L			07/23/14 00:35	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/23/14 00:35	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/23/14 00:35	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/23/14 00:35	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/23/14 00:35	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/23/14 00:35	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/23/14 00:35	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/23/14 00:35	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/23/14 00:35	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/23/14 00:35	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/23/14 00:35	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/23/14 00:35	1
2-Hexanone	ND		20	0.59	ug/L			07/23/14 00:35	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/23/14 00:35	1
Acetone	ND		20	6.7	ug/L			07/23/14 00:35	1
Benzene	ND		5.0	0.25	ug/L			07/23/14 00:35	1
Bromoform	ND		5.0	0.37	ug/L			07/23/14 00:35	1
Bromomethane	ND		10	0.40	ug/L			07/23/14 00:35	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/23/14 00:35	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/23/14 00:35	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/23/14 00:35	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/23/14 00:35	1
Chloroethane	ND		10	0.38	ug/L			07/23/14 00:35	1
Chloroform	ND		5.0	0.15	ug/L			07/23/14 00:35	1
Chloromethane	ND		10	0.55	ug/L			07/23/14 00:35	1
cis-1,2-Dichloroethene	**1.1**	**J**	5.0	0.16	ug/L			07/23/14 00:35	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/23/14 00:35	1
Cyclohexane	ND		10	0.36	ug/L			07/23/14 00:35	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/23/14 00:35	1
CFC-12	ND		10	0.45	ug/L			07/23/14 00:35	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/23/14 00:35	1

Client Sample ID: MW-06

Lab Sample ID: 160-7570-2

Date Collected: 07/16/14 12:45

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/23/14 00:35	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/23/14 00:35	1
Methyl acetate	ND		25	2.3	ug/L			07/23/14 00:35	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/23/14 00:35	1
Methylcyclohexane	ND		10	0.26	ug/L			07/23/14 00:35	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/23/14 00:35	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/23/14 00:35	1
o-Xylene	ND		5.0	0.32	ug/L			07/23/14 00:35	1
Styrene	ND		5.0	0.35	ug/L			07/23/14 00:35	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/23/14 00:35	1
Toluene	ND		5.0	1.0	ug/L			07/23/14 00:35	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/23/14 00:35	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/23/14 00:35	1
Trichloroethene	**36**		5.0	0.29	ug/L			07/23/14 00:35	1
CFC-11	ND		5.0	0.22	ug/L			07/23/14 00:35	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/23/14 00:35	1
Xylenes, Total	ND		10	0.85	ug/L			07/23/14 00:35	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/14 00:35*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/23/14 00:35*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*07/23/14 00:35*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 123*		*07/23/14 00:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*78 - 127*		*07/23/14 00:35*	*1*

Client Sample ID: OBG-7S

Lab Sample ID: 160-7570-3

Date Collected: 07/16/14 14:45

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	0.58	ug/L			07/23/14 01:26	1
1,1,2,2-Tetrachloroethane	ND		10	0.86	ug/L			07/23/14 01:26	1
CFC-113	ND		10	0.50	ug/L			07/23/14 01:26	1
1,1,2-Trichloroethane	ND		10	1.1	ug/L			07/23/14 01:26	1
1,1-Dichloroethane	ND		10	0.78	ug/L			07/23/14 01:26	1
1,1-Dichloroethene	ND		10	0.74	ug/L			07/23/14 01:26	1
1,2,4-Trichlorobenzene	ND		10	1.1	ug/L			07/23/14 01:26	1
1,2-Dibromo-3-Chloropropane	ND		20	2.3	ug/L			07/23/14 01:26	1
1,2-Dichlorobenzene	ND		10	0.56	ug/L			07/23/14 01:26	1
1,2-Dichloroethane	ND		10	0.74	ug/L			07/23/14 01:26	1
1,2-Dichloropropane	ND		10	0.64	ug/L			07/23/14 01:26	1
1,3-Dichlorobenzene	ND		10	0.46	ug/L			07/23/14 01:26	1
1,4-Dichlorobenzene	ND		10	0.70	ug/L			07/23/14 01:26	1
2-Butanone (MEK)	ND		40	0.78	ug/L			07/23/14 01:26	1
2-Hexanone	ND		40	1.2	ug/L			07/23/14 01:26	1
4-Methyl-2-pentanone (MIBK)	ND		40	0.66	ug/L			07/23/14 01:26	1
Acetone	ND		40	13	ug/L			07/23/14 01:26	1

Client Sample ID: OBG-7S

Lab Sample ID: 160-7570-3

Date Collected: 07/16/14 14:45

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		10	0.50	ug/L			07/23/14 01:26	1
Bromoform	ND		10	0.74	ug/L			07/23/14 01:26	1
Bromomethane	ND		20	0.80	ug/L			07/23/14 01:26	1
Carbon disulfide	ND		10	0.74	ug/L			07/23/14 01:26	1
Carbon tetrachloride	ND		10	0.72	ug/L			07/23/14 01:26	1
Chlorobenzene	ND		10	0.76	ug/L			07/23/14 01:26	1
Dibromochloromethane	ND		10	0.66	ug/L			07/23/14 01:26	1
Chloroethane	ND		20	0.76	ug/L			07/23/14 01:26	1
Chloroform	ND		10	0.30	ug/L			07/23/14 01:26	1
Chloromethane	ND		20	1.1	ug/L			07/23/14 01:26	1
cis-1,2-Dichloroethene	**25**		10	0.32	ug/L			07/23/14 01:26	1
cis-1,3-Dichloropropene	ND		10	0.68	ug/L			07/23/14 01:26	1
Cyclohexane	ND		20	0.72	ug/L			07/23/14 01:26	1
Bromodichloromethane	ND		10	0.50	ug/L			07/23/14 01:26	1
CFC-12	ND		20	0.90	ug/L			07/23/14 01:26	1
Ethylbenzene	ND		10	0.60	ug/L			07/23/14 01:26	1
1,2-Dibromoethane (EDB)	ND		10	0.88	ug/L			07/23/14 01:26	1
Isopropylbenzene	ND		10	0.52	ug/L			07/23/14 01:26	1
Methyl acetate	ND		50	4.6	ug/L			07/23/14 01:26	1
Methyl tert-butyl ether	ND		10	0.80	ug/L			07/23/14 01:26	1
Methylcyclohexane	ND		20	0.52	ug/L			07/23/14 01:26	1
Methylene Chloride	ND		10	3.3	ug/L			07/23/14 01:26	1
m-Xylene & p-Xylene	ND		10	1.1	ug/L			07/23/14 01:26	1
o-Xylene	ND		10	0.64	ug/L			07/23/14 01:26	1
Styrene	ND		10	0.70	ug/L			07/23/14 01:26	1
Tetrachloroethene	ND		10	0.56	ug/L			07/23/14 01:26	1
Toluene	ND		10	2.0	ug/L			07/23/14 01:26	1
trans-1,2-Dichloroethene	**2.1**	**J**	10	0.36	ug/L			07/23/14 01:26	1
trans-1,3-Dichloropropene	ND		10	0.70	ug/L			07/23/14 01:26	1
Trichloroethene	**210**		10	0.58	ug/L			07/23/14 01:26	1
CFC-11	**1.3**	**J**	10	0.44	ug/L			07/23/14 01:26	1
Vinyl chloride	ND		10	0.86	ug/L			07/23/14 01:26	1
Xylenes, Total	ND		20	1.7	ug/L			07/23/14 01:26	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/14 01:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/23/14 01:26*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*07/23/14 01:26*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 123*		*07/23/14 01:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*78 - 127*		*07/23/14 01:26*	*1*

Client Sample ID: MW-6 FIELD BLANK

Lab Sample ID: 160-7570-4

Date Collected: 07/16/14 12:00

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/23/14 00:10	1

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Client Sample ID: MW-6 FIELD BLANK
Date Collected: 07/16/14 12:00
Date Received: 07/22/14 09:15

Lab Sample ID: 160-7570-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/23/14 00:10	1
CFC-113	ND		5.0	0.25	ug/L			07/23/14 00:10	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/23/14 00:10	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/23/14 00:10	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/23/14 00:10	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/23/14 00:10	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/23/14 00:10	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/23/14 00:10	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/23/14 00:10	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/23/14 00:10	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/23/14 00:10	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/23/14 00:10	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/23/14 00:10	1
2-Hexanone	ND		20	0.59	ug/L			07/23/14 00:10	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/23/14 00:10	1
Acetone	ND		20	6.7	ug/L			07/23/14 00:10	1
Benzene	ND		5.0	0.25	ug/L			07/23/14 00:10	1
Bromoform	ND		5.0	0.37	ug/L			07/23/14 00:10	1
Bromomethane	ND		10	0.40	ug/L			07/23/14 00:10	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/23/14 00:10	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/23/14 00:10	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/23/14 00:10	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/23/14 00:10	1
Chloroethane	ND		10	0.38	ug/L			07/23/14 00:10	1
Chloroform	ND		5.0	0.15	ug/L			07/23/14 00:10	1
Chloromethane	ND		10	0.55	ug/L			07/23/14 00:10	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			07/23/14 00:10	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/23/14 00:10	1
Cyclohexane	ND		10	0.36	ug/L			07/23/14 00:10	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/23/14 00:10	1
CFC-12	ND		10	0.45	ug/L			07/23/14 00:10	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/23/14 00:10	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/23/14 00:10	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/23/14 00:10	1
Methyl acetate	ND		25	2.3	ug/L			07/23/14 00:10	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/23/14 00:10	1
Methylcyclohexane	ND		10	0.26	ug/L			07/23/14 00:10	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/23/14 00:10	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/23/14 00:10	1
o-Xylene	ND		5.0	0.32	ug/L			07/23/14 00:10	1
Styrene	ND		5.0	0.35	ug/L			07/23/14 00:10	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/23/14 00:10	1
Toluene	ND		5.0	1.0	ug/L			07/23/14 00:10	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/23/14 00:10	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/23/14 00:10	1
Trichloroethene	ND		5.0	0.29	ug/L			07/23/14 00:10	1
CFC-11	ND		5.0	0.22	ug/L			07/23/14 00:10	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/23/14 00:10	1
Xylenes, Total	ND		10	0.85	ug/L			07/23/14 00:10	1

Client Sample Results

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Client Sample ID: MW-6 FIELD BLANK

Lab Sample ID: 160-7570-4
Matrix: Water

Date Collected: 07/16/14 12:00
Date Received: 07/22/14 09:15

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/23/14 00:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		07/23/14 00:10	1
Dibromofluoromethane (Surr)	92		80 - 120		07/23/14 00:10	1
4-Bromofluorobenzene (Surr)	97		75 - 123		07/23/14 00:10	1
1,2-Dichloroethane-d4 (Surr)	88		78 - 127		07/23/14 00:10	1

Client Sample ID: OBG-01D

Lab Sample ID: 160-7570-5
Matrix: Water

Date Collected: 07/17/14 10:35
Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		130	7.3	ug/L			07/23/14 01:51	1
1,1,2,2-Tetrachloroethane	ND		130	11	ug/L			07/23/14 01:51	1
CFC-113	ND		130	6.3	ug/L			07/23/14 01:51	1
1,1,2-Trichloroethane	ND		130	14	ug/L			07/23/14 01:51	1
1,1-Dichloroethane	ND		130	9.8	ug/L			07/23/14 01:51	1
1,1-Dichloroethene	ND		130	9.3	ug/L			07/23/14 01:51	1
1,2,4-Trichlorobenzene	ND		130	14	ug/L			07/23/14 01:51	1
1,2-Dibromo-3-Chloropropane	ND		250	29	ug/L			07/23/14 01:51	1
1,2-Dichlorobenzene	ND		130	7.0	ug/L			07/23/14 01:51	1
1,2-Dichloroethane	ND		130	9.3	ug/L			07/23/14 01:51	1
1,2-Dichloropropane	ND		130	8.0	ug/L			07/23/14 01:51	1
1,3-Dichlorobenzene	ND		130	5.8	ug/L			07/23/14 01:51	1
1,4-Dichlorobenzene	ND		130	8.8	ug/L			07/23/14 01:51	1
2-Butanone (MEK)	ND		500	9.8	ug/L			07/23/14 01:51	1
2-Hexanone	ND		500	15	ug/L			07/23/14 01:51	1
4-Methyl-2-pentanone (MIBK)	ND		500	8.3	ug/L			07/23/14 01:51	1
Acetone	ND		500	170	ug/L			07/23/14 01:51	1
Benzene	ND		130	6.3	ug/L			07/23/14 01:51	1
Bromoform	ND		130	9.3	ug/L			07/23/14 01:51	1
Bromomethane	ND		250	10	ug/L			07/23/14 01:51	1
Carbon disulfide	ND		130	9.3	ug/L			07/23/14 01:51	1
Carbon tetrachloride	ND		130	9.0	ug/L			07/23/14 01:51	1
Chlorobenzene	ND		130	9.5	ug/L			07/23/14 01:51	1
Dibromochloromethane	ND		130	8.3	ug/L			07/23/14 01:51	1
Chloroethane	ND		250	9.5	ug/L			07/23/14 01:51	1
Chloroform	ND		130	3.8	ug/L			07/23/14 01:51	1
Chloromethane	ND		250	14	ug/L			07/23/14 01:51	1
cis-1,2-Dichloroethene	**65**	**J**	130	4.0	ug/L			07/23/14 01:51	1
cis-1,3-Dichloropropene	ND		130	8.5	ug/L			07/23/14 01:51	1
Cyclohexane	ND		250	9.0	ug/L			07/23/14 01:51	1
Bromodichloromethane	ND		130	6.3	ug/L			07/23/14 01:51	1
CFC-12	ND		250	11	ug/L			07/23/14 01:51	1
Ethylbenzene	ND		130	7.5	ug/L			07/23/14 01:51	1
1,2-Dibromoethane (EDB)	ND		130	11	ug/L			07/23/14 01:51	1
Isopropylbenzene	ND		130	6.5	ug/L			07/23/14 01:51	1
Methyl acetate	ND		630	57	ug/L			07/23/14 01:51	1

Client Sample ID: OBG-01D

Lab Sample ID: 160-7570-5

Date Collected: 07/17/14 10:35

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		130	10	ug/L			07/23/14 01:51	1
Methylcyclohexane	ND		250	6.5	ug/L			07/23/14 01:51	1
Methylene Chloride	ND		130	42	ug/L			07/23/14 01:51	1
m-Xylene & p-Xylene	ND		130	14	ug/L			07/23/14 01:51	1
o-Xylene	ND		130	8.0	ug/L			07/23/14 01:51	1
Styrene	ND		130	8.8	ug/L			07/23/14 01:51	1
Tetrachloroethene	ND		130	7.0	ug/L			07/23/14 01:51	1
Toluene	ND		130	25	ug/L			07/23/14 01:51	1
trans-1,2-Dichloroethene	ND		130	4.5	ug/L			07/23/14 01:51	1
trans-1,3-Dichloropropene	ND		130	8.8	ug/L			07/23/14 01:51	1
Trichloroethene	**2500**		130	7.3	ug/L			07/23/14 01:51	1
CFC-11	ND		130	5.5	ug/L			07/23/14 01:51	1
Vinyl chloride	ND		130	11	ug/L			07/23/14 01:51	1
Xylenes, Total	ND		250	21	ug/L			07/23/14 01:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/14 01:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/23/14 01:51*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*07/23/14 01:51*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 123*		*07/23/14 01:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*78 - 127*		*07/23/14 01:51*	*1*

Client Sample ID: MW-24D

Lab Sample ID: 160-7570-6

Date Collected: 07/17/14 14:00

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		100	5.8	ug/L			07/23/14 02:16	1
1,1,2,2-Tetrachloroethane	ND		100	8.6	ug/L			07/23/14 02:16	1
CFC-113	ND		100	5.0	ug/L			07/23/14 02:16	1
1,1,2-Trichloroethane	ND		100	11	ug/L			07/23/14 02:16	1
1,1-Dichloroethane	ND		100	7.8	ug/L			07/23/14 02:16	1
1,1-Dichloroethene	ND		100	7.4	ug/L			07/23/14 02:16	1
1,2,4-Trichlorobenzene	ND		100	11	ug/L			07/23/14 02:16	1
1,2-Dibromo-3-Chloropropane	ND		200	23	ug/L			07/23/14 02:16	1
1,2-Dichlorobenzene	ND		100	5.6	ug/L			07/23/14 02:16	1
1,2-Dichloroethane	ND		100	7.4	ug/L			07/23/14 02:16	1
1,2-Dichloropropane	ND		100	6.4	ug/L			07/23/14 02:16	1
1,3-Dichlorobenzene	ND		100	4.6	ug/L			07/23/14 02:16	1
1,4-Dichlorobenzene	ND		100	7.0	ug/L			07/23/14 02:16	1
2-Butanone (MEK)	ND		400	7.8	ug/L			07/23/14 02:16	1
2-Hexanone	ND		400	12	ug/L			07/23/14 02:16	1
4-Methyl-2-pentanone (MIBK)	ND		400	6.6	ug/L			07/23/14 02:16	1
Acetone	ND		400	130	ug/L			07/23/14 02:16	1
Benzene	ND		100	5.0	ug/L			07/23/14 02:16	1
Bromoform	ND		100	7.4	ug/L			07/23/14 02:16	1
Bromomethane	ND		200	8.0	ug/L			07/23/14 02:16	1

Client Sample Results

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Client Sample ID: MW-24D

Lab Sample ID: 160-7570-6

Date Collected: 07/17/14 14:00
Matrix: Water
Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		100	7.4	ug/L			07/23/14 02:16	1
Carbon tetrachloride	ND		100	7.2	ug/L			07/23/14 02:16	1
Chlorobenzene	ND		100	7.6	ug/L			07/23/14 02:16	1
Dibromochloromethane	ND		100	6.6	ug/L			07/23/14 02:16	1
Chloroethane	ND		200	7.6	ug/L			07/23/14 02:16	1
Chloroform	ND		100	3.0	ug/L			07/23/14 02:16	1
Chloromethane	ND		200	11	ug/L			07/23/14 02:16	1
cis-1,2-Dichloroethene	**39**	**J**	100	3.2	ug/L			07/23/14 02:16	1
cis-1,3-Dichloropropene	ND		100	6.8	ug/L			07/23/14 02:16	1
Cyclohexane	ND		200	7.2	ug/L			07/23/14 02:16	1
Bromodichloromethane	ND		100	5.0	ug/L			07/23/14 02:16	1
CFC-12	ND		200	9.0	ug/L			07/23/14 02:16	1
Ethylbenzene	ND		100	6.0	ug/L			07/23/14 02:16	1
1,2-Dibromoethane (EDB)	ND		100	8.8	ug/L			07/23/14 02:16	1
Isopropylbenzene	ND		100	5.2	ug/L			07/23/14 02:16	1
Methyl acetate	ND		500	46	ug/L			07/23/14 02:16	1
Methyl tert-butyl ether	ND		100	8.0	ug/L			07/23/14 02:16	1
Methylcyclohexane	ND		200	5.2	ug/L			07/23/14 02:16	1
Methylene Chloride	ND		100	33	ug/L			07/23/14 02:16	1
m-Xylene & p-Xylene	ND		100	11	ug/L			07/23/14 02:16	1
o-Xylene	ND		100	6.4	ug/L			07/23/14 02:16	1
Styrene	ND		100	7.0	ug/L			07/23/14 02:16	1
Tetrachloroethene	ND		100	5.6	ug/L			07/23/14 02:16	1
Toluene	ND		100	20	ug/L			07/23/14 02:16	1
trans-1,2-Dichloroethene	ND		100	3.6	ug/L			07/23/14 02:16	1
trans-1,3-Dichloropropene	ND		100	7.0	ug/L			07/23/14 02:16	1
Trichloroethene	**1300**		100	5.8	ug/L			07/23/14 02:16	1
CFC-11	ND		100	4.4	ug/L			07/23/14 02:16	1
Vinyl chloride	ND		100	8.6	ug/L			07/23/14 02:16	1
Xylenes, Total	ND		200	17	ug/L			07/23/14 02:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/14 02:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/23/14 02:16*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*07/23/14 02:16*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 123*		*07/23/14 02:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*78 - 127*		*07/23/14 02:16*	*1*

Client Sample ID: OBG-1DD

Lab Sample ID: 160-7570-7

Date Collected: 07/17/14 13:50
Matrix: Water
Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		13	0.73	ug/L			07/23/14 02:41	1
1,1,2,2-Tetrachloroethane	ND		13	1.1	ug/L			07/23/14 02:41	1
CFC-113	ND		13	0.63	ug/L			07/23/14 02:41	1
1,1,2-Trichloroethane	ND		13	1.4	ug/L			07/23/14 02:41	1

Client Sample ID: OBG-1DD
Date Collected: 07/17/14 13:50
Date Received: 07/22/14 09:15

Lab Sample ID: 160-7570-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		13	0.98	ug/L			07/23/14 02:41	1
1,1-Dichloroethene	ND		13	0.93	ug/L			07/23/14 02:41	1
1,2,4-Trichlorobenzene	ND		13	1.4	ug/L			07/23/14 02:41	1
1,2-Dibromo-3-Chloropropane	ND		25	2.9	ug/L			07/23/14 02:41	1
1,2-Dichlorobenzene	ND		13	0.70	ug/L			07/23/14 02:41	1
1,2-Dichloroethane	ND		13	0.93	ug/L			07/23/14 02:41	1
1,2-Dichloropropane	ND		13	0.80	ug/L			07/23/14 02:41	1
1,3-Dichlorobenzene	ND		13	0.58	ug/L			07/23/14 02:41	1
1,4-Dichlorobenzene	ND		13	0.88	ug/L			07/23/14 02:41	1
2-Butanone (MEK)	ND		50	0.98	ug/L			07/23/14 02:41	1
2-Hexanone	ND		50	1.5	ug/L			07/23/14 02:41	1
4-Methyl-2-pentanone (MIBK)	ND		50	0.83	ug/L			07/23/14 02:41	1
Acetone	ND		50	17	ug/L			07/23/14 02:41	1
Benzene	ND		13	0.63	ug/L			07/23/14 02:41	1
Bromoform	ND		13	0.93	ug/L			07/23/14 02:41	1
Bromomethane	ND		25	1.0	ug/L			07/23/14 02:41	1
Carbon disulfide	ND		13	0.93	ug/L			07/23/14 02:41	1
Carbon tetrachloride	ND		13	0.90	ug/L			07/23/14 02:41	1
Chlorobenzene	ND		13	0.95	ug/L			07/23/14 02:41	1
Dibromochloromethane	ND		13	0.83	ug/L			07/23/14 02:41	1
Chloroethane	ND		25	0.95	ug/L			07/23/14 02:41	1
Chloroform	ND		13	0.38	ug/L			07/23/14 02:41	1
Chloromethane	ND		25	1.4	ug/L			07/23/14 02:41	1
cis-1,2-Dichloroethene	**4.1**	**J**	13	0.40	ug/L			07/23/14 02:41	1
cis-1,3-Dichloropropene	ND		13	0.85	ug/L			07/23/14 02:41	1
Cyclohexane	ND		25	0.90	ug/L			07/23/14 02:41	1
Bromodichloromethane	ND		13	0.63	ug/L			07/23/14 02:41	1
CFC-12	ND		25	1.1	ug/L			07/23/14 02:41	1
Ethylbenzene	ND		13	0.75	ug/L			07/23/14 02:41	1
1,2-Dibromoethane (EDB)	ND		13	1.1	ug/L			07/23/14 02:41	1
Isopropylbenzene	ND		13	0.65	ug/L			07/23/14 02:41	1
Methyl acetate	ND		63	5.7	ug/L			07/23/14 02:41	1
Methyl tert-butyl ether	ND		13	1.0	ug/L			07/23/14 02:41	1
Methylcyclohexane	ND		25	0.65	ug/L			07/23/14 02:41	1
Methylene Chloride	ND		13	4.2	ug/L			07/23/14 02:41	1
m-Xylene & p-Xylene	ND		13	1.4	ug/L			07/23/14 02:41	1
o-Xylene	ND		13	0.80	ug/L			07/23/14 02:41	1
Styrene	ND		13	0.88	ug/L			07/23/14 02:41	1
Tetrachloroethene	ND		13	0.70	ug/L			07/23/14 02:41	1
Toluene	ND		13	2.5	ug/L			07/23/14 02:41	1
trans-1,2-Dichloroethene	ND		13	0.45	ug/L			07/23/14 02:41	1
trans-1,3-Dichloropropene	ND		13	0.88	ug/L			07/23/14 02:41	1
Trichloroethene	**220**		13	0.73	ug/L			07/23/14 02:41	1
CFC-11	ND		13	0.55	ug/L			07/23/14 02:41	1
Vinyl chloride	ND		13	1.1	ug/L			07/23/14 02:41	1
Xylenes, Total	ND		25	2.1	ug/L			07/23/14 02:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/14 02:41*	*1*

Client Sample Results

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Client Sample ID: OBG-1DD

Lab Sample ID: 160-7570-7

Date Collected: 07/17/14 13:50
Matrix: Water
Date Received: 07/22/14 09:15

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/23/14 02:41*	*1*
Dibromofluoromethane (Surr)	*91*		*80 - 120*		*07/23/14 02:41*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 123*		*07/23/14 02:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*78 - 127*		*07/23/14 02:41*	*1*

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-7570-8

Date Collected: 07/18/14 15:05
Matrix: Water
Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/22/14 23:08	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/22/14 23:08	1
CFC-113	ND		5.0	0.25	ug/L			07/22/14 23:08	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/22/14 23:08	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/22/14 23:08	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/22/14 23:08	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/22/14 23:08	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/22/14 23:08	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/22/14 23:08	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/22/14 23:08	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/22/14 23:08	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/22/14 23:08	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/22/14 23:08	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/22/14 23:08	1
2-Hexanone	ND		20	0.59	ug/L			07/22/14 23:08	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/22/14 23:08	1
Acetone	ND		20	6.7	ug/L			07/22/14 23:08	1
Benzene	ND		5.0	0.25	ug/L			07/22/14 23:08	1
Bromoform	ND		5.0	0.37	ug/L			07/22/14 23:08	1
Bromomethane	ND		10	0.40	ug/L			07/22/14 23:08	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/22/14 23:08	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/22/14 23:08	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/22/14 23:08	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/22/14 23:08	1
Chloroethane	ND		10	0.38	ug/L			07/22/14 23:08	1
Chloroform	ND		5.0	0.15	ug/L			07/22/14 23:08	1
Chloromethane	ND		10	0.55	ug/L			07/22/14 23:08	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			07/22/14 23:08	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/22/14 23:08	1
Cyclohexane	ND		10	0.36	ug/L			07/22/14 23:08	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/22/14 23:08	1
CFC-12	ND		10	0.45	ug/L			07/22/14 23:08	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/22/14 23:08	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/22/14 23:08	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/22/14 23:08	1
Methyl acetate	ND		25	2.3	ug/L			07/22/14 23:08	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/22/14 23:08	1
Methylcyclohexane	ND		10	0.26	ug/L			07/22/14 23:08	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/22/14 23:08	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-7570-8

Date Collected: 07/18/14 15:05

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/22/14 23:08	1
o-Xylene	ND		5.0	0.32	ug/L			07/22/14 23:08	1
Styrene	ND		5.0	0.35	ug/L			07/22/14 23:08	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/22/14 23:08	1
Toluene	ND		5.0	1.0	ug/L			07/22/14 23:08	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/22/14 23:08	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/22/14 23:08	1
Trichloroethene	ND		5.0	0.29	ug/L			07/22/14 23:08	1
CFC-11	ND		5.0	0.22	ug/L			07/22/14 23:08	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/22/14 23:08	1
Xylenes, Total	ND		10	0.85	ug/L			07/22/14 23:08	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/14 23:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/22/14 23:08*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*07/22/14 23:08*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 123*		*07/22/14 23:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*78 - 127*		*07/22/14 23:08*	*1*

Client Sample ID: OBG-055

Lab Sample ID: 160-7570-9

Date Collected: 07/18/14 10:40

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		50	2.9	ug/L			07/23/14 18:10	1
1,1,2,2-Tetrachloroethane	ND		50	4.3	ug/L			07/23/14 18:10	1
CFC-113	ND		50	2.5	ug/L			07/23/14 18:10	1
1,1,2-Trichloroethane	ND		50	5.7	ug/L			07/23/14 18:10	1
1,1-Dichloroethane	ND		50	3.9	ug/L			07/23/14 18:10	1
1,1-Dichloroethene	ND		50	3.7	ug/L			07/23/14 18:10	1
1,2,4-Trichlorobenzene	ND		50	5.5	ug/L			07/23/14 18:10	1
1,2-Dibromo-3-Chloropropane	ND		100	12	ug/L			07/23/14 18:10	1
1,2-Dichlorobenzene	ND		50	2.8	ug/L			07/23/14 18:10	1
1,2-Dichloroethane	ND		50	3.7	ug/L			07/23/14 18:10	1
1,2-Dichloropropane	ND		50	3.2	ug/L			07/23/14 18:10	1
1,3-Dichlorobenzene	ND		50	2.3	ug/L			07/23/14 18:10	1
1,4-Dichlorobenzene	ND		50	3.5	ug/L			07/23/14 18:10	1
2-Butanone (MEK)	ND		200	3.9	ug/L			07/23/14 18:10	1
2-Hexanone	ND		200	5.9	ug/L			07/23/14 18:10	1
4-Methyl-2-pentanone (MIBK)	ND		200	3.3	ug/L			07/23/14 18:10	1
Acetone	ND		200	67	ug/L			07/23/14 18:10	1
Benzene	ND		50	2.5	ug/L			07/23/14 18:10	1
Bromoform	ND		50	3.7	ug/L			07/23/14 18:10	1
Bromomethane	ND		100	4.0	ug/L			07/23/14 18:10	1
Carbon disulfide	ND		50	3.7	ug/L			07/23/14 18:10	1
Carbon tetrachloride	ND		50	3.6	ug/L			07/23/14 18:10	1
Chlorobenzene	ND		50	3.8	ug/L			07/23/14 18:10	1

Client Sample ID: OBG-055

Lab Sample ID: 160-7570-9

Date Collected: 07/18/14 10:40

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		50	3.3	ug/L			07/23/14 18:10	1
Chloroethane	ND		100	3.8	ug/L			07/23/14 18:10	1
Chloroform	ND		50	1.5	ug/L			07/23/14 18:10	1
Chloromethane	ND		100	5.5	ug/L			07/23/14 18:10	1
cis-1,2-Dichloroethene	**340**		50	1.6	ug/L			07/23/14 18:10	1
cis-1,3-Dichloropropene	ND		50	3.4	ug/L			07/23/14 18:10	1
Cyclohexane	ND		100	3.6	ug/L			07/23/14 18:10	1
Bromodichloromethane	ND		50	2.5	ug/L			07/23/14 18:10	1
CFC-12	ND		100	4.5	ug/L			07/23/14 18:10	1
Ethylbenzene	ND		50	3.0	ug/L			07/23/14 18:10	1
1,2-Dibromoethane (EDB)	ND		50	4.4	ug/L			07/23/14 18:10	1
Isopropylbenzene	ND		50	2.6	ug/L			07/23/14 18:10	1
Methyl acetate	ND		250	23	ug/L			07/23/14 18:10	1
Methyl tert-butyl ether	ND		50	4.0	ug/L			07/23/14 18:10	1
Methylcyclohexane	ND		100	2.6	ug/L			07/23/14 18:10	1
Methylene Chloride	ND		50	17	ug/L			07/23/14 18:10	1
m-Xylene & p-Xylene	ND		50	5.7	ug/L			07/23/14 18:10	1
o-Xylene	ND		50	3.2	ug/L			07/23/14 18:10	1
Styrene	ND		50	3.5	ug/L			07/23/14 18:10	1
Tetrachloroethene	ND		50	2.8	ug/L			07/23/14 18:10	1
Toluene	ND		50	10	ug/L			07/23/14 18:10	1
trans-1,2-Dichloroethene	ND		50	1.8	ug/L			07/23/14 18:10	1
trans-1,3-Dichloropropene	ND		50	3.5	ug/L			07/23/14 18:10	1
Trichloroethene	**2000**		50	2.9	ug/L			07/23/14 18:10	1
CFC-11	ND		50	2.2	ug/L			07/23/14 18:10	1
Vinyl chloride	**27**	**J**	50	4.3	ug/L			07/23/14 18:10	1
Xylenes, Total	ND		100	8.5	ug/L			07/23/14 18:10	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/14 18:10*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/14 18:10*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*07/23/14 18:10*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 123*		*07/23/14 18:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*78 - 127*		*07/23/14 18:10*	*1*

Client Sample ID: OBG-055 DUP

Lab Sample ID: 160-7570-10

Date Collected: 07/18/14 10:41

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		50	2.9	ug/L			07/23/14 18:36	1
1,1,2,2-Tetrachloroethane	ND		50	4.3	ug/L			07/23/14 18:36	1
CFC-113	ND		50	2.5	ug/L			07/23/14 18:36	1
1,1,2-Trichloroethane	ND		50	5.7	ug/L			07/23/14 18:36	1
1,1-Dichloroethane	ND		50	3.9	ug/L			07/23/14 18:36	1
1,1-Dichloroethene	ND		50	3.7	ug/L			07/23/14 18:36	1
1,2,4-Trichlorobenzene	ND		50	5.5	ug/L			07/23/14 18:36	1

Client Sample ID: OBG-055 DUP

Lab Sample ID: 160-7570-10

Date Collected: 07/18/14 10:41

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		100	12	ug/L			07/23/14 18:36	1
1,2-Dichlorobenzene	ND		50	2.8	ug/L			07/23/14 18:36	1
1,2-Dichloroethane	ND		50	3.7	ug/L			07/23/14 18:36	1
1,2-Dichloropropane	ND		50	3.2	ug/L			07/23/14 18:36	1
1,3-Dichlorobenzene	ND		50	2.3	ug/L			07/23/14 18:36	1
1,4-Dichlorobenzene	ND		50	3.5	ug/L			07/23/14 18:36	1
2-Butanone (MEK)	ND		200	3.9	ug/L			07/23/14 18:36	1
2-Hexanone	ND		200	5.9	ug/L			07/23/14 18:36	1
4-Methyl-2-pentanone (MIBK)	ND		200	3.3	ug/L			07/23/14 18:36	1
Acetone	ND		200	67	ug/L			07/23/14 18:36	1
Benzene	ND		50	2.5	ug/L			07/23/14 18:36	1
Bromoform	ND		50	3.7	ug/L			07/23/14 18:36	1
Bromomethane	ND		100	4.0	ug/L			07/23/14 18:36	1
Carbon disulfide	ND		50	3.7	ug/L			07/23/14 18:36	1
Carbon tetrachloride	ND		50	3.6	ug/L			07/23/14 18:36	1
Chlorobenzene	ND		50	3.8	ug/L			07/23/14 18:36	1
Dibromochloromethane	ND		50	3.3	ug/L			07/23/14 18:36	1
Chloroethane	ND		100	3.8	ug/L			07/23/14 18:36	1
Chloroform	ND		50	1.5	ug/L			07/23/14 18:36	1
Chloromethane	ND		100	5.5	ug/L			07/23/14 18:36	1
cis-1,2-Dichloroethene	**300**		50	1.6	ug/L			07/23/14 18:36	1
cis-1,3-Dichloropropene	ND		50	3.4	ug/L			07/23/14 18:36	1
Cyclohexane	ND		100	3.6	ug/L			07/23/14 18:36	1
Bromodichloromethane	ND		50	2.5	ug/L			07/23/14 18:36	1
CFC-12	ND		100	4.5	ug/L			07/23/14 18:36	1
Ethylbenzene	ND		50	3.0	ug/L			07/23/14 18:36	1
1,2-Dibromoethane (EDB)	ND		50	4.4	ug/L			07/23/14 18:36	1
Isopropylbenzene	ND		50	2.6	ug/L			07/23/14 18:36	1
Methyl acetate	ND		250	23	ug/L			07/23/14 18:36	1
Methyl tert-butyl ether	ND		50	4.0	ug/L			07/23/14 18:36	1
Methylcyclohexane	ND		100	2.6	ug/L			07/23/14 18:36	1
Methylene Chloride	ND		50	17	ug/L			07/23/14 18:36	1
m-Xylene & p-Xylene	ND		50	5.7	ug/L			07/23/14 18:36	1
o-Xylene	ND		50	3.2	ug/L			07/23/14 18:36	1
Styrene	ND		50	3.5	ug/L			07/23/14 18:36	1
Tetrachloroethene	ND		50	2.8	ug/L			07/23/14 18:36	1
Toluene	ND		50	10	ug/L			07/23/14 18:36	1
trans-1,2-Dichloroethene	ND		50	1.8	ug/L			07/23/14 18:36	1
trans-1,3-Dichloropropene	ND		50	3.5	ug/L			07/23/14 18:36	1
Trichloroethene	**1700**		50	2.9	ug/L			07/23/14 18:36	1
CFC-11	ND		50	2.2	ug/L			07/23/14 18:36	1
Vinyl chloride	**22**	**J**	50	4.3	ug/L			07/23/14 18:36	1
Xylenes, Total	ND		100	8.5	ug/L			07/23/14 18:36	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/14 18:36*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/23/14 18:36*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*07/23/14 18:36*	*1*

Client Sample ID: OBG-055 DUP

Lab Sample ID: 160-7570-10

Date Collected: 07/18/14 10:41

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		75 - 123		07/23/14 18:36	1
1,2-Dichloroethane-d4 (Surr)	93		78 - 127		07/23/14 18:36	1

Client Sample ID: OBG-2S

Lab Sample ID: 160-7570-11

Date Collected: 07/18/14 13:35

Matrix: Water

Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1000	58	ug/L			07/23/14 03:56	1
1,1,2,2-Tetrachloroethane	ND		1000	86	ug/L			07/23/14 03:56	1
CFC-113	ND		1000	50	ug/L			07/23/14 03:56	1
1,1,2-Trichloroethane	ND		1000	110	ug/L			07/23/14 03:56	1
1,1-Dichloroethane	ND		1000	78	ug/L			07/23/14 03:56	1
1,1-Dichloroethene	ND		1000	74	ug/L			07/23/14 03:56	1
1,2,4-Trichlorobenzene	ND		1000	110	ug/L			07/23/14 03:56	1
1,2-Dibromo-3-Chloropropane	ND		2000	230	ug/L			07/23/14 03:56	1
1,2-Dichlorobenzene	ND		1000	56	ug/L			07/23/14 03:56	1
1,2-Dichloroethane	ND		1000	74	ug/L			07/23/14 03:56	1
1,2-Dichloropropane	ND		1000	64	ug/L			07/23/14 03:56	1
1,3-Dichlorobenzene	ND		1000	46	ug/L			07/23/14 03:56	1
1,4-Dichlorobenzene	ND		1000	70	ug/L			07/23/14 03:56	1
2-Butanone (MEK)	ND		4000	78	ug/L			07/23/14 03:56	1
2-Hexanone	ND		4000	120	ug/L			07/23/14 03:56	1
4-Methyl-2-pentanone (MIBK)	ND		4000	66	ug/L			07/23/14 03:56	1
Acetone	ND		4000	1300	ug/L			07/23/14 03:56	1
Benzene	ND		1000	50	ug/L			07/23/14 03:56	1
Bromoform	ND		1000	74	ug/L			07/23/14 03:56	1
Bromomethane	ND		2000	80	ug/L			07/23/14 03:56	1
Carbon disulfide	ND		1000	74	ug/L			07/23/14 03:56	1
Carbon tetrachloride	ND		1000	72	ug/L			07/23/14 03:56	1
Chlorobenzene	ND		1000	76	ug/L			07/23/14 03:56	1
Dibromochloromethane	ND		1000	66	ug/L			07/23/14 03:56	1
Chloroethane	ND		2000	76	ug/L			07/23/14 03:56	1
Chloroform	ND		1000	30	ug/L			07/23/14 03:56	1
Chloromethane	ND		2000	110	ug/L			07/23/14 03:56	1
cis-1,2-Dichloroethene	**1200**		1000	32	ug/L			07/23/14 03:56	1
cis-1,3-Dichloropropene	ND		1000	68	ug/L			07/23/14 03:56	1
Cyclohexane	ND		2000	72	ug/L			07/23/14 03:56	1
Bromodichloromethane	ND		1000	50	ug/L			07/23/14 03:56	1
CFC-12	ND		2000	90	ug/L			07/23/14 03:56	1
Ethylbenzene	ND		1000	60	ug/L			07/23/14 03:56	1
1,2-Dibromoethane (EDB)	ND		1000	88	ug/L			07/23/14 03:56	1
Isopropylbenzene	ND		1000	52	ug/L			07/23/14 03:56	1
Methyl acetate	ND		5000	460	ug/L			07/23/14 03:56	1
Methyl tert-butyl ether	ND		1000	80	ug/L			07/23/14 03:56	1
Methylcyclohexane	ND		2000	52	ug/L			07/23/14 03:56	1
Methylene Chloride	ND		1000	330	ug/L			07/23/14 03:56	1
m-Xylene & p-Xylene	ND		1000	110	ug/L			07/23/14 03:56	1

Client Sample Results

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Client Sample ID: OBG-2S

Lab Sample ID: 160-7570-11

Date Collected: 07/18/14 13:35
Matrix: Water
Date Received: 07/22/14 09:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1000	64	ug/L			07/23/14 03:56	1
Styrene	ND		1000	70	ug/L			07/23/14 03:56	1
Tetrachloroethene	ND		1000	56	ug/L			07/23/14 03:56	1
Toluene	ND		1000	200	ug/L			07/23/14 03:56	1
trans-1,2-Dichloroethene	ND		1000	36	ug/L			07/23/14 03:56	1
trans-1,3-Dichloropropene	ND		1000	70	ug/L			07/23/14 03:56	1
Trichloroethene	**11000**		1000	58	ug/L			07/23/14 03:56	1
CFC-11	ND		1000	44	ug/L			07/23/14 03:56	1
Vinyl chloride	ND		1000	86	ug/L			07/23/14 03:56	1
Xylenes, Total	ND		2000	170	ug/L			07/23/14 03:56	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/14 03:56*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/23/14 03:56*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*07/23/14 03:56*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 123*		*07/23/14 03:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*78 - 127*		*07/23/14 03:56*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 160-133340/3-A
Matrix: Water
Analysis Batch: 133340

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/22/14 20:38	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/22/14 20:38	1
CFC-113	ND		5.0	0.25	ug/L			07/22/14 20:38	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/22/14 20:38	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/22/14 20:38	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/22/14 20:38	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/22/14 20:38	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/22/14 20:38	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/22/14 20:38	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/22/14 20:38	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/22/14 20:38	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/22/14 20:38	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/22/14 20:38	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/22/14 20:38	1
2-Hexanone	ND		20	0.59	ug/L			07/22/14 20:38	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/22/14 20:38	1
Acetone	ND		20	6.7	ug/L			07/22/14 20:38	1
Benzene	ND		5.0	0.25	ug/L			07/22/14 20:38	1
Bromoform	ND		5.0	0.37	ug/L			07/22/14 20:38	1
Bromomethane	ND		10	0.40	ug/L			07/22/14 20:38	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/22/14 20:38	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/22/14 20:38	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/22/14 20:38	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/22/14 20:38	1
Chloroethane	ND		10	0.38	ug/L			07/22/14 20:38	1
Chloroform	ND		5.0	0.15	ug/L			07/22/14 20:38	1
Chloromethane	ND		10	0.55	ug/L			07/22/14 20:38	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			07/22/14 20:38	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/22/14 20:38	1
Cyclohexane	ND		10	0.36	ug/L			07/22/14 20:38	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/22/14 20:38	1
CFC-12	ND		10	0.45	ug/L			07/22/14 20:38	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/22/14 20:38	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/22/14 20:38	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/22/14 20:38	1
Methyl acetate	ND		25	2.3	ug/L			07/22/14 20:38	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/22/14 20:38	1
Methylcyclohexane	ND		10	0.26	ug/L			07/22/14 20:38	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/22/14 20:38	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/22/14 20:38	1
o-Xylene	ND		5.0	0.32	ug/L			07/22/14 20:38	1
Styrene	ND		5.0	0.35	ug/L			07/22/14 20:38	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/22/14 20:38	1
Toluene	ND		5.0	1.0	ug/L			07/22/14 20:38	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/22/14 20:38	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/22/14 20:38	1
Trichloroethene	ND		5.0	0.29	ug/L			07/22/14 20:38	1
CFC-11	ND		5.0	0.22	ug/L			07/22/14 20:38	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 160-133340/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133340

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.0	0.43	ug/L			07/22/14 20:38	1
Xylenes, Total	ND		10	0.85	ug/L			07/22/14 20:38	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/14 20:38*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/22/14 20:38*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*07/22/14 20:38*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 123*		*07/22/14 20:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*78 - 127*		*07/22/14 20:38*	*1*

Lab Sample ID: LCS 160-133340/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133340

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	49.1		ug/L		98	75 - 127
1,1,2,2-Tetrachloroethane	50.0	44.7		ug/L		89	80 - 120
1,1,2-Trichloroethane	50.0	47.1		ug/L		94	80 - 120
1,1-Dichloroethane	50.0	48.8		ug/L		98	80 - 120
1,1-Dichloroethene	50.0	50.0		ug/L		100	77 - 121
1,2,4-Trichlorobenzene	50.0	55.7		ug/L		111	82 - 124
1,2-Dibromo-3-Chloropropane	50.0	45.1		ug/L		90	69 - 135
1,2-Dichlorobenzene	50.0	50.9		ug/L		102	76 - 122
1,2-Dichloroethane	50.0	46.1		ug/L		92	80 - 120
1,2-Dichloropropane	50.0	49.4		ug/L		99	80 - 120
1,3-Dichlorobenzene	50.0	50.7		ug/L		101	77 - 122
1,4-Dichlorobenzene	50.0	50.1		ug/L		100	80 - 120
2-Butanone (MEK)	50.0	42.5		ug/L		85	68 - 128
2-Hexanone	50.0	47.9		ug/L		96	64 - 136
4-Methyl-2-pentanone (MIBK)	50.0	50.3		ug/L		101	74 - 129
Acetone	50.0	48.7		ug/L		97	72 - 139
Benzene	50.0	47.6		ug/L		95	80 - 120
Bromoform	50.0	44.5		ug/L		89	80 - 120
Bromomethane	50.0	52.1		ug/L		104	48 - 140
Carbon disulfide	50.0	50.5		ug/L		101	79 - 120
Carbon tetrachloride	50.0	52.1		ug/L		104	74 - 128
Chlorobenzene	50.0	51.5		ug/L		103	80 - 120
Dibromochloromethane	50.0	52.5		ug/L		105	80 - 120
Chloroethane	50.0	48.5		ug/L		97	55 - 140
Chloroform	50.0	48.1		ug/L		96	80 - 120
Chloromethane	50.0	53.5		ug/L		107	72 - 123
cis-1,2-Dichloroethene	50.0	49.1		ug/L		98	80 - 120
cis-1,3-Dichloropropene	50.0	47.5		ug/L		95	80 - 120
Cyclohexane	50.0	48.8		ug/L		98	77 - 127
Bromodichloromethane	50.0	48.5		ug/L		97	80 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 160-133340/4-A
Matrix: Water
Analysis Batch: 133340

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
CFC-12	50.0	44.4		ug/L		89	49 - 140
Ethylbenzene	50.0	48.9		ug/L		98	80 - 120
1,2-Dibromoethane (EDB)	50.0	47.5		ug/L		95	80 - 120
Isopropylbenzene	50.0	53.4		ug/L		107	80 - 127
Methyl acetate	250	233		ug/L		93	66 - 132
Methyl tert-butyl ether	50.0	47.2		ug/L		94	77 - 124
Methylcyclohexane	50.0	50.1		ug/L		100	75 - 131
Methylene Chloride	50.0	49.2		ug/L		98	79 - 115
m-Xylene & p-Xylene	50.0	52.2		ug/L		104	80 - 120
o-Xylene	50.0	54.1		ug/L		108	79 - 126
Styrene	50.0	53.1		ug/L		106	80 - 120
Tetrachloroethene	50.0	50.8		ug/L		102	80 - 120
Toluene	50.0	51.6		ug/L		103	80 - 120
trans-1,2-Dichloroethene	50.0	49.2		ug/L		98	80 - 120
trans-1,3-Dichloropropene	50.0	47.3		ug/L		95	80 - 120
Trichloroethene	50.0	46.6		ug/L		93	80 - 120
CFC-11	50.0	52.3		ug/L		105	72 - 132
Vinyl chloride	50.0	48.0		ug/L		96	68 - 120
Xylenes, Total	100	106		ug/L		106	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*75 - 123*
1,2-Dichloroethane-d4 (Surr)	*92*		*78 - 127*

Lab Sample ID: MB 160-133478/3-A
Matrix: Water
Analysis Batch: 133478

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			07/23/14 17:45	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			07/23/14 17:45	1
CFC-113	ND		5.0	0.25	ug/L			07/23/14 17:45	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			07/23/14 17:45	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			07/23/14 17:45	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			07/23/14 17:45	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			07/23/14 17:45	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			07/23/14 17:45	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			07/23/14 17:45	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			07/23/14 17:45	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			07/23/14 17:45	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			07/23/14 17:45	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			07/23/14 17:45	1
2-Butanone (MEK)	ND		20	0.39	ug/L			07/23/14 17:45	1
2-Hexanone	ND		20	0.59	ug/L			07/23/14 17:45	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			07/23/14 17:45	1
Acetone	ND		20	6.7	ug/L			07/23/14 17:45	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 160-133478/3-A
Matrix: Water
Analysis Batch: 133478

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.25	ug/L			07/23/14 17:45	1
Bromoform	ND		5.0	0.37	ug/L			07/23/14 17:45	1
Bromomethane	ND		10	0.40	ug/L			07/23/14 17:45	1
Carbon disulfide	ND		5.0	0.37	ug/L			07/23/14 17:45	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			07/23/14 17:45	1
Chlorobenzene	ND		5.0	0.38	ug/L			07/23/14 17:45	1
Dibromochloromethane	ND		5.0	0.33	ug/L			07/23/14 17:45	1
Chloroethane	ND		10	0.38	ug/L			07/23/14 17:45	1
Chloroform	ND		5.0	0.15	ug/L			07/23/14 17:45	1
Chloromethane	ND		10	0.55	ug/L			07/23/14 17:45	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			07/23/14 17:45	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			07/23/14 17:45	1
Cyclohexane	ND		10	0.36	ug/L			07/23/14 17:45	1
Bromodichloromethane	ND		5.0	0.25	ug/L			07/23/14 17:45	1
CFC-12	ND		10	0.45	ug/L			07/23/14 17:45	1
Ethylbenzene	ND		5.0	0.30	ug/L			07/23/14 17:45	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			07/23/14 17:45	1
Isopropylbenzene	ND		5.0	0.26	ug/L			07/23/14 17:45	1
Methyl acetate	ND		25	2.3	ug/L			07/23/14 17:45	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			07/23/14 17:45	1
Methylcyclohexane	ND		10	0.26	ug/L			07/23/14 17:45	1
Methylene Chloride	ND		5.0	1.7	ug/L			07/23/14 17:45	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			07/23/14 17:45	1
o-Xylene	ND		5.0	0.32	ug/L			07/23/14 17:45	1
Styrene	ND		5.0	0.35	ug/L			07/23/14 17:45	1
Tetrachloroethene	ND		5.0	0.28	ug/L			07/23/14 17:45	1
Toluene	ND		5.0	1.0	ug/L			07/23/14 17:45	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			07/23/14 17:45	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			07/23/14 17:45	1
Trichloroethene	ND		5.0	0.29	ug/L			07/23/14 17:45	1
CFC-11	ND		5.0	0.22	ug/L			07/23/14 17:45	1
Vinyl chloride	ND		5.0	0.43	ug/L			07/23/14 17:45	1
Xylenes, Total	ND		10	0.85	ug/L			07/23/14 17:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/14 17:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/23/14 17:45*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*07/23/14 17:45*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 123*		*07/23/14 17:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*78 - 127*		*07/23/14 17:45*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 160-133478/4-A
Matrix: Water
Analysis Batch: 133478

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	49.4		ug/L		99	75 - 127
1,1,2,2-Tetrachloroethane	50.0	46.5		ug/L		93	80 - 120
1,1,2-Trichloroethane	50.0	48.6		ug/L		97	80 - 120
1,1-Dichloroethane	50.0	49.0		ug/L		98	80 - 120
1,1-Dichloroethene	50.0	50.3		ug/L		101	77 - 121
1,2,4-Trichlorobenzene	50.0	54.0		ug/L		108	82 - 124
1,2-Dibromo-3-Chloropropane	50.0	42.8		ug/L		86	69 - 135
1,2-Dichlorobenzene	50.0	50.2		ug/L		100	76 - 122
1,2-Dichloroethane	50.0	46.6		ug/L		93	80 - 120
1,2-Dichloropropane	50.0	48.7		ug/L		97	80 - 120
1,3-Dichlorobenzene	50.0	50.0		ug/L		100	77 - 122
1,4-Dichlorobenzene	50.0	50.0		ug/L		100	80 - 120
2-Butanone (MEK)	50.0	43.5		ug/L		87	68 - 128
2-Hexanone	50.0	51.5		ug/L		103	64 - 136
4-Methyl-2-pentanone (MIBK)	50.0	50.3		ug/L		101	74 - 129
Acetone	50.0	43.5		ug/L		87	72 - 139
Benzene	50.0	47.9		ug/L		96	80 - 120
Bromoform	50.0	45.0		ug/L		90	80 - 120
Bromomethane	50.0	52.7		ug/L		105	48 - 140
Carbon disulfide	50.0	52.4		ug/L		105	79 - 120
Carbon tetrachloride	50.0	52.1		ug/L		104	74 - 128
Chlorobenzene	50.0	51.0		ug/L		102	80 - 120
Dibromochloromethane	50.0	51.8		ug/L		104	80 - 120
Chloroethane	50.0	49.6		ug/L		99	55 - 140
Chloroform	50.0	48.2		ug/L		96	80 - 120
Chloromethane	50.0	51.2		ug/L		102	72 - 123
cis-1,2-Dichloroethene	50.0	48.4		ug/L		97	80 - 120
cis-1,3-Dichloropropene	50.0	50.1		ug/L		100	80 - 120
Cyclohexane	50.0	49.0		ug/L		98	77 - 127
Bromodichloromethane	50.0	49.7		ug/L		99	80 - 120
CFC-12	50.0	45.4		ug/L		91	49 - 140
Ethylbenzene	50.0	48.7		ug/L		97	80 - 120
1,2-Dibromoethane (EDB)	50.0	48.1		ug/L		96	80 - 120
Isopropylbenzene	50.0	53.4		ug/L		107	80 - 127
Methyl acetate	250	240		ug/L		96	66 - 132
Methyl tert-butyl ether	50.0	46.1		ug/L		92	77 - 124
Methylcyclohexane	50.0	51.5		ug/L		103	75 - 131
Methylene Chloride	50.0	48.0		ug/L		96	79 - 115
m-Xylene & p-Xylene	50.0	52.4		ug/L		105	80 - 120
o-Xylene	50.0	52.8		ug/L		106	79 - 126
Styrene	50.0	52.9		ug/L		106	80 - 120
Tetrachloroethene	50.0	51.8		ug/L		104	80 - 120
Toluene	50.0	51.1		ug/L		102	80 - 120
trans-1,2-Dichloroethene	50.0	49.3		ug/L		99	80 - 120
trans-1,3-Dichloropropene	50.0	49.2		ug/L		98	80 - 120
Trichloroethene	50.0	47.2		ug/L		94	80 - 120
CFC-11	50.0	51.8		ug/L		104	72 - 132
Vinyl chloride	50.0	50.0		ug/L		100	68 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 160-133478/4-A
Matrix: Water
Analysis Batch: 133478

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Xylenes, Total	100	105		ug/L		105	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*75 - 123*
1,2-Dichloroethane-d4 (Surr)	*92*		*78 - 127*

Lab Sample ID: LCSD 160-133478/5-A
Matrix: Water
Analysis Batch: 133478

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	48.5		ug/L		97	75 - 127	2	20
1,1,2,2-Tetrachloroethane	50.0	44.8		ug/L		90	80 - 120	4	20
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	80 - 120	2	20
1,1-Dichloroethane	50.0	47.9		ug/L		96	80 - 120	2	20
1,1-Dichloroethene	50.0	49.9		ug/L		100	77 - 121	1	20
1,2,4-Trichlorobenzene	50.0	52.8		ug/L		106	82 - 124	2	20
1,2-Dibromo-3-Chloropropane	50.0	40.8		ug/L		82	69 - 135	5	20
1,2-Dichlorobenzene	50.0	48.5		ug/L		97	76 - 122	3	20
1,2-Dichloroethane	50.0	44.7		ug/L		89	80 - 120	4	20
1,2-Dichloropropane	50.0	48.3		ug/L		97	80 - 120	1	20
1,3-Dichlorobenzene	50.0	50.3		ug/L		101	77 - 122	1	20
1,4-Dichlorobenzene	50.0	49.5		ug/L		99	80 - 120	1	20
2-Butanone (MEK)	50.0	40.5		ug/L		81	68 - 128	7	20
2-Hexanone	50.0	45.4		ug/L		91	64 - 136	13	20
4-Methyl-2-pentanone (MIBK)	50.0	47.0		ug/L		94	74 - 129	7	20
Acetone	50.0	41.9		ug/L		84	72 - 139	4	20
Benzene	50.0	48.0		ug/L		96	80 - 120	0	20
Bromoform	50.0	43.5		ug/L		87	80 - 120	3	20
Bromomethane	50.0	51.5		ug/L		103	48 - 140	2	20
Carbon disulfide	50.0	50.8		ug/L		102	79 - 120	3	20
Carbon tetrachloride	50.0	51.7		ug/L		103	74 - 128	1	20
Chlorobenzene	50.0	50.5		ug/L		101	80 - 120	1	20
Dibromochloromethane	50.0	50.5		ug/L		101	80 - 120	3	20
Chloroethane	50.0	48.8		ug/L		98	55 - 140	2	20
Chloroform	50.0	46.8		ug/L		94	80 - 120	3	20
Chloromethane	50.0	49.8		ug/L		100	72 - 123	3	20
cis-1,2-Dichloroethene	50.0	46.6		ug/L		93	80 - 120	4	20
cis-1,3-Dichloropropene	50.0	48.7		ug/L		97	80 - 120	3	20
Cyclohexane	50.0	49.2		ug/L		98	77 - 127	0	20
Bromodichloromethane	50.0	48.3		ug/L		97	80 - 120	3	20
CFC-12	50.0	46.4		ug/L		93	49 - 140	2	20
Ethylbenzene	50.0	48.5		ug/L		97	80 - 120	0	20
1,2-Dibromoethane (EDB)	50.0	45.8		ug/L		92	80 - 120	5	20
Isopropylbenzene	50.0	53.7		ug/L		107	80 - 127	1	20
Methyl acetate	250	226		ug/L		90	66 - 132	6	20

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 160-133478/5-A
Matrix: Water
Analysis Batch: 133478

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether			50.0	45.0		ug/L		90	77 - 124	3	20
Methylcyclohexane			50.0	51.2		ug/L		102	75 - 131	1	20
Methylene Chloride			50.0	46.6		ug/L		93	79 - 115	3	20
m-Xylene & p-Xylene			50.0	51.5		ug/L		103	80 - 120	2	20
o-Xylene			50.0	51.7		ug/L		103	79 - 126	2	20
Styrene			50.0	51.2		ug/L		102	80 - 120	3	20
Tetrachloroethene			50.0	51.0		ug/L		102	80 - 120	2	20
Toluene			50.0	50.6		ug/L		101	80 - 120	1	20
trans-1,2-Dichloroethene			50.0	48.5		ug/L		97	80 - 120	2	20
trans-1,3-Dichloropropene			50.0	47.6		ug/L		95	80 - 120	3	20
Trichloroethene			50.0	46.9		ug/L		94	80 - 120	1	20
CFC-11			50.0	51.7		ug/L		103	72 - 132	0	20
Vinyl chloride			50.0	49.2		ug/L		98	68 - 120	2	20
Xylenes, Total			100	103		ug/L		103	80 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*75 - 123*
1,2-Dichloroethane-d4 (Surr)	*90*		*78 - 127*

QC Association Summary

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

GC/MS VOA

Analysis Batch: 133340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7570-1 - DL	OBG-16S	Total/NA	Water	8260C	
160-7570-2	MW-06	Total/NA	Water	8260C	
160-7570-3 - DL	OBG-7S	Total/NA	Water	8260C	
160-7570-4	MW-6 FIELD BLANK	Total/NA	Water	8260C	
160-7570-5 - DL	OBG-01D	Total/NA	Water	8260C	
160-7570-6 - DL	MW-24D	Total/NA	Water	8260C	
160-7570-7 - DL	OBG-1DD	Total/NA	Water	8260C	
160-7570-8	TRIP BLANK	Total/NA	Water	8260C	
160-7570-11 - DL	OBG-2S	Total/NA	Water	8260C	
LCS 160-133340/4-A	Lab Control Sample	Total/NA	Water	8260C	
MB 160-133340/3-A	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 133478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7570-9 - DL	OBG-055	Total/NA	Water	8260C	
160-7570-10 - DL	OBG-055 DUP	Total/NA	Water	8260C	
LCS 160-133478/4-A	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-133478/5-A	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-133478/3-A	Method Blank	Total/NA	Water	8260C	

Surrogate Summary

Client: RTI International
Project/Site: Oak Grove EPA CSIA Study

TestAmerica Job ID: 160-7570-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TOL	DBFM	BFB	12DCE
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(75-123)	(78-127)
160-7570-1 - DL	OBG-16S	100	93	99	92
160-7570-2	MW-06	99	95	95	93
160-7570-3 - DL	OBG-7S	100	94	97	90
160-7570-4	MW-6 FIELD BLANK	100	92	97	88
160-7570-5 - DL	OBG-01D	99	94	98	91
160-7570-6 - DL	MW-24D	101	94	100	92
160-7570-7 - DL	OBG-1DD	99	91	98	89
160-7570-8	TRIP BLANK	98	93	96	90
160-7570-9 - DL	OBG-055	102	93	99	91
160-7570-10 - DL	OBG-055 DUP	99	94	96	93
160-7570-11 - DL	OBG-2S	105	94	96	93
LCS 160-133340/4-A	Lab Control Sample	103	97	96	92
LCS 160-133478/4-A	Lab Control Sample	101	95	95	92
LCSD 160-133478/5-A	Lab Control Sample Dup	102	93	96	90
MB 160-133340/3-A	Method Blank	101	93	94	90
MB 160-133478/3-A	Method Blank	99	93	99	92

Surrogate Legend

TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)

Client	RTI International
Project name	EPA Project in Missouri
OU Project Ref. #	849
Number/Type of Samples	22
Analysis Required	TCE, C+Cl+H CSIA
Date Received	July 15, 2014, July 23, 2014 and August 7, 2014

Date Analysis Peformed

Carbon CSIA, standard P&T extraction method: July 27, 2014 – August 8, 2014
Chlorine CSIA, standard P&T extraction method: July 30, 2014 – September 9, 2014
Hydrogen CSIA, standard P&T extraction method: August 20, 2014 – August 29, 2014
Hydrogen CSIA, custom closed-loop P&T extraction method: November 5, 2014 – November 21, 2014

Contents:

1. Cover page/notes
2. Sortable list of all results: C, Cl and H data obtained after standard P&T extraction
3. Sortable list of all results: C, Cl and H data obtained after custom closed-loop P&T extraction
4. QAQC Summary: Analytical precision determined by lab control samples

NOTES:

Spreadsheet Column Codes

Run #	the numbers/identifiers of raw data acquisition files, multiple run # for the same sample represent lab duplicates
Client Sample ID	for field samples, identical to the sample labels shown in the CoC; suffixes indicate QAQC samples
LAB DUP	laboratory duplicate
FIELD DUP	field duplicate
UNP	unpreserved vial (only refrigeration, not acidified)
laboratory control sample_PT	TCE standard spiked into 25 ML of VOC-free dilution water; TCE extracted by P&T into the GC
laboratory control sample_TD	TCE standard spiked into a thermal desorption tube; the TD tube thermally desorbed into the GC
Vial #	identifies the replicate container(s) collected for each sample (typically, several VOAs are collected for each sample)
Dilution x	dilution factor shown vs. the default sample volume of the instrument
	(25 ML for standard purge and trap; 850 ML for the custom closed loop purge and trap)
Analyte	the target analyte
Unit	identifies the isotope ratio analyzed. Standard delta (δ) notation is used
δ13C, ‰, VPDB	C isotope ratio, calibrated to the VPDB scale
δ37Cl, ‰, SMOC	Cl isotope ratio, calibrated to the SMOC scale
δ2H, ‰, VSMOW	H isotope ratio, calibrated to the VSMOW scale
Corrected Result	the result of the analysis; the isotope ratios are reported after bias correction
Remarks	additional information pertaining to data quality

Run #	Client Sample ID	Vial #	Dilution x	Analyte	Unit	Corrected Result	Remarks
1160	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.5	
1161	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.6	
1162	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.5	
1171	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.3	
1172	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-31.0	
1178	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.2	
1179	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.9	
1186	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.8	
1187	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.8	
1195	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-31.7	
1196	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.7	
1197	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.6	
1235	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.9	
1238	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.9	
1245	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-30.7	
1247	laboratory control sample_PT			trichloroethene	δ13C, ‰, VPDB	-31.1	
1181	COS02 (1115)	1	5	trichloroethene	δ13C, ‰, VPDB	-25.1	
1182	COS02 (1116) FIELD DUP	1	5	trichloroethene	δ13C, ‰, VPDB	-25.1	
1176	MW-6	1	5	trichloroethene	δ13C, ‰, VPDB	-24.0	
1166	OBG-01D	1	200	trichloroethene	δ13C, ‰, VPDB	-24.6	
1185	OBG-01D LAB DUP	1	500	trichloroethene	δ13C, ‰, VPDB	-24.3	
1169	OBG-01DD	1	31	trichloroethene	δ13C, ‰, VPDB	-24.5	
1180	OBG-01S	1	3	trichloroethene	δ13C, ‰, VPDB	-26.0	
1164	OBG-02S	1	1667	trichloroethene	δ13C, ‰, VPDB	-26.3	
1188	OBG-02S LAB DUP	1	3571	trichloroethene	δ13C, ‰, VPDB	-27.0	
1165	OBG-03S	1	227	trichloroethene	δ13C, ‰, VPDB	-24.8	
1168	OBG-05S (1040)	1	143	trichloroethene	δ13C, ‰, VPDB	-25.3	
1173	OBG-05S (1041) FIELD DUP	1	143	trichloroethene	δ13C, ‰, VPDB	-25.3	
1184	OBG-05S (1041) FIELD DUP, LAB DUP	1	417	trichloroethene	δ13C, ‰, VPDB	-25.3	
1174	OBG-07S	1	25	trichloroethene	δ13C, ‰, VPDB	-25.8	
1189	OBG-07S LAB DUP	1	57	trichloroethene	δ13C, ‰, VPDB	-25.9	
1163	OBG-09S	1	250	trichloroethene	δ13C, ‰, VPDB	-25.6	
1192	OBG-11D	1	1	trichloroethene	δ13C, ‰, VPDB	-24.9	
1199	OBG-15S	3	3	trichloroethene	δ13C, ‰, VPDB	-20.1	
1167	OBG-16S	1	143	trichloroethene	δ13C, ‰, VPDB	-24.3	
1191	OBG-18D	1	1	trichloroethene	δ13C, ‰, VPDB	-22.8	
1198	OBG-18D LAB DUP	3	2	trichloroethene	δ13C, ‰, VPDB	-22.5	
1193	OBG-21D	1	4	trichloroethene	δ13C, ‰, VPDB	-26.2	
1175	OBG-21S	1	17	trichloroethene	δ13C, ‰, VPDB	-26.9	
1170	OBG-24D	1	200	trichloroethene	δ13C, ‰, VPDB	-24.1	
1183	PH-016	1	1	trichloroethene	δ13C, ‰, VPDB	-26.0	
1177	PH-019B	1	4	trichloroethene	δ13C, ‰, VPDB	-24.7	
1190	PH-019B LAB DUP	1	10	trichloroethene	δ13C, ‰, VPDB	-24.5	
1246	PH-078	1	1	trichloroethene	δ13C, ‰, VPDB	-24.5	
5348	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.22	

Run #	Client Sample ID	Vial #	Dilution x	Analyte	Unit	Corrected Result	Remarks
5349	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	2.69	
5350	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	2.90	
5351	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.35	
5355	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.28	
5358	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	2.98	
5360	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	2.80	
5365	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.00	
5368	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.38	
5372	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.20	
5376	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.50	
5378	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.27	
5379	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.73	
5383	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.55	
5386	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.39	
5388	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.55	
5392	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.55	
5396	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.76	
5397	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.51	
5402	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.38	
5467	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.40	
5468	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.09	
5469	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.82	
5470	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.07	
5473	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.29	
5476	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.13	
5477	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.70	
5480	laboratory control sample_PT			trichloroethene	δ37Cl, ‰, SMOC	3.55	
5353	COS02 (1116) FIELD DUP	1	12	trichloroethene	δ37Cl, ‰, SMOC	0.74	
5352	COS02 (1115)	1	19	trichloroethene	δ37Cl, ‰, SMOC	0.50	
5382	COS02 (1115) LAB DUP	1	10	trichloroethene	δ37Cl, ‰, SMOC	0.84	
5356	MW-6	1	18	trichloroethene	δ37Cl, ‰, SMOC	0.04	
5357	OBG-01D	1	1250	trichloroethene	δ37Cl, ‰, SMOC	0.41	
5359	OBG-01DD	1	125	trichloroethene	δ37Cl, ‰, SMOC	-0.13	
5385	OBG-01DD LAB DUP	1	125	trichloroethene	δ37Cl, ‰, SMOC	0.34	
5472	OBG-01DD LAB DUP, UNP	1-unp	125	trichloroethene	δ37Cl, ‰, SMOC	-0.21	Unpreserved
5471	OBG-01S	5	13	trichloroethene	δ37Cl, ‰, SMOC	-0.30	
5478	OBG-01S LAB DUP	6	12	trichloroethene	δ37Cl, ‰, SMOC	-0.12	
5361	OBG-02S	1	8333	trichloroethene	δ37Cl, ‰, SMOC	0.86	
5362	OBG-03S	1	833	trichloroethene	δ37Cl, ‰, SMOC	1.37	
5363	OBG-05S (1040)	1	833	trichloroethene	δ37Cl, ‰, SMOC	0.13	
5395	OBG-05S (1040) LAB DUP	1	1000	trichloroethene	δ37Cl, ‰, SMOC	0.38	
5366	OBG-05S (1041) FIELD DUP	1	1000	trichloroethene	δ37Cl, ‰, SMOC	-0.08	
5389	OBG-05S (1041) FIELD DUP, LAB DUP	1	833	trichloroethene	δ37Cl, ‰, SMOC	1.19	
5394	OBG-05S (1041) FIELD DUP, LAB DUP	1	1000	trichloroethene	δ37Cl, ‰, SMOC	0.64	
5367	OBG-07S	1	132	trichloroethene	δ37Cl, ‰, SMOC	0.12	
5369	OBG-09S	1	833	trichloroethene	δ37Cl, ‰, SMOC	0.94	

Run #	Client Sample ID	Vial #	Dilution x	Analyte	Unit	Corrected Result	Remarks
5370	OBG-11D	1	5	trichloroethene	δ37Cl, ‰, SMOC	2.02	
5390	OBG-11D LAB DUP	1	4	trichloroethene	δ37Cl, ‰, SMOC	2.20	
5371	OBG-15S	3	5	trichloroethene	δ37Cl, ‰, SMOC	2.10	
5384	OBG-15S LAB DUP	3	7	trichloroethene	δ37Cl, ‰, SMOC	2.15	
5475	OBG-15S LAB DUP, UNP	1-unp	7	trichloroethene	δ37Cl, ‰, SMOC	2.10	Unpreserved
5479	OBG-15S LAB DUP, UNP	3-unp	7	trichloroethene	δ37Cl, ‰, SMOC	2.73	Unpreserved
5373	OBG-16S	1	500	trichloroethene	δ37Cl, ‰, SMOC	0.40	
5374	OBG-18D	4	1	trichloroethene	δ37Cl, ‰, SMOC	2.65	
5391	OBG-18D LAB DUP	5	1	trichloroethene	δ37Cl, ‰, SMOC	3.05	
5474	OBG-18D LAB DUP, UNP	1-unp	1	trichloroethene	δ37Cl, ‰, SMOC	2.57	Unpreserved
5375	OBG-21D	1	10	trichloroethene	δ37Cl, ‰, SMOC	1.60	
5377	OBG-21S	1	69	trichloroethene	δ37Cl, ‰, SMOC	1.35	
5393	OBG-21S LAB DUP	1	63	trichloroethene	δ37Cl, ‰, SMOC	1.43	
5354	OBG-24D	1	714	trichloroethene	δ37Cl, ‰, SMOC	0.58	
5380	PH016	2	3	trichloroethene	δ37Cl, ‰, SMOC	1.56	
5381	PH-019B	1	23	trichloroethene	δ37Cl, ‰, SMOC	0.38	
5400	PH-078	1	2	trichloroethene	δ37Cl, ‰, SMOC	0.52	
5401	PH-078 LAB DUP	1	1	trichloroethene	δ37Cl, ‰, SMOC	0.82	
8857	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	510	
8858	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	517	
8859	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	513	
8862	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	496	
8866	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	503	
8869	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	509	
8871	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	498	
8875	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	509	
8878	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	517	
8880	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	504	
8884	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	506	
8889	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	490	
8890	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	506	low peak amplitude,‰, increased uncertainty 11.655
8891	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	508	low peak amplitude,‰, increased uncertainty 2
8892	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	518	low peak amplitude,‰, increased uncertainty 3
8895	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	492	low peak amplitude,‰, increased uncertainty 4
8897	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	505	low peak amplitude,‰, increased uncertainty 5
8901	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	506	low peak amplitude,‰, increased uncertainty 6
8903	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	517	low peak amplitude,‰, increased uncertainty 7
8905	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	500	low peak amplitude,‰, increased uncertainty 8
8906	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	487	low peak amplitude,‰, increased uncertainty 9
8908	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	514	low peak amplitude,‰, increased uncertainty 10
8910	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	495	low peak amplitude,‰, increased uncertainty 11
8911	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	504	low peak amplitude,‰, increased uncertainty 12
8913	laboratory control sample_PT			trichloroethene	δ2H, ‰, VSMOW	529	low peak amplitude,‰, increased uncertainty 13
8894	COS-02 (1115)	3	1	trichloroethene	δ2H, ‰, VSMOW	-29	low peak amplitude,‰, increased uncertainty (see LCS_PT runs 8890-8913)
8898	COS-02D (1116) FIELD DUP	2	1	trichloroethene	δ2H, ‰, VSMOW	-22	low peak amplitude,‰, increased uncertainty (see LCS_PT runs 8890-8913)

Run #	Client Sample ID	Vial #	Dilution x	Analyte	Unit	Corrected Result	Remarks
8886	MW-6	2	1	trichloroethene	δ2H, ‰, VSMOW	-22	low peak amplitude,‰, increased uncertainty (see LCS_PT runs 8890-8913)
8863	OBG-01D	3	26	trichloroethene	δ2H, ‰, VSMOW	-51	
8874	OBG-01DD	3	3	trichloroethene	δ2H, ‰, VSMOW	140	
8900	OBG-01S	3	1	trichloroethene	δ2H, ‰, VSMOW	231	low peak amplitude,‰, increased uncertainty (see LCS_PT runs 8890-8913)
8902	OBG-01S, LAB DUP	4	1	trichloroethene	δ2H, ‰, VSMOW	228	low peak amplitude,‰, increased uncertainty (see LCS_PT runs 8890-8913)
8860	OBG-02S	2	147	trichloroethene	δ2H, ‰, VSMOW	-6	
8872	OBG-03S	3	16	trichloroethene	δ2H, ‰, VSMOW	58	
8864	OBG-05S (1040)	2	18	trichloroethene	δ2H, ‰, VSMOW	230	
8868	OBG-05S (1041) FIELD DUP	2	20	trichloroethene	δ2H, ‰, VSMOW	234	
8882	OBG-05S (1041) FIELD DUP, LAB DUP	2	19	trichloroethene	δ2H, ‰, VSMOW	239	
8876	OBG-07S	5	3	trichloroethene	δ2H, ‰, VSMOW	190	
8867	OBG-09S	2	15	trichloroethene	δ2H, ‰, VSMOW	98	
8907	OBG-15S	4+5	1	trichloroethene	δ2H, ‰, VSMOW	-156	low peak amplitude,‰, increased uncertainty (see LCS_PT runs 8890-8913)
8912	OBG-15S LAB DUP, UNP	6+1-unp	1	trichloroethene	δ2H, ‰, VSMOW	-142	low peak amplitude,‰, increased uncertainty (see LCS_PT runs 8890-8913)
8873	OBG-16S	2	9	trichloroethene	δ2H, ‰, VSMOW	266	
8881	OBG-16S LAB DUP	2	9	trichloroethene	δ2H, ‰, VSMOW	276	
8885	OBG-19B	4	1	trichloroethene	δ2H, ‰, VSMOW	159	low peak amplitude,‰, increased uncertainty (see LCS_PT runs 8890-8913)
8899	OBG-21D	3	1	trichloroethene	δ2H, ‰, VSMOW	-56	low peak amplitude,‰, increased uncertainty (see LCS_PT runs 8890-8913)
8877	OBG-21S	2	1	trichloroethene	δ2H, ‰, VSMOW	-74	
8865	OBG-24D	2	15	trichloroethene	δ2H, ‰, VSMOW	-66	
8883	OBG-24D LAB DUP	2	14	trichloroethene	δ2H, ‰, VSMOW	-73	

Run #	Client Sample ID	Vial #	Dilution x	Analyte	Unit	Corrected Result	Remarks
9126	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	506	
9128	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	514	
9129	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	512	
9130	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	504	
9131	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	515	
9132	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	510	
9133	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	512	
9134	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	507	
9135	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	500	
9136	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	499	
9137	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	496	
9141	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	499	
9147	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	504	
9149	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	492	
9154	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	512	
9155	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	501	
9161	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	517	
9171	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	504	
9172	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	509	
9174	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	518	low peak amplitude, increased uncertainty
9176	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	520	low peak amplitude, increased uncertainty
9185	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	500	
9187	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	508	
9189	laboratory control sample_TD			trichloroethene	δ2H, ‰, VSMOW	510	
9153	PH-016	500ML x 1	1.7	trichloroethene	δ2H, ‰, VSMOW	223	low peak amplitude,‰, increased uncertainty (see LCS_TD runs 9174-9176)
9156	PH-016 LAB DUP	500ML x 2	1	trichloroethene	δ2H, ‰, VSMOW	219	
9158	OBG-11D	500ML x 1	1.7	trichloroethene	δ2H, ‰, VSMOW	-21	
9186	OBG-11D	500ML x 1	1.7	trichloroethene	δ2H, ‰, VSMOW	-39	
9159	OBG-07S LAB DUP	2	30	trichloroethene	δ2H, ‰, VSMOW	186	lab duplicate, previously run by standard P&T
9160	OBG-21S LAB DUP	3	20	trichloroethene	δ2H, ‰, VSMOW	-76	lab duplicate, previously run by standard P&T
9162	OBG-18D	500ML x 2	1	trichloroethene	δ2H, ‰, VSMOW	-101	low peak amplitude,‰, increased uncertainty (see LCS_TD runs 9174-9176)
9188	PH-078 (FULL VOL)	500ML x 2	1	trichloroethene	δ2H, ‰, VSMOW	163	

Data set	Analyte	Parameter	Value	Remarks
Carbon CSIA	trichloroethene	n=	16	
standard P&T extraction		average=	-30.8	
		stdev=	0.4	stdev affected by a single outlier (#1195); stdev = 0.25 with the outlier removed
		off-line value of d13C=	-30.8	
Chlorine CSIA	trichloroethene	n=	28	
standard P&T extraction		average=	3.3	
		stdev=	0.3	
		off-line value of d37Cl=	3.3	
Hydrogen CSIA	trichloroethene	n=	12	
standard P&T extraction		average=	506	
		stdev=	8	stdev = 12 in the low amplitude LCS_PT runs (8890-8913), at n=13
		off-line value of d2H=	506	
Hydrogen CSIA	trichloroethene	n=	22	
custom closed-loop P&T extraction		average=	506	low amplitude runs 9174, 9176 not included; the low amp.average = 519
		stdev=	7	low amplitude runs 9174, 9176 not included; at n=2, stdev of the low amplitude peaks = 1.4
		off-line value of d2H=	506	

Client	RTI International
Project name	Validation of the custom closed-loop P&T extraction method
OU Project Ref. #	849
Number/Type of Samples	n/a
Analysis Required	TCE, H CSIA
Date Received	n/a
Date Analysis Peformed	November 5, 2014 – November 21, 2014

Contents:

1. Cover page/notes
2. Sortable list of all results
3. Results Summary

NOTES:

Spreadsheet Column Codes	
Run #	the numbers/identifiers of raw data acquisition files, multiple run # for the same sample represent lab duplicates
Sample ID	laboratory control samples
laboratory control sample_TD	TCE standard spiked into a thermal desorption tube; the TD tube thermally desorbed into the GC
laboratory control sample_extraction&TD	TCE standard spiked into ~850 ML of VOC-free water; TCE extracted into a TD tube; the tube thermally desorbed into the GC
Analyte	the target analyte
Unit	identifies the isotope ratio analyzed. Standard delta (δ) notation is used
δ2H, ‰, VSMOW	H isotope ratio, calibrated to the VSMOW scale
Corrected Result	the result of the analysis; the isotope ratios are reported after bias correction

Run #	Sample ID	Analyte	Unit	Corrected result
9126	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	506
9128	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	514
9129	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	512
9130	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	504
9131	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	515
9132	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	510
9133	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	512
9134	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	507
9135	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	500
9136	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	499
9137	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	496
9141	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	499
9147	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	504
9149	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	492
9154	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	512
9155	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	501
9161	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	517
9177	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	500
9178	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	501
9179	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	506
9180	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	510
9184	laboratory control sample_TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	511
9138	laboratory control sample_extraction&TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	503
9139	laboratory control sample_extraction&TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	498
9142	laboratory control sample_extraction&TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	507
9143	laboratory control sample_extraction&TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	504
9144	laboratory control sample_extraction&TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	509
9145	laboratory control sample_extraction&TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	502
9146	laboratory control sample_extraction&TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	513
9181	laboratory control sample_extraction&TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	504
9182	laboratory control sample_extraction&TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	491
9183	laboratory control sample_extraction&TD	Univ. Indiana TCE (δ2H = +506)	δ2H, ‰, VSMOW	504
9186	OBG-11D (500mL)			-36
9188	PH-078 (FULL VOL)			166

Sample ID	Analyte	Parameter	Value
laboratory control sample_TD	Univ. Indiana TCE (d2H = +506)	n=	22
		average=	506
		stdev=	7
laboratory control sample_extraction&TD	Univ. Indiana TCE (d2H = +506)	n=	10
		average=	504
		stdev=	6

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1 of 2

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

Client Information	Sampler: P. Brenden USGS	Lab PM: Gish, Erika K	Carrier Tracking No(s):
Client Contact: Coleen Northeim	Phone: 573-308-3673	E-Mail: erika.gish@testamericainc.com	COC No: 160-1605-774.29
			Page: Page 29 of 29
Company: RTI International			Job #:
Address: PO BOX 12106	Due Date Requested:		
City: Research Triangle Park	TAT Requested (days):		
State, Zip: NC, 27709			
Phone: 919-541-5816(Tel)	PO #: Purchase Order Requested		
Email: cmn@rti.org	WO #:		
Project Name: EPA Project in Missouri	Project #: 16003358		
Site: OAK Grove CSIA study	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

cool

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TCE Isotope 40 mL	TCE Isotope 40 mL	TCE Isotope 500 mL	Total Number of containers	Special Instructions/Note:
				Preservation Code:					A	A		
1	OBG-18D	7/8/14	1055	G	W	N		3	5	3	11	TCE Probably ~5ppb
1	OBG-11D	7/8/14	1305	G	W	N		3	5	3	11	TCE Probably ~15ppb
1	PH019B	7/9/14	0930	G	W	N		3	5	3	11	Field GC: 49ppb TCE
1	COS02	7/9/14	1115	G	W	N		3	5	3	11	Field GC: 32ppb TCE
2	OBG-21D	7/9/14	1135	G	W	N		3	5	3	11	TCE Probably ~25ppb
3	PH016	7/9/14	1415	G	W	N		3	5	3	11	Field GC: 6ppb TCE
2	OBG-1S	7/9/14	1440	G	W	N		3	5	3	11	Field GC: 37ppb TCE
3	OBG-15S	7/10/14	1130	G	W	N		3	5	3	11	Probable high vinyl chloride Field GC: 17ppb TCE
2	OBG-21S	7/10/14	1430	G	W	N		3	5	2	10	Field GC: 205ppb TCE
2	OBG-3S	7/11/14	1240	G	W	N		3	5	2	10	Field GC: 2,700ppb TCE
2	OBG-9S	7/11/14	1415	G	W	N		3	5	2	10	Field GC: 3,100ppb TCE

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Paul Brenden	Date/Time: 7/14/14 1600	Company USGS	Received by: Rolla FedEx	Date/Time: 7/14/14 1600	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 7-15-14 1000	Company OU
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: 115909
Cooler Temperature(s) °C and Other Remarks:

OKLAHOMA University

2 of 2

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TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Paul Brenden USGS MOWSC	Lab PM: Gish, Erika K	Carrier Tracking No(s):	COC No: 160-1605-774.3
Client Contact: Coleen Northeim	Phone: 573-308-3673	E-Mail: erika.gish@testamericainc.com		Page: Page 3 of 29
Company: RTI International				Job #:
Address: PO BOX 12106	Due Date Requested:			
City: Research Triangle Park	TAT Requested (days):			
State, Zip: NC, 27709				
Phone: 919-541-5816(Tel)	PO #: Purchase Order Requested			
Email: cmn@rti.org	WO #:			
Project Name: EPA Project in Missouri	Project #: 16003358			
Site: OAK Grove CSIA study	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

cooler

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	500mL TCE Isotope	40 mL TCE Isotope	40 mL TCE Isotope	Total Number of containers	Special Instructions/Note:
				Preservation Code:				A	A			
1	COS02	7/9/14	1116	G	W	N		3	5	3	11	Field GC = 32ppd TCE

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Paul Brenden	7/14/14 1600	USGS	Rolla Fedex	7/14/14 1600	

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: 115909
Cooler Temperature(s) °C and Other Remarks:

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

OU samples

1 of 2

8496

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Paul Brenden	Lab PM: Gish, Erika K	Carrier Tracking No(s): 77066056 5362	COC No: 160-1605-774.6
Client Contact: Coleen Northeim	Phone: 573-308-3673	E-Mail: erika.gish@testamericainc.com		Page: Page 6 of 29
Company: RTI International				Job #:
Address: PO BOX 12106	Due Date Requested:			
City: Research Triangle Park	TAT Requested (days):			
State, Zip: NC, 27709				
Phone: 919-541-5816(Tel)	PO #: Purchase Order Requested			
Email: cmn@rti.org	WO #:			
Project Name: EPA Project in Missouri	Project #: 16003358			
Site: OAK Grove EPA CSIA study	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	500mL TCE Isotope	40mL TCE Isotope	40mL TCE Isotope	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N		
OBG-16S	7-15-14	1335	G	W	N		2	5	3	10	Field GC: 1840 ppb TCE
MW-06	7-16-14	1245	G	W	N		3	5	3	11	Field GC: 56 ppb TCE
MW-06 Field Blank	7-16-14	1200	G	W	N		3	5	3	11	
OBG-07S	7-16-14	1445	G	W	N		2	5	3	10	Field GC: 302 ppb TCE
OBG-01D	7-17-14	1035	G	W	N		2	5	3	10	No Field GC: Expect 1000-5000 ppb TCE
OBG-24D	7-17-14	1400	G	W	N		2	5	3	10	Field GC: 2250 ppb TCE
OBG-01DD	7-17-14	1350	G	W	N		2	5	3	10	Field GC: 389 ppb TCE
~~Trip Blank~~ PDB	~~7-18-14~~ PDB	~~1505~~ PDB	~~G~~ PDB	~~W~~ PDB	~~N~~						

1 broken Ins. req

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Paul Brenden	7/22/14 1500	USGS	Rolla - FedEx	7/22/14 1500	
			[signature]	7-23-14 1000	GA

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.: 115901

Cooler Temperature(s) °C and Other Remarks:

OU samples

2 of 2

8496

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Paul Brenden	Lab PM: Gish, Erika K	Carrier Tracking No(s): 7706 6056 5730	COC No: 160-1605-774.8
Client Contact: Coleen Northeim	Phone: 573-308-3673	E-Mail: erika.gish@testamericainc.com		Page: Page 8 of 29
Company: RTI International				Job #:
Address: PO BOX 12106	Due Date Requested:			
City: Research Triangle Park	TAT Requested (days):			
State, Zip: NC, 27709				
Phone: 919-541-5816(Tel)	PO #: Purchase Order Requested			
Email: cmn@rti.org	WO #:			
Project Name: EPA Project in Missouri	Project #: 16003358			
Site: OAK Grove EPA CSIA study	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	500 mL TCE Isotope	40 mL TCE Isotope	40 mL TCE Isotope	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N		
OBG-5S	7-18-14	1040	G	W	N		2	5	3	10	No Field GC: Expect 10,000-30,000 ppb TCE
OBG-5S	7-18-14	1041	G	W	N		2	5	3	10	No Field GC: Expect 10,000-30,000 ppb TCE
OBG-2S	7-18-14	1335	G	W	N		2	5	3	10	No Field GC: Expect 10,000-50,000 ppb TCE

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Paul Brenden	7/22/2014 1500	USGS	Rolla - FeDex	7-22-2014 1500	
				7-23-14 1000	OU

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: 115903
Cooler Temperature(s) °C and Other Remarks:

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

OU

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8496

Client Information	Sampler: P. Brenden	Lab PM: Gish, Erika K	Carrier Tracking No(s): 7707 7535 5111	COC No: 160-1605-774.10
Client Contact: Coleen Northeim	Phone:	E-Mail: erika.gish@testamericainc.com		Page: Page 10 of 29
Company: RTI International				Job #:
Address: PO BOX 12106	Due Date Requested:			
City: Research Triangle Park	TAT Requested (days):			
State, Zip: NC, 27709				
Phone: 919-541-5816(Tel)	PO #: Purchase Order Requested			
Email: cmn@rti.org	WO #:			
Project Name: EPA Project in Missouri	Project #: 16003358			
Site: OAK Grove CSIA study	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TCE Isotope 500 mL	TCE Isotope 40 mL	TCE Isotope 40 mL	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A			
PH-078 (LAjolla spr.)	8-4-14	1230	G	W			4	5	3	12	Sent 1 extra 500ml

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Paul Brenden	8-6-14 / 1545		Rolla - FedEx	8-6-14 / 1545	
				8-7-14 / 1025	OU

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: 115905
Cooler Temperature(s) °C and Other Remarks:

Validation of closed-loop purge and trap extraction of dilute TCE samples

In the QAPP document, we proposed that H-CSIA of low concentration TCE samples (those below the detection limit of the conventional method utilizing purge and trap extraction, cf. Kuder and Philp, 2013) will be performed using "a separate sparging device to extract VOCs from a water sample of 500 or 750 ml into a liquid nitrogen-cooled trap to produce a small volume of condensate (water condensed from wet purge gas with TCE). The condensate will be transferred into a conventional purge and trap for final analysis." (cited after QAPP, Attachment 2). Since preparation of the original QAPP, a novel VOCs extraction method was developed at the University of Oklahoma. Instead of a standard purge and trap process, where the purge gas stream carries the volatiles into the trap and then is vented into the ambient air, the novel method uses a closed-loop configuration with a metal bellows pump to cycle a volume of air (acting as sparge gas) through a sparging vessel and an adsorbent trap. We refer to this method as "closed-loop purge and trap". In comparison with a standard P&T, the closed-loop method has several advantages: 1) it allows much higher flow rates of the sparge gas, of several L/min as compared to the typical 40 ML/min (i.e., high volumetric ratio of gas to water can be maintained easily and the VOCs can be extracted faster than in the conventional method; this is very important in handling large volumes of water); 2) it bypasses the problem of analyte breaking through the trap at high flow rate of the sparge gas (in the closed-loop method, the analyte breaking through the trap is not lost but is recycled into the same trap); 3) given that analyte breakthrough is irrelevant in the closed-loop method, we can use adsorbent trapping rather than LN2 trapping, while maintaining a high flow of the sparge gas, so that a sample can be extracted off-line into a thermal desorption tube and held for CSIA without the need of handling the volatile condensate from a LN2 trap. Given the benefits of the closed-loop purge and trap method and promising preliminary data obtained in 2013 for carbon CSIA of TCE, the present project centered on validation of H-CSIA of the existing closed-loop method.

The method validation activities for the closed-loop method are identical as those proposed in the QAPP, except for the mode of the TCE condensate sample introduction into the GC (via thermal desorption of TD tubes, not via standard P&T). Following the QAPP, the three validation tasks and the results obtained are listed below.

1. Pre-concentration and CSIA of TCE solutions made at 5 µg/L with TCE of known δ^2H = +506 ‰. Analysis will be repeated 10 times to obtain good statistical significance of the analytical uncertainty.

<u>Results</u>: 10 analyses were performed with the closed-loop device extraction step (see the Excel sheet with the method validation data provided with this report)

2. Conventional purge and trap-CSIA of TCE solutions made at 100 µg/L with TCE standard of known δ^2H = +506 ‰. These analytical runs are used to assure that H CSIA performance (elements other than the pre-concentration) remains within specifications. These runs are performed daily at the beginning of the injection sequence and are repeated periodically during the sequence. At least 2 runs are included each testing day

Results: Instead of the conventional purge and trap, these benchmark analyses were performed using identical mass of TCE standard as in Item 1 spiked into thermal desorption tubes. A total of 22 TD standards were analyzed (see the Excel sheet with the method validation data provided with this report)

3. Interpretation. The results from the pre-concentration CSIA should be within the stated performance criteria of the lab. If lowered precision and/or excessive bias is observed in the pre-concentration CSIA, the results from the 5 µg/L TCE standard will be used to define the precision/accuracy effect of the pre-concentration step.

Results: The average δ^2H of TCE of 22 analyses of TCE standard spiked into TD tubes was +506 ‰, with a standard deviation of 7 ‰. This data set represents the baseline for interpretation of the data from the closed-loop extraction. The average δ^2H of TCE in the closed-loop extraction analyses was +504 ‰, with a standard deviation of 6 ‰. The difference between the two sets of data is negligible, confirming that the closed-loop extraction does not produce hydrogen isotope fractionation (no significant effect on precision and accuracy of the obtained isotope ratios). In addition, 12 control samples were analyzed by conventional purge and trap as part of the QAQC of the field sample set (see the Excel sheet with field sample data provided with this report). The standard deviation of the purge and trap data is 8 ‰, essentially, identical to that obtained for TCE control samples extracted by the closed-loop device. In conclusion, the closed-loop purge and trap method performs at least as well and the classical purge and trap in terms of avoiding unwanted isotope fractionation but offers greatly improved detection limits.

Validation of the Absence of Isotope Fractionation Due to Sample Storage Exceeding the 4 Week Limit Stated in the QAPP

Hydrogen isotope ratios of two samples were reanalyzed in November 14, 2014 (Run # 9159 and 9160 in the results spreadsheet), using the closed-loop extraction method. The same samples were analyzed previously, on August 22, 2014 (Run #8876 and 8877 in the results spreadsheet). The results obtained were identical within the analytical uncertainty of CSIA. For OBG-07S, the results obtained were +190 ‰ (8/2014) and +186 ‰ (11/2014). For OBG-21S the

results obtained were -74 ‰ (8/2014) and -76 ‰ (11/2014). Based on these results, extended holding time is not significant in H CSIA of TCE.

Kuder, T.; Philp, P., Demonstration of Compound-Specific Isotope Analysis of Hydrogen Isotope Ratios in Chlorinated Ethenes. *Environmental Science & Technology* **2013,** (47), 1461−1467.

VC METHOD

COL F = 1.5 ML
WAX F = 3.8 ML
GC

35°C 18 MIN / 15 / 10 MIN 110°C / 28 / 15 MIN 230°C

DESORB SIGNAL 9.5 MIN
VALVE ON 15.2 MIN
OFF 17.0 MIN

SET FOR Cl ETHENES
w/ MTBE COL.

WAX F = 8.5 MIN

7/25/14	Ar 477, recheck after bake = 349		O_2 1.2 V 44	H_2O 1.1 V
	1158	849	4 Comp Cl Ethe Std	5 µL
	tank checked; -150 in 8 minutes			
	1159	849	No Pk; Cry. Prob 4 Comp Cl Ethe Std	5 µL
	Changed tank →			
	1160	849	CL ETHE STD	5 ml
	1161	849	CL ETHE STD	5 ml
07/26/14	Ar. 453		O_2 750 mV 44	H_2O 1.16 V.
	1162	849	Cl Ethe STD	5 µL
	1163	849	OBG-09S	100 µL.
	1164	849	OBG-02S	15 µL.
	1165	849	OBG-03S	110 µL.
	1166	849	OBG-01D	125 µL.
	1167	849	OBG-16S	175 ml
	1168	849	OBG-05S (1040)	175 ml
	1169	849	OBG-01DD	800 ml
	1170	849	OBG ~~14W~~-24D	125 ml
	1171	849	CL STD ETHE	5 ml

07/27/14 AR 320 O2 78044 H2O 1.2V

1172	849	CL ETHENE STD		5ul
1173	849	OBG-05 ~~Dup~~ (1041)	V1	175ul
1174	849	OBG-07S	V1	1000µl.
1175	849	OBG-21S	V1	1500µl.
1176	849	MW-6	(V1)	5400µl.
1177	849	PH019B	V1	6100µl.
1178	849	CL ETHE STD		5ul

07/28/14 AR 410 O2 90044 H2O 1.1V

	1179	849	CLETHE STD		5ul
	1180	849	OBG-01S	V1	8100µl.
Flow 2.2	1181	849	COSO2 1115	V1.	4700µl.
2.2.	1182	849	COSO2 ~~Dup~~ 1116	V1	4700µl.
	1183	849	PH016	V1	23000 ~~25000~~ µl.
	1184	849	OBG-05S ~~Dup~~ (1041)	V1.	60µl.
	1185	849	OBG-01D	V1	50µl.
	1186	849	CL ETHE STD		5µL

7/29/14 Ar 254 O2 70044 H2O 1.1V

1187	849	CL ETHE STD	5µL
1188	849	OBG-02S (1)	7µL
1189	849	OBG-07S (1)	440µL
1190	849	PH-019B (1)	2400µL
1191	849	OBG-18D (1)	43000µL
1192	849	OBG-11D (1)	18000µL
1193	849	OBG-21D (1)	7000µL
1194	849	OBG-15S V1	8500µl.
1195	849	CL Ethene Std	5µL

07/30/14 AR 350 O2 low O2 80044 H2O 1.1V

	1196	849	CLETHENE STD	5ul
	1197	849	CLETHENE STD	5ul
	1198	849	OBG-18D V3	43000ul
O2 1V44	1199	849	OBG-15S V3	8500ul
	1200	849	TCE Std (-30.8, 5ppm)	30µL
	1201	848	BHM7 (1)	350µL
	1202	848	BHM6 (1)	125µL

7/31/14	Ar 267		O_2 1V 44		H_2 @ 1.1V
	1203	848	Cl Ethenes SH		5 µL
	1204	848	BHM1 (1)		5600 µL ~~125 µL~~
	1205	848	BHN8 (1)		110 µL
	1206	848	BHN7 (1)		100 µL
	1207	848	BHN4D (1)		350 µL
	1208	848	BHN4S (1)		325 µL
	1209	848	BHV1 (1)		150 µL
	1210	848	CL ETHENE STD		5 ul
8/1/14	Ar 270		O_2 850mV 44		H_2 @ 1.1V
	1211	848	Cl Ethenes SH		5 µL
	1212	848	BHN17 (1)		1900 µL
	1213	848	BHW3D (1)		100 µL
	1214	848	BHM7 (1)	BF c13	800 µL
	1215	848	Cl Ethe SH		5 µL
	1216	848	BHM6 (1)	BF c13	700 µL
	1217	848	BHN7 V1		400 ul
8/4/14	Ar 272		O_2 1V 44		H_2 @ 1.1V
	1218	848	Cl Ethenes SH		5 µL
	1219	848	BHN8 (1)	1,1 only	1200 µL
	1220	848	BHN4D (1)	BF c13	3750 µL
	1221	848	Cl Ethenes SH		5 µL
	1222	848	BHN4S (1)	BF c13	4000 µL
O_2 check 1.2V 44 ←	~~1223~~ 1th	~~848~~	~~BHV1 (1)~~	~~1,1 DCE only~~	~~6000 µL~~
	1223	848	BHM6 (1)		200 µL
	1224	848	BHN4D (1)	Cl Solvents 9-11-14	4000 µL
	1225	848	BHN4S (1)		4.4 mL
	1226	848	BHV1 (1)		150 ul
	1227	848	Cl Ethene Std (9/25/13)	30 ppbm	5 ul

8/5/14	Ar 277		O_2 900mV 44	H_2O 1.1V
	1228	848	Cl Ethane Std	5µL
	1229	848	BHW3D (1)	110µL
	1230	848	Cl Ethane Std	5µL
	1231	848	BHN1D (1) BF 12DCA	95µL
	1232	848	BHN1S (1) "	160µL
	1233	848	SWN3 (1) "	750µL
	1234	848	Cl Ethane Std	5µL
8/6/14	Ar 283		O_2 900mV 44	H_2O 1V
	1235	848	Cl Ethane Std	5µL
	1236	848	BHN1D (1) BF 1,2-DCA	50µL
	1237	848	BHN7 (1) BF cis	500µL
	1238	848	Cl Ethane Std	5µL
	1239	848	Boiler Sump (1) + 2ml HCl (none)	100ul
	1240	848	SWN13 (1) + 2ml HCl (none)	100ul
	1241	848	Boiler Sump (1) + 2mL HCl	10mL
	1242	848	SWN13 (1) + 2ml HCl	10mL
	1243	848	SWN13 (2) + 2mL HCl (none)	3mL
	1244	848	SWN13 (2) + 2mL HCl	25mL
8/7/14	Ar 284		O_2 900mV 44	H_2O
	1245	848	Cl Ethane Std	5µL
	1246	849	PH-078 (1)	26000µL
	1247	849	Cl Ethane Std	5µL
	Ar 230		O_2 800mV 44	hit after injection
	1248		1,2-DCA in CS Std.	(Split x 20) 2µL direct in
	1249		1,2-DCA in CS Std	Split x 40 2µL D.I.
	1250		1,2-DCA in CS Std	split x 20 2µL D.I.

7/30/14	5345	822	cDCE Std	9µL
	5346	822	UID-089C (1)	2700µL
	5347	822	cDCE Std	9µL
	SIM	PT-TCE MTBECOL	MAY-07-12.M	
	5348	8	TCE Std	8µL
	5349	849	TCE Std	10µL
	5350	849	TCE STD	12µL
	53			
7/31/14	5351	849	TCE Std	10µL
	5352	849	(1115) COS02 (1)	1340µL
	5353	849	(1116) COS02 Dup (1)	~~1850~~ 2100µL
	5354	849	OBG-24D (1)	~~1025~~ 35µL
	5355	849	TCE Std	10µL
	5356	849	MW-6 (1)	1400µL
	5357	849	OBG-01D (1)	20µL
	5358	849	TCE Std	8µL
	5359	849	OBG-01DD V1	200µL
8/1/14	5360	849	TCE Std	8µL
	5361	849	OBG-02S (1)	3µL
	5362	849	OBG-03S (1)	30µL
	5363	849	OBG-05S (1040) (1)	30µL
	5364	849	TCE Std Cryo malfunction; reset software	9µL
	~~5365~~	~~849~~	~~OBG-05S (1041) 1~~	~~25µL~~
	5365	849	TCE Std	9µL
	5366	849	OBG-05S (1041)	25µL
	5367	849	OBG-75 V4	190µL
8/4/14	5368	849	TCE Std	9µL
	5369	849	OBG-09S (1)	30µL
	5370	849	OBG-11D (2)	5500µL
	5371	849	OBG-15S (3)	5200µL
	5372	849	TCE Std	9µL
	5373	849	OBG-16S (1)	50µL

8/4/14 (cont)	5374	849	OBG-18D (4)	25000 µL
	5375	849	OBG-21D (1)	2600 µL
	5376	849	TCE STD (-30.8, 5ppm)	9 ul
	5377	849	OBG-21S (1 HCl)	360 ul
	5378	849	TCE STD	9 ul
8/5/14	5379	849	TCE Std	9 µL
	5380	849	PH016 (2)	10000 µL
	5381	849	PH-019B (1)	1100 µL
	5382	849	COS 02 (1115) (1)	2400 µL
	5383	849	TCE Std	9 µL
	5384	849	OBG-15S (3)	3650 µL
	5385	849	OBG-01DD (1)	200 µL
	5386	849	TCE Std	9 µL
8/6/14	5387	849	TCE Std	9 µL
	5388	849	TCE Std	9 µL
	5389	849	OBG-05S (1041) (1)	30 µL
	5390	849	OBG-11D (1)	6300 µL
	5391	849	OBG-18D (5)	26000 µL
	5392	849	TCE STD	9 ul
	5393	849	OBG-21S (VI)	400 ul
	5394	849	OBG-05S (1041) (VI) acidic	25 ul
	5395	849	OBG-05S (1040) (VI)	25 ul
	5396	849	TCE STD	9 ul
	5397	849	TCE STD	9 ul
8/7/14	5398	849	TCE Std 1/N2 Out	9 µL
	New L N2			
	5399	849	TCE Std	9 µL
	5400	849	PH-078 (1)	11100 µL
	5401	849	PH-078 (1)	19000 µL
	5402	849	TCE Std	9 µL

8/8/14	5403	BCEE BCIE STD (10ppm, 8/8/14)	100ul
	5404	" "	100ul
3/12	5405	AR RT TEST	
	5406	BCEE BCIE STD	100µl
	5407	" " "	100µl
	A-TUNE		
/14/14	5408	BCEE / BCIE Std	100µL
	5409	"	25
	5410	"	250
	5411	DCPRO ~~BCEE #9~~	200µL
	5412	DCPRO #2	"
/15/14	5413	BCEE/BCIE Std	100µL
	5414	BCEE #1	200µL
	5415	BCEE #2	200µL
	5416	BCEE #4	200µL
	5417	BCEE #8	200µL
	5418	BCEE # 6	200µL
	5419	BCEE/BCIE Std	100µL
/18/14	5420	BCEE/BCIE Std	100µL
	5421	BCEE #7	200µL
	5422	BCEE #3	200µL
	5423	BCEE #5	200µL
	5424	BCEE #9	200µL
	5425	BCEE #10	200µL
	5426	BCEE/BCIE Std	100µL

8/19/14	5427	BCEE/BCIESH	100µL
	5428	BCIE #1	200µL
	5429	" #2	200µL
	5430	" #3	200µL
	5431	" #4	200µL
	5432	" #5	200µL
	5433	" #6	200µL
	5434	~~" #7~~ BCEE/BCIESH	100µL
8/20/14	5435	BCEE/BCIESH	100µL
	5436	BCIE #7	200µL
	5437	BCIE #8	200µL
	5438	BCIE #9	200µL
	5439	BCIE #10	200µL
	5440	BCEE/BCIESH	100µL
	5441	Citrate pH 5.0 #1	100µL
	5442	Citrate pH 5.0 #2	100µL
8/21/14	5443	BCEE/BCIESH	100µL
	5444	Hepes pH 8.0 #1	100µL
	5445	" #2	100µL
	5446	Hepes pH 8.0 3.2 mM PS #1	100µL
	5447	" #2	100µL
	5448	Hepes pH 8.0 2mM Sulfide #1	100µL
	5449	~~BCEE/BCIESH~~ " #2	100µL
	5450	BCEE/BCIESH ~~Hepes pH 8.0 3.2mM PS#1~~	~~500µL~~ 100µL
8/22/14	5451	BCEE/BCIESH	100µL
	5452	Hepes pH 8.0 3.2mM PS #1	500µL
	5453	" #2	500µL
	5454	BCEE/BCIESH	100µL
	5455	" 93+95 ions	100µL
	5456	" "	100µL
	5457	" "	100µL
	5458	" "	100µL

8/25/14	5459		BCEE BCIE Std (93+95)	100µL
	5450		"	100µL
09/03/14	INSTALLED MTBE & WAX Column			
09/04/14	RETUNE		ATUNE	
	5462		AR CHECK	F_{WAX} = 7.8
	New LN_2			
	5463		TCE Std	8µL
	5464		TCE Std	10µL
	5465		"	12µL
	5466		"	10µL
9/5/14	5467		"	10µL
	5468		"	12µL
	5469		"	8µL
	5470		"	10µL
	5471	549	OBG-01S (5)	1900µL
	5472	849	OBG-01DD V1 unpre.	190ml
	5473	849	TCE STD	9ml
	5474	849	OBG-18D V1 unpre	25000ml
	5475	849	OBG-15S V2 unpre	3600ml
	5476	849	TCE STD	11 ml
09/07/14	5477	849	TCE STD	9ml
	5478	849	OBG-01S V6 HCL	2100ml
	5479	849	OBG-15S V3 unpre.	3600ml
	5480	849	TCE STD	11ml
9/23/14	PT Transfer Line Flow set to 11.5mL/min			
	Needle Flow = 24mL/min			
	Trap baked			
	5481		BCEE Std (8-8-14)	100µL
	5482		"	93µL

08/20/14 AR 34 O2 360 H2O 2.4v

8855		H3		
8856	849	CDCE TCE STD	Flow = 2.2 AT BEGIN	50ml
8857	849	CDCE TCE STD		50ml
8858	849	CDCE TCE STD		50ml
8859	849	" " "		"
8860	849	OBG-02S	V2 HCL	170ml

08/21/14 AR 30 O2 270 H2O 2.4v

8861	849	H3		
8862	849	CDCE TCE STD		50ml
8863	849	OBG-1D	V3 HCL	970ml
8864	849	OBG-5S 1040	V2 HCL	1400ml
8865	849	OBG-24D	V2 HCL	1700ml
8866	849	CDCE TCE STD		50ml
8867	849	~~CDCE TCE~~ OBG-9S	V2 HCL	1700ml
8868	849	OBG-5S Dup	V2 HCL (1041)	1250ml
8869	849	CDCE TCE STD		50ml

08/22/14 AR 27 O2 270 H2O 2.4v

8870	849	H3		
8871	849	CDCE TCE STD		50ml
8872	849	OBG-03S	V3 HCL	1550ml
8873	849	OBG-16S	V2 HCL	2650ml
8874	849	OBG-01DD	V3 HCL	9750ml
8875	849	CDCE TCE STD		50ml
8876	849	OBG-07S	V5 HCL	9500ml
8877	849	OBG-21S	V2 HCL	19300ml
8878	849	CDCE TCE STD		50ml

08/25/14 AR 32 O2 315 H2O 2.4v

8879	849	H3		
8880	849	CDCE TCE STD		50ml
8881	849	OBG-16S	V2	2800ml
Liquid 8882	849	OBG-5S Dup	1041 V2 HCL	1300ml
8883	849	OBG-24D	V2	1800ml
8884	849	CDCE TCE STD		50ml

8/25/14	8885	849	PH-019B	V4 HCL	43000 ul
	8886	849	MW-6	V2 HCL	43000 ul
	8887	849	CDCE TCE STD		30 ul
8/26/14	AR 32		O2 310	H2O 23V	
	8888		H3		
	8889	849	CDCE TCE STD		50 ul
	8890	849	CDCE TCE STD		30 ul
	8891	849	CDCE TCE STD		25 ul
	8892	849	CDCE TCE STD		20 ul
	8893	849	MW-6	V3 HCL	43000 ul
	8894	849	COS-02 1115	V3 HCL	43000 ul
	8895	849	CDCE TCE STD		20 ul
8/27/14	AR 30		O2 300	H2O 24V	
	8896	849	H3		
CR10-200 ON/OFF O2	8897	849	CDCE TCE STD		20 ul
	8898	849	COS-02 Dup 1116	V2 HCL	43000 ul
	8899	849	OBG-21D	V3 HCL	43000 ul
	8900	849	OBG-15	V3 HCL	43000 ul
	8901	849	CDCE TCE STD		20 ul
	8902	849	OBG-13	V4 HCL	43000 ul
	8903	849	CDCE TCE		20 ul
8/28/14	AR 27		O2 280	H2O 24V	
	8904	849	H3		
	8905	849	CDCE TCE STD		20 ul
	8906	849	CDCE TCE STD	36 MIN PURGE	20 ul
	8907	849	OBG-15S	V4+5 HCL 36 MIN PUR	68000 ul
	8908	849	CDCE TCE STD	36 MIN PURGE	20 ul
8/29/14	AR 31		O2 310	H2O 24V	
	8909	849	H3		
	8910	849	CDCE TCE STD		20 ul
	8911	849	CDCE TCE STD		20 ul
	8912	849	OBG-15S	V6 HCL V1 unp.	68000 ul

08/29/14	8913	849	CDCE TCE STD	36M PURGE	20 ml
	8914	849	CDCE TCE STD	36M PURGE	20 ml
09/02/14	AR 36		O_2 320	H_2O 2.3V	
	8915	849	H_3		
	8916	849	CDCE TCE STD		~~100~~ 50 ml
	8917	849	CDCE TCE STD		
09/05/14	AR 24		O_2 350	H_2O 2.3V	
	8918		H_3		
LIQ OUT	8919	-81	MTBE TBA STD		30 ml
NEW LIQ	8920		MTBE TBA STD	NO PKS	30 ml
	8921		M " T " STD	EXT TO 52 MIN 150 WAS 42	30 ml
	8922		MTBE TBA " "		30 ml
	8923		MTBE TBA STD		30 ml
	8924		MTBE TBA STD	H_2O MAN 80C	30 ml
09/07/14	AR 48	FL=2ML	O_2 500	H_2O 2.3V	
	INSTALL NEW K TRAP				
	8925		MTBE TBA STD		30 ml
	8926		M " "		30 ml
09/08/14	AR 46		O_2 180	H_2O 2.2V	
	CONF TO HTC REACTOR				
	8927		H_3=4.60		
	8928	839	MTBE TBA STD		30 ml
	8929	839	MTBE TBA		30 ml
	8930	839	MTBE TBA		
	8931	839	MTBE TBA		
9/9/14	Ar 10		O_2 212 µs	H_2O 2.1V	
	8932		H_3 = 4.58		
	8933	839	MTBE TBA Std	reagent H_2O	30 µL
	8934	↓	"	"	30 µL
	8935		"	*Dilution Water*	30 µL
	8936		~~OHD~~ LH (v1, W30X) 0.6 µ		20000 µL

10/27/14 AR 82 O2 225 H2O 2.1v

9103		H3		
9104	766	BTXNMN STD	<.3V	20ml
9105	766	BTXNMN STD	1.7V	50ml
9106	766	BTX		20ml
9107		BTX LiqouTD1 -84		18ml
9108		BTXNMN STD		18ml
9109	838	MW-12-I1	V4	26000ml
9110		BTXN std	18µl	
9111		" "	20µl	

10/28/14 AR 82 O2 400 H2O 2.1v

9112		H3	
9113	766	BTXNMN STD	20ml
9114	766	BTXNMN STD	20ml
9115	766	NAPL 766A	5000ml
9116	766	BTXNMN STD	30ml
9117	766	NAPL 766B	5000ml
9118		BTXN Std.	30µl

11/5/14 Ar 73 O2 422 H2O 2.1v

9119		TCE Std (SO2 Std)	50µL
9120		TCE Std	50µL
9121		TCE Std	50µL
9122		TCE Std	50µL
9123		TCE Std	50µL

$F_{WAX} = 6.3$

9124	CARBOPACK B	Air tube 1016 - TCE 5µg - TCE+SO2 Std	H07977
9126	CX. 1016	" " " "	M17683

9127 H3 FAC

$F_{WAX} = 7.8$

9128 CX1016 L10167 5µg TCE std.

11/6/14	Ar 91	O_2 430		H_2O 1.7V
	9129	CX1016 airtube - 5µg TCE Std		K02595
	9130	CX1016 "	"	L01190
	9131	CX1016 "	"	L10199
	9132	" "	"	M17789
	9133	" "	"	L09452
11/10/14	Ar 100	O_2 380		H_2O 1.6V
	9134	CX1016 airtube - 5µg TCE Std		L10180
	9135	" "	"	L00986
11/11/14	Ar 90	O_2 390		H_2O 1.7V
	9136	CX1016 airtube - 5µg TCE Std		L10179
	9137	"	"	L00918
	9138	"	" (extracted)	M17853
	9139	"	"	L01018
	9140	D.I. BLANK (2x30min)		M17817
11/12/14	Ar 102	O_2 395		H_2O 1.6V
	9141	CX1016 - TCE 5µg		J03265
	9142	" " (extracted)		K08420
	9143	" "	"	M17751
	9144	CX1016 #3 TCE 5NG CXT		L09449
	9145	"	"	" L01019
	9146	"	"	" L01084
11/13/14	Ar 76	O_2 125		H_2O
	9147	CX1016 - TCE 5µg	TCE Std (502)	J03134
	9148	" "	EZ11 TCE Std 3µL	L01122
	9149	"	502 Std	L10197
	9150	X LN2 Out "	EZ11 TCE Std 2.5µL	L10168
	New LN_2			~~M17849~~
	9151	"	" 2.5µL	M17819
	9152	"	" 2.5µL	K08421
	9153	849 "	(PH-016) 500mL + 300µL Rgt. H_2O	L10188
	~~9154~~	" "	~~(086-18D)~~ "	~~L00984~~
	~~9155~~ 9154	ICE STD 5NG		L10209

11/14/14	Ar 49		O_2 163	H_2O 778
	9155	849	TCE Std 5ng-injected	L10202
	9156		PH-016 (Full Volume)	L10189
	9157		OB6-18D (500mL)	L00984
	9158		OB6-11D (500mL)	L10170
	9159		OB6-07S (30mL)	L00950
	9160		OB6-21S (43mL)	L10167
	9161		TCE Std 5ng-injected	L01054
	9162		OB6-18D (Full vol)	L10176
11/18/14	Ar 99		O_2 249	H_2O 1.1V
	9163	849	TCE Std 5ng-inj	L01189
	9164		TCE Std 5ng-inj	M17786
	9165		PH-018 (Full Vol)	L10174
	9166		Field Blank Spike (3µL 502TCE)	L10201
	9167		TCE Std 5ng-inj	L10172
	9168		" "	K08458
	9169		FIELD BLANK w/ TCE spike	J04855
	9170		TCE std. 5ng-inj	J05304
11/19/14	Ar 106		O_2 350	H_2O 1.1V
	9171	849	TCE Std 5ng-inj	J07341
	9172		"	K08451
LN_2 Out	9173		" low conc 1µL	L09446
New LN_2	9174		" "	L10199
	9175		" 3µL	M17857
	9176		" low Conc. 1µL	L10180
11/20/14	Ar 97		O_2 430	H_2O 1.1V
	9177	849	TCE Std - 5ng/3µL-inj	M17683
	9178		" "	L09452
	9179		" "	L01190
	9180		" "	M17756
	9181		TCE Std - 3µL extracted	M10542
	9182		" " "	M17854
	9183	"	" " "	M17789
	9184	849	TCE STD 3uL INJECTED	L10174

11/21/14	Ar 118		O_2 358	H_2O 1.1 V
	9185	849	TCE Std-Inj. 3 µL, Syg	L10175
	9186		086-11D (500mL) extracted	J04855
	9187		TCE Std-Inj. 3 µL, Syg	M17786
	9188		PH-078 (Full vol) extracted	L09452
	9189		TCE Std-Inj. 3 µL, Syg	L10176
	9190	H_3FAC	(BF)	
	9191	H_3FAC	(FF)	

ATTACHMENT 3

CSIA FACT SHEET

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Compound Specific Isotope Analysis

EMD Team Fact Sheet—November 2011

This fact sheet, developed by the ITRC Environmental Molecular Diagnostics (EMD) Team, is one of 10 designed to provide introductory information about and promote awareness of EMDs. Please review the Introduction to EMDs Fact Sheet along with this one. A glossary is included at the end of this fact sheet.

Why is compound specific isotope analysis relevant?

Compound specific isotope analysis (CSIA) is an analytical method that measures the ratios of naturally occurring stable isotopes in environmental samples. As described in this fact sheet, CSIA can be used to gain information (e.g., potential contaminant sources, extent of degradation, comingling of contaminant plumes) relevant to environmental remediation decision makers. Stable isotope probing (SIP), which is a separate and distinct EMD method and is discussed in its own fact sheet, uses isotopically enriched (labeled) contaminants and examines the incorporation of stable isotopes into biomolecules and by-products that are generated during biochemical processes associated with contaminant biodegradation.

What does CSIA do?

CSIA is a laboratory method in which samples collected from the field are analyzed to give information that can be valuable for assessing environmental forensics or contaminant fate. Each element in a compound has a distinct isotopic ratio. For a given element the isotopic ratio is known to within a few percent; however, that ratio can change in systematic ways during the course of biodegradation or other processes. CSIA measures these small changes in isotopic ratios very precisely. Those changes can be exploited to gain important information about the source, transport, and fate of a compound. Table 1 includes information about environmentally relevant elements to which CSIA is often applied.

Since the isotopic ratio in the compound is a function of the starting material and the manufacturing process as well as the degradation of that compound after it was made, CSIA has applications in environmental forensics, biodegradation, and abiotic degradation. Examples include the following:

Table 1. Environmentally relevant ratios for CSIA

Atom	Ratio
Hydrogen	$^{2}H/^{1}H$ (D/H)
Carbon	$^{13}C/^{12}C$
Nitrogen	$^{15}N/^{14}N$
Oxygen	$^{18}O/^{16}O$ and $^{17}O/^{16}O$
Chlorine	$^{37}Cl/^{35}Cl$

- **Biodegradation**
  - Apparent *cis*-dichloroethene (*cis*-DCE) stall: Is the *cis*-DCE biodegrading, or are concentration changes the result of dilution?
  - Dense, nonaqueous-phase liquids: Is there biodegradation?
  - Biodegradation of methyl *tert*-butyl ether (MTBE): Is it occurring?
  - Aerobic *cis*-DCE and vinyl chloride (VC): How do we prove progress without daughter or end products?
  - Cometabolic degradation of chlorinated ethenes: Will the accumulation of VC really be skipped?
- **Environmental Forensics**—Especially when combined with other tests, CSIA can reveal detailed information not just about remedial progress or remedial potential but also about forensic issues such as the potential for multiple sources.
  - Methane: From shallow biodegradation or pipeline gas?
  - Perchlorate: Is it natural or synthetic?
  - Volatile organic compounds (VOCs): Origin from one source or multiple sources?
  - Nitrate: Is it runoff or naturally occurring?
- **Abiotic Degradation**
  - Is biogeochemical transformation occurring?
  - In situ chemical oxidation (ISCO): Was the ISCO successful in destroying contaminant mass and the “rebound” is really just newly desorbed product?
  - In situ chemical reduction, iron wall, nanoscale iron, or other reducing mixtures: Has the contaminant been destroyed or displaced?

How are the data used?

CSIA can be used to make informed decisions for site characterization, monitoring, remedy selection, and closure. CSIA can differentiate between degradation of a compound (e.g., ISCO) and other processes that can also reduce contaminant concentration but do not reduce contaminant mass (e.g., displacement or dilution). CSIA has also been used to distinguish contaminant sources (e.g., trichloroethene [TCE] from different plumes).

Example Environmental Remediation Questions CSIA Can Help Answer

- **Site Characterization**
  - Has biological or abiotic degradation occurred? If so, how much and where?
  - Is methane from near-surface biodegradation or natural gas production?
  - Is the TCE a parent from one source or a daughter product of perchloroethene (PCE) from another source?
  - Is there evidence of multiple sources?
  - Is the contaminant in the dissolved or nonaqueous phase?
  - Is there evidence of a rate-limiting step (i.e., accumulation of contaminant intermediates)?
- **Remediation**
  - Is monitored natural attenuation (MNA) feasible?
- **Monitoring**
  - Is remediation progressing as planned?

CSIA has been in use for more than two decades since the merger of two 50-year-old techniques that were each well established: gas chromatography and isotopic analysis. Isotopic analysis has been used extensively in geology and petroleum exploration. Due to the extremely dilute concentrations typically encountered in environmental samples (as compared to those from traditional geology and petroleum exploration applications), the early methods were not suitable for environmental work. However, within the last 10–12 years advances in analytical instrumentation have resulted in the ability to apply CSIA to very dilute samples, and the technique has been broadly applied to evaluate environmental questions.

How does it work?

Changes in isotopic ratios are caused by the breaking of bonds between atoms. Physical processes such as dilution, diffusion, and volatilization do not change the isotopic ratios in compounds to the same extent as chemical or biochemical processes such as degradation. For VOCs in groundwater, this means that degradation of a compound is, by far, the major cause of significant changes in isotopic ratios. This change in isotopic ratio happens in both biological and abiotic reactions, and CSIA is used to measure those changes. The CSIA laboratory method is implemented using a number of instruments, including a gas chromatograph (GC) and an isotope ratio mass spectrometer (IRMS).

Because compounds are made up of multiple elements, CSIA can be performed on multiple isotopes to gain further insight into origin or mechanisms of degradation. For example, both carbon ($^{13}C/^{12}C$) and hydrogen ($^{2}H/^{1}H$) are often used for MTBE, whereas chlorine ($^{37}Cl/^{35}Cl$) as well as two isotopic ratios of oxygen ($^{18}O/^{16}O$ and $^{17}O/^{16}O$) are often used for perchlorate. Table 1 lists environmentally relevant ratios on which CSIA can be used.

Every contaminant is made of atoms of various elements. The isotopes of a given element (e.g., carbon, hydrogen, chlorine) have the same number of protons and electrons but a different number of neutrons and thus different atomic mass. Each element has a most-abundant isotope (for example, ^{12}C, or "carbon-twelve," for carbon) and one or more less-abundant isotopes (^{13}C, or "carbon-thirteen," for carbon) (Figure 1). The less-abundant isotopes are sometimes heavier (i.e., contain one or more extra neutrons). Some of these heavier, less-abundant isotopes are nonradioactive (i.e., stable), and the only significant difference between these isotopes and their more-abundant counterpart is the increased mass. The

increased mass leads to the process called "isotopic fractionation." Isotopic fractionation is monitored by measuring the isotopic ratio, i.e., by CSIA.

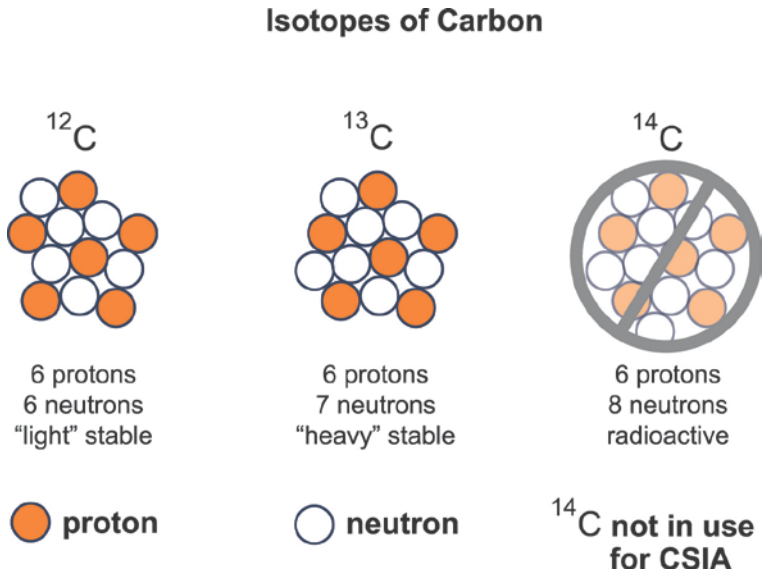

Figure 1. Schematic of the atomic nuclei of the common carbon isotopes.
Carbon-fourteen is not used in CSIA. *Source:* Microseeps, Inc., 2010, used with permission.

Isotopic fractionation occurs because it takes slightly less energy to break a bond between a light isotope and another atom than it takes to break a bond between a heavy isotope and that same atom. As a result, the rates of reaction involving the heavier isotopes are slightly slower, so the percentage of heavy isotopes increases in the residual contaminant pool as the contaminant is degraded. Figure 2 shows this "isotopic fractionation" or enrichment for a carbon-chlorine (C-Cl) bond.

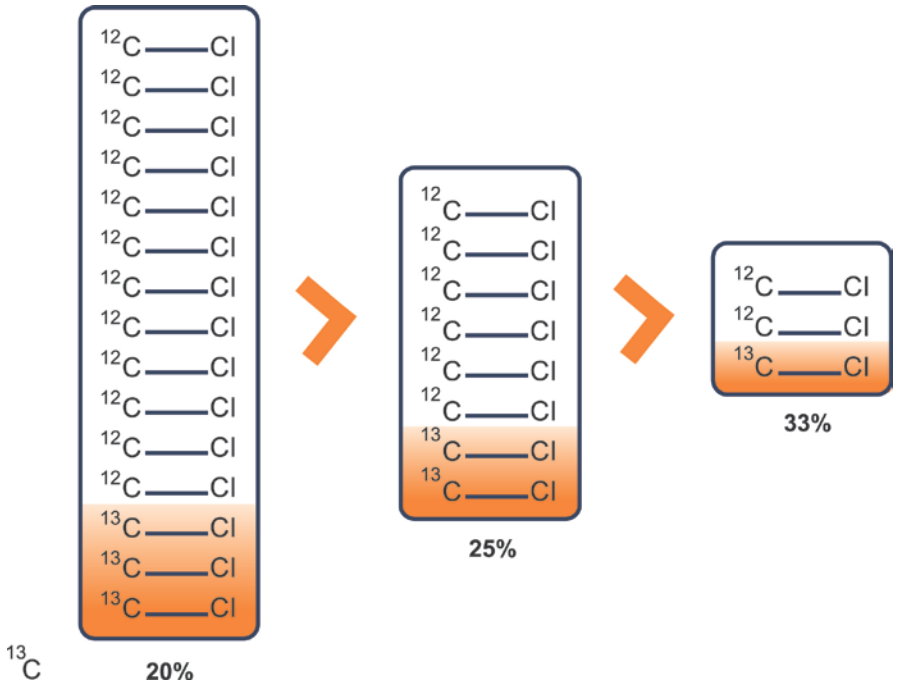

Figure 2. Illustration of ^{13}C enrichment during degradation of a contaminant with a C-Cl bond.
Source: Microseeps, Inc., 2010, used with permission.

How are the data reported?

CSIA is a very sensitive technique, and because the differences in isotopic ratios are so small, it is more convenient to express the ratios in "per mil" (parts per thousand, or ‰, similar to the usual metric for comparison, parts per hundred, or percent) values, relative to a reference standard. (A variety of standards exist, and it is important that a common standard be used by the laboratory and reported with the analytical results to enable data comparison). This is accomplished by using "delta" notation. The standard is a constant and is the isotopic ratio of an internationally agreed-upon standard (for example, for $^{13}C/^{12}C$ the standard is $R_{std} = 0.01118$). The definition of delta is as follows:

$$\delta_x = 1000 \times \frac{R_x - R_{Std}}{R_{Std}}$$

where the R_x is the isotopic ratio of sample "x" and δ_x (called "delta of sample x") is linearly related to the isotopic ratio. Thus, if the $\delta(^{13}C)$ for a TCE sample is "–31 per mil" (a typical value for undegraded TCE), this means that the $^{13}C/^{12}C$ in the sample is 31 per mil, or 3.1 percent, lower than in the internationally agreed-upon standard (R_{std}).

Advantages

- CSIA does not rely on concentration trends or the observation of daughter products.
- Because it isolates the contaminant, CSIA is relevant only to that compound.
- CSIA can detect very small changes in the isotopic ratio. This high level of precision allows for careful assessment across a site to reveal subtle but important differences in the contaminants.
- CSIA is extremely versatile. It can be used for many contaminants in a wide range of applications, as listed on p. 1.
- The advantages of CSIA can be increased by applying it to multiple isotopes in a given molecule (e.g., both $^{13}C/^{12}C$ and $^{37}Cl/^{35}Cl$ in TCE). See Table 1.

Limitations

- At this time, only a limited number of laboratories provide CSIA services. Though CSIA may theoretically be the way to answer a question at a site, the particular isotopic analyses may not be commercially available. If this is the case, collaboration with academic laboratories and/or application development with commercial laboratory should be investigated.
- Because of the large number of compounds in petroleum products, there is the potential for interference at petroleum-release sites (as well as other sites with many compounds in the groundwater), especially near the contaminant source. SIP is one alternative to assess biodegradation at these sites (see the SIP Fact Sheet for more information). In addition, modifications to CSIA methods can be used to overcome interferences. For example, dual GC column separations have been used effectively to evaluate biodegradation of the lead scavenger 1,2-dibromoethane in groundwater at gasoline release sites (EPA 2008b). The same technique is used for MTBE (Kuder et al. 2005).
- While the method is quite sensitive, there are limitations to that sensitivity. Isotopic fractionation may be so minimal that little or no isotopic enrichment is detected. This effect can occur in molecules with many of the same atom (e.g., several C atoms in one molecule). For example, CSIA of either carbon or hydrogen is unlikely to provide valuable information for many high-molecular-weight polycyclic aromatic hydrocarbons during degradation.

Developing an Appropriate CSIA Study

The U.S. Environmental Protection Agency's *A Guide for Assessing Biodegradation and Source Identification of Organic Ground Water Contaminants Using Compound Specific Isotope Analysis* (EPA 2008a) discusses many of the technical aspects of this technology, including how to best design a CSIA study to address a particular question.

Sampling Protocols

The sampling protocols for CSIA depend on what questions are being asked and which compounds are of interest. For example, if CSIA is used to study the isotopic ratios of carbon, hydrogen, or chlorine of VOCs in groundwater, then sampling involves the collection of water samples into standard volatile organic analysis vials. Extra vials are often required due to the need for both concentration/identification and isotopic ratio analyses, as well as potential multiple dilutions and additional quality control (QC) samples. However, if CSIA is being used to study the origin of perchlorate in groundwater, sampling is more complex, often requiring several hundred liters of groundwater to be pumped through special ion exchange columns to trap perchlorate (Bohlke et al. 2009). For all CSIA analyses, the laboratory that will be analyzing the samples should be contacted for technical assistance and to ensure that proper sampling protocols for collecting, handling, and transporting the samples are followed.

Quality Assurance/Quality Control

The quality assurance (QA)/QC program used for CSIA sampling depends on the application. EPA (2008a) offers QA/QC guidance for the application of CSIA to VOCs in groundwater. Further, the NELAC Institute has general standards for sample handling, data manipulation, training, documentation, and reporting, all of which are important issues in acquiring CSIA services but which are not often covered in technical methods or in method-specific SOPs (NELAC 2011). If NELAC Institute certification is not available from a laboratory, then the user should discuss each of these issues with the laboratory. Currently, users can best ensure data quality by detailing the laboratory requirements in a site-specific QA project plan (QAPP).

It should also be noted that the EPA guide (2008a) may not provide sufficient for application of CSIA to perchlorate or other non-VOC contaminants. QA/QC procedures and issues should be developed and discussed with the laboratory performing the analysis, the project manager, the regulators, and stakeholders prior to the collection of samples.

Additional Information

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Glossary

***cis*-DCE stall**—In biodegradation through reductive dechlorination, the parent chlorinated ethene is sequentially dechlorinated via the following process: (PCE →) TCE → *cis*-DCE → vinyl chloride → ethene. For a variety of reasons, the slowest step in the process is often the dechlorination of the *cis*-DCE. This phenomenon is known as "*cis*-DCE stall."

environmental forensics—The process of distinguishing contaminants from different sources.

isotopic fractionation—Some processes (for example, those which involve breaking chemical bonds) have slightly different rates for different isotopes, leading to a more rapid consumption of one isotope over the other. This characteristic is manifested in a change in the isotopic ratio of the residual compound.

isotopic ratio—The concentration of the heavy isotope normalized by the concentration of the light isotope.

stable isotope—A form of an element that does not undergo radioactive decay at a measureable rate.

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APPENDIX J

SELECT TABLES AND FIGURES FROM LANDFILL INVESTIGATIONS

Figure 1	Plan View of Sullivan Landfill Site and Leachate Sample Locations
Table 1	Analytical Results of Leachate Samples
Figure 2	Subsurface Exploration Locations
Table 1A	Monitoring Well Details
Table 3	Leachate Seep Surface Water Chemical Data
Table 4	Leachate Seep Sediment Chemical Data
Table #1	Selected Analytical Results for Soil Samples collected July 6 & 7, 2005
Table #2	Selected Analytical Results for Soil Samples Collected July 19, 2005
Table #3	Selected Analytical Results for soil Samples Collected July 18, 2005
Figure 2A	Site Layout Map
Table 1B	Well Summary Landfill Sampling, May 2018
Table 3A	Historic Summary of Detected Groundwater Analytes
Table 2A	Slurry and Groundwater Samples from Monitoring Wells MW-107 and MW-108 during Drilling
Plate 1	Sample Locations, Closed Sullivan Landfill Investigation July-August 2005

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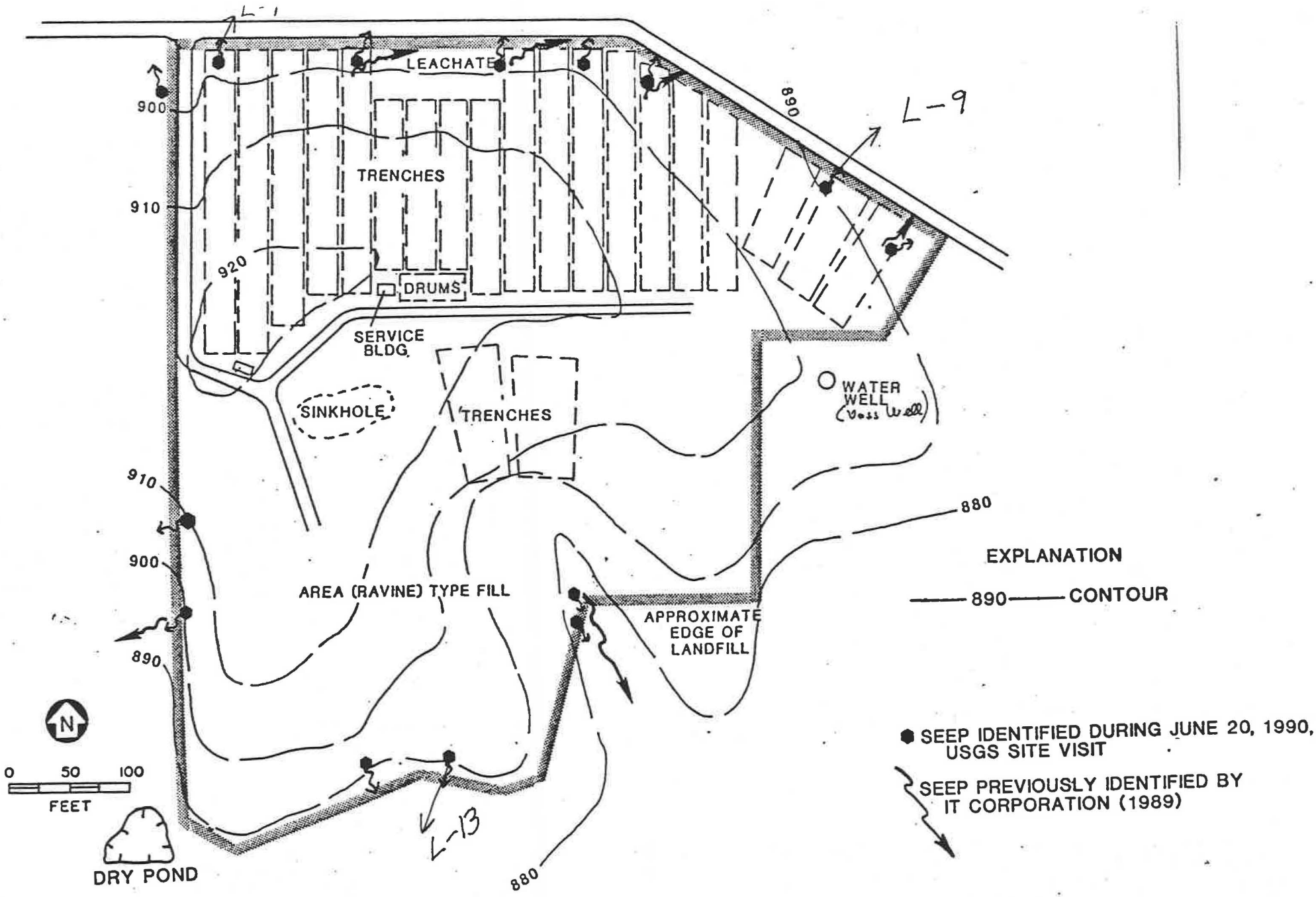


Figure 1.--Plan view of Sullivan Landfill site. Modified from IT Corporation (1989).

	compound name	Landfill VOC results	Seep L-9 N.W. corner	Seep L-1 N.E corner	Seep L-13 S. side	Trip Blank #6
1	Bromodichloromethane		<0.2	<0.2	<0.2	<0.2
2	Carbon Tetrachloride		<0.2	<0.2	<0.2	<0.2
3	1,2-Dichloroethane		7.3	<0.2	4.2	<0.2
4	Tribromomethane		<0.2	<0.2	<0.2	<0.2
5	Dibromochloromethane		<0.2	<0.2	<0.2	<0.2
6	Chloroform		1.3	0.2	1.5	<0.2
7	Toluene		342.	73.	770.	<0.3
8	Benzene		10.	0.4	28.	<0.2
9	Chlorobenzene		0.6	<0.2	2.6	<0.2
10	Chloroethane		23.	<0.2	<0.2	<0.2
11	Ethylbenzene		12.	0.6	38.	<0.2
12	Bromomethane		<0.2	<0.2	<0.2	<0.2
13	Chloromethane		<0.2	<0.2	<0.2	<0.2
14	Dichloromethane (methylene chloride)		>28,000#	140.	>41,000 **	<0.2
15	Tetrachloroethene		7.9	0.3	19.	<0.2
16	Trichlorofluoromethane		156.	12.	22.	<0.2
17	1,1-Dichloroethane		345.	1.2	24.	<0.2
18	1,1-Dichloroethene		<4.7*	<0.2	<4.5 *	<0.2
19	1,1,1-Trichloroethane		67.	<0.2	0.6	<0.2
20	1,1,2-Trichloroethane		5.3	<0.2	<0.2	<0.2
21	1,1,2,2-Tetrachloroethane		<0.2	<0.2	<0.2	<0.2
22	1,2-Dichlorobenzene		0.1	<0.2	0.8	<0.2
23	1,2,-Dichloropropane		<0.2	0.2	9.9	<0.2
24	1,2-trans-Dichloroethene		1.	<0.2	<0.2	<0.2
24a	1,2-Cis-Dichloroethene		11.	<0.2	1,200.	<0.2
25	1,3-Dichloropropene (tot)		<0.2	<0.2	<0.2	<0.2
26	1,3,-Dichlorobenzene		<0.2	<0.2	<0.2	<0.2
27	1,4-Dichlorobenzene		2.2	<0.2	9.9	<0.2
28	2-Chloroethylvinylether		<0.2	<0.2	<0.2	<0.2
29	Dichlorodifluoromethane		20.	6.2	490.	<0.2
30	1,3-trans-Dichloropropene		<0.2	<0.2	<0.2	<0.2
31	1,3-cis-Dichloropropene		<0.2	<0.2	<0.2	<0.2
32	Vinyl Chloride		2.3	<0.2	80.	<0.2
33	Trichloroethene		150.	0.2	370.	<0.2
34	Ethenylbenzene (styrene)		3.2	<0.2	20.	<0.2
35	1,2-Dibromoethane (EDB)		<0.2	<0.2	<0.2	<0.2
36	Xylenes, total (Dimethyl benzene)		31##	2.	131 ^^	<0.2
37	Benzene, 1,2,4-Trichloro		<0.2	<0.2	0.7	<0.2
38	Naphthalene		0.6	0.2	9.	<0.2
39	Hexachlorobutadiene		<0.2	<0.2	<0.2	<0.2
40	Benzene, 1,2,4-Trimethyl		2.3	0.2	14.	<0.2
41	Benzene,N-Propyl		0.5	<0.2	2.	<0.2
42	Benzene, 1,3,5-Trimethyl		0.9	<0.2	4.3	<0.2
43	Methane, Bromochloro		<0.2	<0.2	<0.2	<0.2
44	Benzene, N-Butyl		<0.2	<0.2	0.6	<0.2
45	Benzene, sec-Butyl		<0.2	<0.2	0.4	<0.2
46	Benzene, tert-Butyl		<0.2	<0.2	<0.2	<0.2
47	Benzene, 1,2,3-Trichloro		<0.2	<0.2	<0.2	<0.2
48	Toluene, P-Isopropyl		0.6	<0.2	3.3	<0.2
49	Benzene, Isopropyl		1.1	<0.2	3.5	<0.2
50	Benzene, 1,2,3-Trimethyl		1.2	<0.2	6.4	<0.2
51	Benzene, 2-Ethyl-1,4-Dimethyl		0.3	<0.2	1.8	<0.2
52	Benzene, 2-Ethyl-1,3-Dimethyl		<0.2	<0.2	0.2	<0.2
53	Toluene, 2-Ethyl		0.8	<0.2	3.4	<0.2
54	Benzene, 1,2,3,4-Tetramethyl		0.1	<0.2	1.1	<0.2
55	Benzene, 1,2,3,5-Tetramethyl		0.2	<0.2	1.3	<0.2
56	Dibromomethane		<0.2	<0.2	<0.2	<0.2
57	1,1-Dichloro-1-Propene		<0.2	<0.2	<0.2	<0.2
58	2,2-Dichloropropane		<0.3*	<0.2	<0.4 *	<0.2
59	1,3-Dichloropropane		<0.2	<0.2	<0.2	<0.2
60	2-Chlorotoluene		<0.2	<0.2	<0.2	<0.2
61	4-Chlorotoluene		<0.2	<0.2	<0.2	<0.2
62	1,2,3-Trichloropropane		<0.2	<0.2	<0.2	<0.2
63	1,1,1,2-Tetrachloroethane		<0.2	<0.2	<0.2	<0.2
64	Bromobenzene		<0.2	<0.2	<0.2	<0.2
65	Diethyl Ether		55.	4.8	190.	<3
66	Acetone		2,600+	600.	11,600 +	<20
67	Carbon Disulfide		6.4	<3	11.	<3
68	2-Butanone		6,100.	410.	10,700.	<15
69	Methyl Acrylonitrile		<25	<25	<25	<25
70	Methyl Methacrylate		<25	<25	<25	<25
71	4-Methyl-2-Pentanone		910.	89.	1,470.	<10
72	Ethyl Methacrylate		91++	<25	44 ++	<25
73	2-Hexanone		168.	50.	102.	<10
74	Methyl tert Butyl Ether		<5	<5	<5	<5

Table 1 Analytical Results of Leachate Samples

	compound name	Landfill VOC results	Seep L-9 N.W. corner	Seep L-1 N.E corner	Seep L-13 S. side	Trip Blank #6
	UNKNOWNS					
75	Vinyl Acetate		85@	20@	34@	nd
76	1,2-Dibromo-3-Chloropropane		nd	nd	nd	nd
77	1,1,2-trichloro 1,2,2,trifluoroethane		nd	nd	nd	nd
78	Methane, chlorofluoro-; CH2ClF		128.	4.6	nd	nd
79	Methane, dichlorofluoro-; CHCl2F		6,400.	288.	1,150.	nd
80	Ethane, 1,2-dichloro-1,1,2-trifluoro-		nd	nd	27.	nd
81	Methane, thiobis-; C2H6S		94.	nd	103.	nd
82	Hexane or 3-methyl pentane		nd	nd	21.	nd
83	Propane, 2,2-oxybias (isopropyl ether)		nd	nd	6.2	nd
84	Cyclopentane, methyl- (or isomer)		nd	nd	8.9	nd
85	Ethane, (methylthio-); C3H8S		19.	nd	nd	nd
86	2-Pentanone: C5H10O		34.	nd	nd	nd
87	Alkene/cycloalkane		nd	0.5	nd	nd
88	2-Butanol; C4H10O		7.8	nd	78.	nd
89	Heptane; C7H16		nd	nd	4.4	nd
90	2-Pentanol (or 2-Butanol)		nd	nd	4.	nd
91	Disulfide, dimethyl; C2H6S2		8.6	nd	29.	nd
92	Hexanal;C6H12O		12.	nd	0.7	nd
93	Alkene/cycloalkane (2-Hexanol in L-13)		6.1	nd	1.5	nd
94	1,2-Benzenediamine; C6H8N2		2.	nd	nd	nd
95	2-Heptanone or 5-methyl 2-hexanone; C7H14O		87.	78.	nd	nd
96	2-Heptanone or 5-methyl 2-hexanone; C7H14O		12.	nd	44.	nd
97	2-Octanol or 2-Heptanol		nd	nd	24.	nd
98	2-Heptene or Cyclohexanone: C6H10O		37.	9.5	nd	nd
99	Nonane, 4-methyl-		nd	nd	2.1	nd
100	Alkyl Benzene		nd	nd	2.8	nd
101	3-Heptanone, 6-methyl- or 3-Octanone		nd	nd	36.	nd
102	Benzene,1-ethyl-2-methyl- or isomer;C9H12		16.	0.4	28.	nd
103	4-Heptanone, 2,6-dimethyl- or 4-Octanone, 2-methyl-; C9H18O, or #105		20.	62.	59.	nd
104	5-Nonanone; C9H18O		nd	0.8	nd	nd
105	2-Octanone; C8H16O		32.	62.	17.	nd
106	2-Octene; C8H16		nd	16.	nd	nd
107	Ester or Ketone		12.	nd	nd	nd
108	3-Octene; C8H16		nd	6.6	nd	nd
109	.alpha. -Fenchene or .beta. -Myrcene (intermed. in perfume manufact.)		nd	nd	57.	nd
110	1H-Indene, 2,3-dihydro-		nd	nd	2.6	nd
111	1-Hexanol, 2-ethyl-; C8H18O		60.	nd	56.	nd
112	Benzene, 1-methyl-3-propyl-		nd	nd	2.9	nd
113	Benzene, 1-methyl-4-(1-methylethyl)- or isomer; C10H14		0.6	nd	3.9	nd
114	1-Octanol; C8H18O or Cyclopropane, pentyl-; C8H16		8.6	nd	nd	nd
115	Ethanone, 1-(2,5-dimethylphenyl)-		nd	nd	0.5	nd
116	2-Nonanone; C9H18O		24.	106.	16.	nd
117	1-Nonanol or (Cyclopropane, 1-ethyl-2-heptyl)		nd	nd	11.	nd
118	alkene/cycloalkane		21.	43.	nd	nd
119	Ester		8.4	nd	nd	nd
120	Hexanoic acid, methyl ester or (Pentanoic acid, 4-methyl-, methyl ester)		nd	nd	7.	nd
121	Cycloheptane, methyl-; C8H16		1.1	nd	nd	nd
122	Phenol, 4-methyl; C7H8O		2.4	nd	1.9	nd
123	Cyclohexane, 1-methyl-4-(1-methylethylidene)- or trans-Carane; C10H18		nd	nd	11.	nd
124	Camphor; C10H16O; C10H20O		2.8	0.6	8.6	nd
125	Cyclohexanol, 5-methyl-2-(1-methylethyl)- (common name, Menthol)		nd	nd	5.5	nd
126	alkene/cycloalkane		1.5	nd	nd	nd
127	Bicyclo[4,1,0]heptane, 3,7,7-trimethyl; C10H18		18.	1.5	nd	nd
128	2-Decanone		3.8	0.7	nd	nd
129	1-.alpha.-Terpineol (used in perfumes, denaturing fats for soap manuf.)		nd	nd	4.2	nd
130	Nonanoic acid, methyl ester		nd	nd	3.9	nd
131	2-Camphene or 1,4,6-hepthtriene, 3,3,6-trimethyl-; C10H16; C10H16		nd	0.9	nd	nd
132	1H-Indene, 2,3-dihydro-1,2-dimethyl or Napthalene, 1,2,3,4-tetrahydro-5-methyl		nd	nd	0.5	nd
133	1H-Indene, 2,3-dihydro-1,1-dimethyl or Napthalene, 1,2,3,4-tetrahydro-1-methyl		nd	nd	0.5	nd
134	2-Undecanone; C11H22O		0.9	nd	0.5	nd
135	Decanoic acid, methyl ester & 1H-Indene, 1-ethylidene- (co-eluting)		nd	nd	3.2	nd
136	Naphthalene, 1-methyl		nd	nd	0.7	nd
137	1,1-Biphenyl; C12H10		nd	nd	0.5	nd
138	Naphthalene, 1,8-dimethyl or isomer		nd	nd	0.5	nd
139	Naphthalene, 1,4-dimethyl or isomer		nd	nd	0.9	nd
140	Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl; C15H24O		10.	nd	16.	nd

* detection level raised due to interference from unknown

** Value out of calibration, much larger

\# 28,000-34,000 ppb

\#\# meta and para (23 ppb), ortho (8 ppb)

^^ meta and para (96 ppb), ortho xylene (35 ppb)

+several analytes coeluting,actual concentration may be greater

++ daily response factor used to calculate concentration

@ estimated value (standard pending) actual values 20-30 times larger

Table 1 Continued

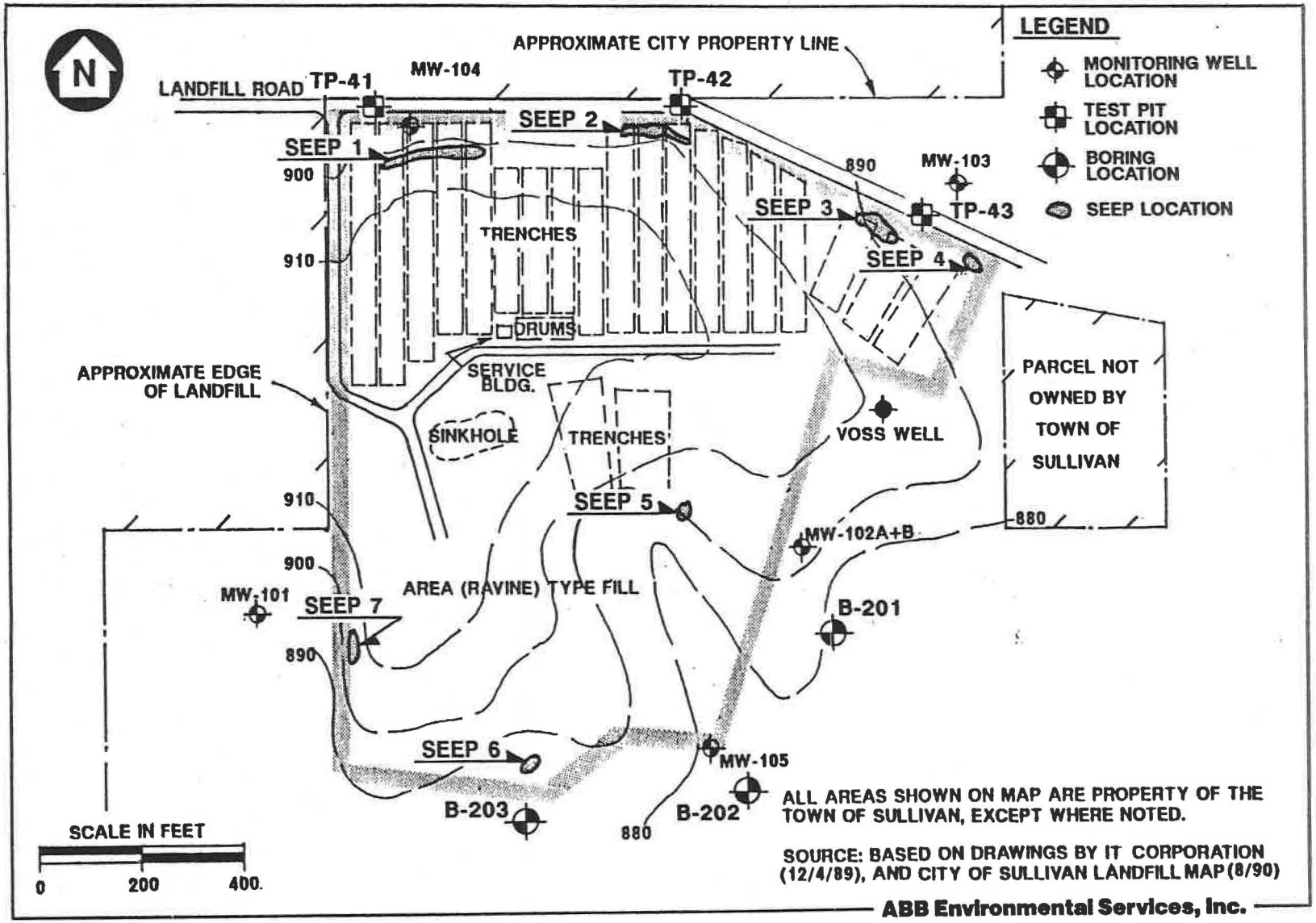


Figure 2: Subsurface Exploration Locations, Sullivan Landfill Site, Sullivan, Missouri

6974-91

TABLE 1A
MONITORING WELL DETAILS (1)

SULLIVAN LANDFILL
SULLIVAN, MISSOURI

WELL NO.	TOTAL DEPTH (FEET)	GROUND SURFACE ELEVATION (2)	TOP OF RISER ELEVATION (2)	SCREEN LENGTH (FEET) (3)	SCREENED INTERVAL (FEET BGS)	RISER LENGTH (FEET) (4)	BENTONITE SEAL THICKNESS (FEET)	WATER TABLE DEPTH (FEET BGS) (5)
MW-101	243.0	997.19	1,000.00	30	152.0-182.0	154.46	5.1	157.4
MW-102A	280.0	1,005.95	1,008.42	20	257.0-277.0	259.59	5.0	189.2
MW-102B	214.0	1,005.95	1,008.93	30	176.0-206.0	178.82	5.0	183.6
MW-103	241.0	988.55	991.38	30	175.0-205.0	177.79	5.5	181.0
MW-104	200.0	1,008.81	1,011.87	30	169.0-199.0	171.77	5.5	178.3
MW-105	203.0	991.81	994.61	30	144.0-174.0	146.58	5.0	151.3

NOTES:

(1) See Monitoring Well Construction Diagrams in Appendix B for more information.

(2) This represents an assumed vertical datum for the site of 1,000.00 feet top of riser MW-101 upon which to base interpretation of water levels.

(3) Screen and riser 2-inch diameter Schedule 40 PVC.

(4) Length includes stickup above ground surface.

(5) Water level measurements taken on April 9, 1992.

TABLE 3
LEACHATE SEEP SURFACE WATER CHEMICAL DATA

SULLIVAN LANDFILL
SULLIVAN, MISSOURI

ANALYTE	SEEP 1	SEEP 2	SEEP 3	SEEP 4	SEEP 5	SEEP 6	SEEP 7
Volatile Organic Compounds (μg/L)							
Trichloroethene	--	--	--	--	--	--	--
Acetone	5,100	1,800	--	--	--	160	10 J
2-Butanone	3,300	1,200	--	--	--	200	--
4-Methyl-2-Pentanone	--	--	--	--	--	59	--
Toluene	450	33 J	60 J	73 J	--	--	--
1,1-Dichloroethane	--	--	59 J	67 J	--	69	--
Methylene Chloride	2,300	190	2,900	5,400	5,800	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--
2-Hexanone	400 J	--	270 J	--	--	--	--
Ethyl Benzene	--	--	--	--	--	4 J	--
Total Xylenes	--	--	--	--	--	11	--
Semivolatile Organic Compounds(μg/L)							
4-Methylphenol	400	410	--	2,500	3,400	58	--
Naphthalene	--	88 J	--	84 J	--	--	--
Phenol	--	--	--	--	--	12	--
2 Methylphenol	--	--	--	--	--	4 J	--
2,4-Dimethylphenol	--	--	--	--	--	11	--
Bis(2-ethylhexyl)Phthalate	--	--	--	--	--	--	--
Inorganics (μg/L)							
Aluminum	14,000	4,900	300	400	400	6,200	1.2
Arsenic	--	5	--	--	5	--	--
Barium	2,300	1,400	2,000	1,800	740	40,000	2.2
Beryllium	--	--	--	--	5	--	--
Calcium	180,000	250,000	340,000	280,000	220,000	98,000	32
Chromium	20	--	--	--	--	30	0.02
Copper	30	90	20	--	--	50	0.01
Iron	640,000	94,000	380,000	760,000	460,000	140,000	4.7
Lead	30	9	--	--	--	50	--
Magnesium	52,000	120,000	88,000	66,000	40,000	44,000	21
Manganese	6,800	1,500	10,000	12,000	8,100	1,100	1.4
Nickel	--	110	50	--	--	--	--
Potassium	25,000	72,000	82,000	46,000	46,000	37,000	13
Sodium	63,000	220,000	130,000	74,000	52,000	94,000	30
Vanadium	60	--	--	--	--	--	--
Zinc	100	160	70	--	50	300	0.13
Others (μg/L)							
Chloride	93,000	400,000	225,000	110,000	120,000	190,000	23
Sulfate	16,000	12,000	15,000	38,000	48,000	--	6
Alkalinity Bicarbonate	980,000	1,300,000	1,550,000	1,700,000	1,200,000	471,000	170

Notes:

J – Estimated Value

TABLE 4
LEACHATE SEEP SEDIMENT CHEMICAL DATA

SULLIVAN LANDFILL
SULLIVAN, MISSOURI

ANALYTE	SEEP 1	SEEP 2	SEEP 3	SEEP 4	SEEP 5	SEEP 6	SEEP 7
Volatile Organic Compounds (µg/kg)							
Trichloroethene	--	--	--	--	--	--	--
Acetone	--	5,300 J	--	4,400 J	720	--	--
2-Butanone	3,200 J	7,100 J	3,600 J	5,700 J	1,200	--	--
4-Methyl-2-Pentanone	--	--	--	--	180 J	--	--
Toluene	--	1,200	--	--	88	--	--
Methylene Chloride	--	--	--	1,600	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	240 J	--	--
Ethyl Benzene	--	--	--	--	--	--	--
Total Xylenes	--	820 J	--	--	--	20	--
Tetrachloroethene	--	--	--	--	35 J	--	--
Semivolatile Organic Compounds(µg/kg)							
4-Methylphenol	2,100	5,300	1,385	6,300	1,900	4,100	--
Naphthalene	--	--	--	--	--	--	--
Phenol	280 J	610	--	400 J	76 J	160 J	--
2 Methylphenol	--	--	--	--	--	--	--
2,4-Dimethylphenol	79 J	--	--	--	--	120 J	--
Di-n-butyl phthalate	330 J	210 J	400 J	2,200	360 J	--	--
Bis(2-ethylhexyl)Phthalate	--	--	--	1,100	76 J	1,000	--
Diethylphthalate	--	190 J	--	180 J	120 J	--	--
Butyl benzyl phthalate	--	--	--	310 J	--	--	--
Dimethylphthalate	--	--	120 J	--	--	--	--
Inorganics (mg/kg)							
Aluminum	7,200	6,000	11,000	8,400	7,800	8,800	7,200
Antimony	--	--	--	--	--	--	--
Arsenic	4.3	6	5.6	3.1	4.3	4.6	2.8
Barium	170	140	74	120	55	7,300	3,800
Beryllium	--	--	0.38	--	--	--	--
Cadmium	--	--	--	--	--	--	--
Calcium	3,100	10,000	1,400	5,200	850	12,000	15,000
Chromium	16	9	13	15	12	29	46
Cobalt	10	6	72	--	4.1	5.7	--
Copper	12	7	12	9	8.0	12	8.5
Cyanide	--	--	--	--	--	0.96	--
Iron	110,000	100,000	26,000	110,000	20,000	200,000	62,000
Lead	19	15	13	14	9.20	43	53
Magnesium	1,600	2,000	2,000	2,700	1,000	1,900	2,600
Manganese	410	460	160	600	97	950	240
Mercury	--	--	--	--	--	--	--
Nickel	7.4	5	10	7.3	5	5	17
Potassium	740	900	1,300	860	710	1,100	1,000
Sodium	--	580	--	--	--	690	--
Vanadium	26	19	26	20	25	26	18
Zinc	31	30	29	33	22	82	93
Total Solids (%)	55	61	67	69	75	50	43

Notes:

J – Estimated Value

TABLE #1: SELECTED ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED JULY 6 & 7, 2005
OAK GROVE VILLAGE WELL SITE, FRANKLIN COUNTY, MISSOURI

- All values listed in parts per million (mg/kg) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.
- NA denotes not analyzed
- Sample results in yellow shaded cells represent COPCs

Sample ID	SB-1	SB-2	SB-2	SB-3	SB-9	SB-9	SB-15	SB-16	SB-16	SCDM[2]	EPA PRG[4]	
Depth of Sample, in or ft	4'	5'	10'	4' - 5'	8'	9'	7' - 8'	7'	28'		Ind.	Migrn to GW
Laboratory Number	0502798	0502799	0502800	0502801	0502802	0502803	0502804	0502805	0502806			
Metals												
Cadmium	<.025	<.025	<.025	<.025	.0625	<.025	.087	.117	.283	39	450	8
Chromium, total	21.3	36.1	21.4	25.0	15.5	7.36	38.8	43.7	23.3	230	450	38
Copper	10.1	12.9	6.91	6.81	7.22	3.04	5.03	5.18	28.7	NL	41000	NL
Iron	16,700	31,000	21,200	16,600	11,600	4,380	17,400	24,600	14,800	NL	100000	NL
Lead	9.15	32.9	23.4	16.8	13.4	3.29	9.56	15.8	302.0	NL	750	NL

[2] SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential and industrial use, and migration to groundwater soil benchmarks (dilution/attenuation factor = 20).

TABLE #2: SELECTED ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED JULY 19, 2005
OAK GROVE VILLAGE WELL SITE, FRANKLIN COUNTY, MISSOURI

- All values listed in parts per million (mg/kg) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.
- NA denotes not analyzed
- Sample results in yellow shaded cells represent COPCs

Sample ID	SB-28	SB-28	SB-34	TRIP BLANK	SCDM[2]	EPA PRG[4]	
Depth of Sample, in or ft	8' - 9'	7' - 8'	7' - 8'			Ind.	Migrn to GW
Laboratory Number	0503875	0503876	0503877	0503884			
Metals							
Cadmium	.158	.319	.171	NA	39	450	8
Chromium, total	37.5	20.2	32.4	NA	230	450	38
Copper	10.7	10.0	5.73	NA	NL	41000	NL
Lead	15.1	32.8	21.7	NA	NL	750	NL
Volatile Organic Compounds (VOCs)							
1,1-Dichloroethane	<.0025	.0657	<.0025	<.5	7800	1700	23
1,2,4-Trimethylbenzene	<.0025	<.0025	.00408 (e)	<.5	NL	170	NL
1-Chlorobutane	<.0025	<.0025	.00626	<.5	NL	480	NL
2-Butanone (MEK)	.0456	.0685	<.01	<2.5	47000	110000	NL
acetone	.0649 (e)	.112	<.05	<10.0	70000	54000	16
carbon disulfide	.00543	<.0025	<.0025	<.5	7800	720	32
cis-1,2-dichloroethene	<.0025	.00462 (e)	<.0025	<.5	780	150	0.4
Ethylbenzene	.00995	<.0025	<.0025	<.5	7800	400	13
Isopropylbenzene (Cumene)	.00524	<.0025	.00289 (e)	<.5	7800	2000	NL
p-Isopropyltoluene (p-Cymene)	<.0025	.0413	<.0025	<.5	NL	NL	NL
Toluene	.0392	.00627	<.0025	<.5	16000	520	12
Xylenes (Total)	.0115	<.005	.00587 (e)	<.5			

[1] e - Estimated value, detection below PQL.

[2] SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose benchmarks for soil pathway.

[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, industrial use, and migration to groundwater soil benchmarks (dilution/attenuation factor = 20).

[5] TCLP - Toxicity Leaching Procedure regulatory limit, 40 CFR Part 261, Subpart C.

TABLE#3: SELECTED ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED JULY 18, 2005
OAK GROVE VILLAGE WELL SITE, FRANKLIN COUNTY, MISSOURI

- All values listed in parts per million (mg/kg) unless otherwise noted.
- NL denotes benchmark value not listed in reference source.
- NA denotes not analyzed
- Sample results in yellow shaded cells represent COPCs

Sample ID	SB-19	SB-19	SB-18	SB-22	SB-23	BLIND	SB-21	SCDM[2]	EPA PRG[4]	
Depth of Sample, in or ft	8'	8'	7' - 8'	12' - 13'	12' - 14'	DUPLICATE	12' - 13'		Ind.	Migrn to GW
Laboratory Number	0502807	0502808	0502809	0503871	0503872	0503873	0504039			
Metals										
Cadmium	.121	.215	.233	<.025	<.025	<.025	.323	39	450	8
Chromium, total	56.2	192.0	38.6	34.7	24.8	25.6	24.1	230	450	38
Copper	19.4	13.7	14.9	10.1	11.4	11.5	11.7	NL	41000	NL
Iron	23,400	23,100	22,200	27,500	19,300	22,600	14,600	NL	100000	NL
Lead	63.9	59.3	59.0	5.58	15.5	9.69	80.0	NL	750	NL
Volatile Organic Compounds (VOCs)										
1,1-Dichloroethane	<.0125 (i)	<.005 (i)	<.005 (i)	.00417 (e)	<.0025	<.0025	<.025 (i)	7800	1700	23
1,2,4-Trimethylbenzene	.0258	.0107	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	NL	170	NL
1,2-Dichloroethane	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	7	0.6	0.02
1,3,5-Trimethylbenzene	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	NL	70	NL
1,4-Dichlorobenzene	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	27	7.9	2
1-Chlorobutane	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	NL	480	NL
2-Butanone (MEK)	<.05 (i)	.0235 (e)	<.02 (i)	1.29	<.01	.0123 (e)	<.1 (i)	47000	110000	NL
2-Hexanone	<.025 (i)	<.01 (i)	<.01 (i)	.0274	<.005	<.005	<.05 (i)	NL	NL	NL
4-Methyl-2-pentanone (MIBK)	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	6300	47000	NL
acetone	<.25 (i)	.101 (e)	<.1 (i)	<.5 (i)	<.05	<.05	<.5 (i)	70000	54000	16
Benzene	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	12	1.4	0.03
Bromochloromethane	<.0125 (i)	<.005 (i)	<.005 (i)	.0187	<.0025	<.0025	<.025 (i)	NL	NL	NL
Chlorobenzene	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	1600	530	1
Chloroform	<.0125 (i)	<.005 (i)	<.005 (i)	.00287 (e)	<.0025	<.0025	<.025 (i)	780	0.47	0.6
Dichlorodifluoromethane	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	.00322 (e)	<.0025	<.025 (i)	NL	310	NL
Diethyl ether (Ethyl ether)	<.25 (i)	<.1 (i)	<.1 (i)	<.05	<.05	<.05	<.5 (i)	NL	1800	NL
Ethylbenzene	.0459	.019	.00881 (e)	.0111	<.0025	<.0025	.287	7800	400	13
Isopropylbenzene (Cumene)	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	7800	2000	NL
Methylene chloride	<.25 (i)	<.1 (i)	<.1 (i)	<.05	.187	<.5 (i)	<.5 (i)	85	21	0.02
n-Butylbenzene	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	NL	240	NL
n-Propylbenzene (Isocumene)	<.0125 (i)	.00773 (e)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	NL	240	NL
Naphthalene	<.05 (i)	<.02 (i)	<.02 (i)	<.01	<.01	<.01	<.1 (i)	3100	190	84
p-Isopropyltoluene (p-Cymene)	1.18	.107	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	NL	NL	NL
Styrene	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	16000	1700	4
Tetrachloroethene (PCE)	<.0125 (i)	<.005 (i)	<.005 (i)	.0361	<.0025	<.0025	<.025 (i)	12	1.3	0.06
Toluene	.0255	.00523 (e)	<.005 (i)	.0591	<.0025	.00587	<.025 (i)	16000	520	12
Trichloroethene (TCE)	<.0125 (i)	<.005 (i)	<.005 (i)	.00843	<.0025	<.0025	<.025 (i)	58	0.11	0.06
Trichlorofluoromethane	<.05 (i)	<.02 (i)	<.02 (i)	.0211 (e)	<.01	<.01	<.1 (i)	23000	2000	NL
Vinyl Chloride	<.0125 (i)	<.005 (i)	<.005 (i)	<.0025	<.0025	<.0025	<.025 (i)	0.43	0.75	0.01
Xylenes (Total)	.048 (e)	.0159 (e)	.0102 (e)	.023	<.005	<.005	.131	16000	420	210

[1] e - Estimated value, detection below PQL. ed

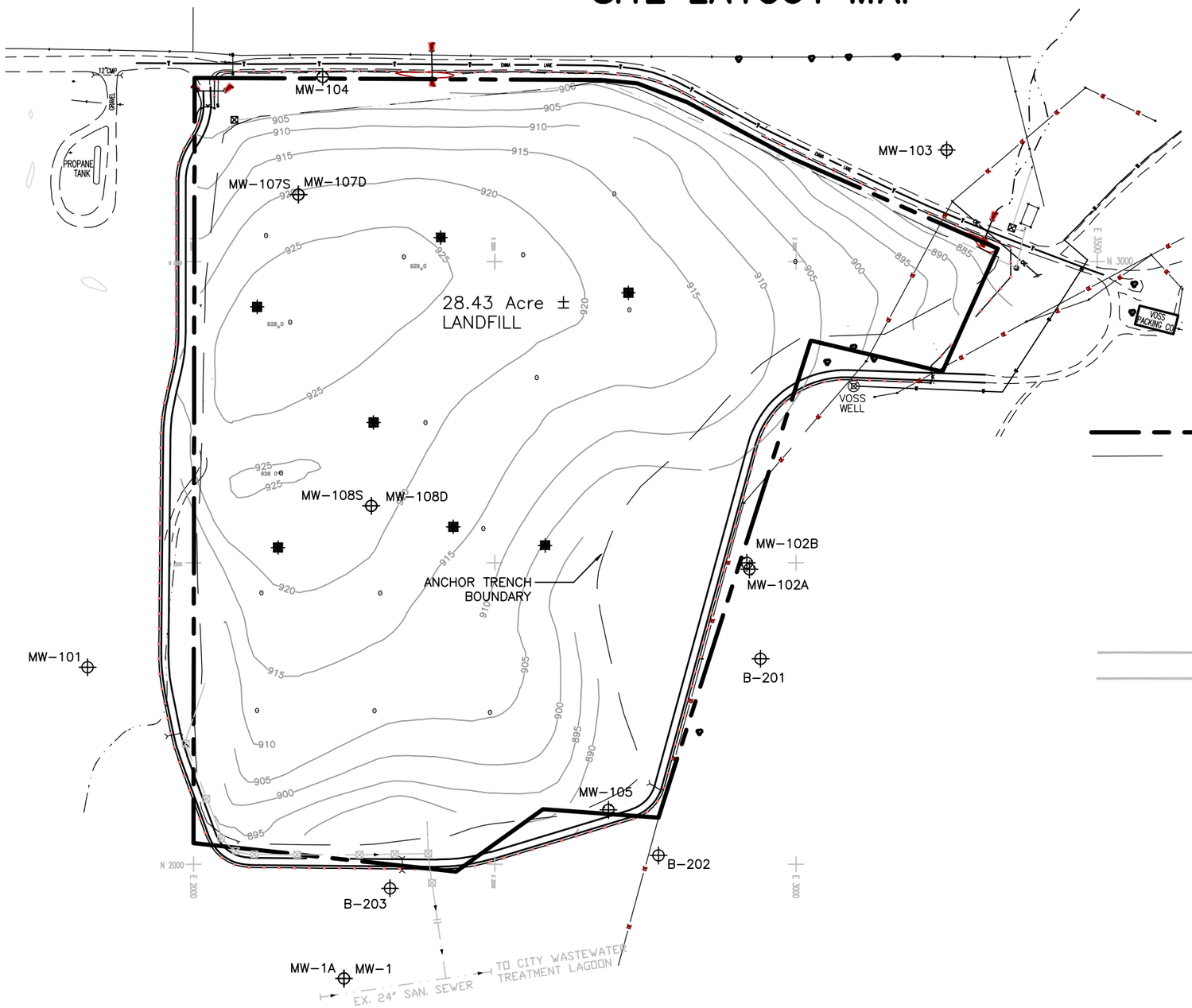
[2] SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway

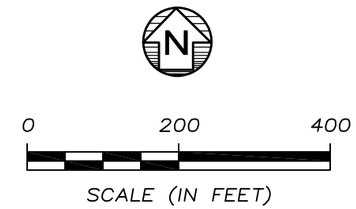
[4] EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, industrial use, and migration to groundwater soil benchmarks (dilution/attenuation factor = 20).

[5] TCLP - Toxicity Leaching Procedure regulatory limit, 40 CFR Part 261, Subpart C.

i - PQL elevated due to sample dilution

SITE LAYOUT MAP





LEGEND

- PROPERTY BOUNDARY
- GEOMEMBRANE ANCHOR TRENCH BOUNDARY
- CULVERT PIPE
- DITCH CENTERLINE
- CHAIN LINK FENCE
- CHAIN LINK FENCE GATE
- FINISH GRADE CONTOUR
- STONE RIPRAP INLET/OUTLET PROTECTION
- PERIMETER DRAIN OUTLET
- 4" PERFORATED HDPE TRENCH DRAIN
- 4" PVC TRENCH DRAIN
- GAS VENT LOCATION (16 TOTAL)
- MANHOLE
- UTILITY POLE
- OVERHEAD ELECTRIC
- CHECK VALVE PIT
- CLEANOUT
- BUMPER POSTS @ GROUNDWATER MONITORING WELLS
- SETTLEMENT PLATFORM LOCATION (7 TOTAL)

THIS DRAWING WAS ORIGINALLY DEVELOPED BY ABB ENVIRONMENTAL SERVICES, INC., 9-11-96, DWG. NO.: 6974C120.

Drawn By GML	ERM®	**SULLIVAN LANDFILL** EMMA LANE SULLIVAN, MISSOURI	CHK'D MDB-AC
CADD Review RMK			0460469
Date Drawn/Rev'd 5/8/08 – 8/13/18		Environmental Resources Management	FIGURE 2A

Q:\Team\DMMV\CIntQ-T\TRW\0460469\0460469-01.dwg, SITE LAYOUT MAP, 8/13/2018 2:07:55 PM, FAK

TABLE 1 B

WELL SUMMARY SULLIVAN LANDFILL SAMPLING [1]
MAY 2018
SULLIVAN, MISSOURI

Well	TOC Elevation [2]	Depth-to-Water from TOC [3]	Ground Water Elevation [2]	Total Well Depth from TOC	Total Boring Depth from Ground Surface	Base of Well Elevation [2]	Formation Screened
MW-1	859.50	151.93	707.57	505	NC	354.5	NC
MW-1A	860.64	126.86	733.78	280	NC	580.64	NC
MW-101	886.47	152.92	733.55	185.5	243	700.97	Gasconade
MW-102A	894.78	174.36	720.42	275.9	283	618.88	Gasconade
MW-102B	895.23	163.48	731.75	209.7	214	685.53	Gasconade
MW-103	877.73	173.76	703.97	207.1	243	670.63	Gasconade
MW-104	898.2	171.43	726.77	200.6	205	697.6	NC
MW-105	880.89	142.26	738.63	176.8	203	704.09	Gasconade
MW-107S	922.24	196.61	725.63	223.3	406	698.94	Eminence
MW-107D	922.24	218.37	703.87	377.8	406	544.44	Eminence
MW-108S	923.79	188.63	735.16	215.7	408	708.09	Eminence
MW-108D	923.8	218.81	704.99	385.3	408	538.5	Eminence
Voss	NC	NC	NC	NC	NC	NC	NC

NOTES: [1] All measurements are expressed in feet.
[2] Elevations are based on the North American Vertical Datum of 1988.
[3] Depth-to-Water from TOC was measured on May 16-17, 2018.
Denotes the deeper of the well pair

KEY: TOC = Top of casing.
NC = Not collected.

TABLE 3 A

MW-101
HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES
SULLIVAN LANDFILL

		Sample Event																							
		5/23/1992	7/22/1992	2/13/1993	8/30/1993	5/24/1994	9/6/1994	3/24/1995	6/28/1995	9/15/1995	12/18/1995	5/3/1996	6/23/1997	7/22/1998	6/29/1999	5/22/2000	5/14/2002	5/26/2004	4/26/2006	4/11/2008	3/13/2012	6/21/2012	5/28/2014	5/10/2016	5/16/2018
Volatile Organic Compounds (ug/l)	**CAS No.**																								
1,1,1-Trichloroethane	71-55-6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4 J	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	1717-00-6	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3 J	0.4 J	--	--	--	--	0.37 J	0.32 J*	0.34 J	--	--
1,1-Dichloroethene	75-35-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene	540-59-0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	87616	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--
2-Butanone (MEK)	78-93-3	--	--	--	--	--	--	--	--	--	--	--	3 J	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	108-10-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4 J	--	--	--	--	--	--	--
Acetone	67-64-1	--	--	--	--	--	--	--	--	--	--	--	--	4 J,B	--	--	1.4 J,B	--	--	--	--	--	--	--	--
Bromodichloromethane	75-27-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	75-25-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	75-15-0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18 J	--	--	--	--
cis-1,2-Dichloroethene	156-59-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3 J	--	0.69 J	--	0.73 J	0.58 J	--	--	--
Dibromochloromethane	124-48-1	--	--	--	3.3 J	2.2	--	--	--	--	--	--	NA	NA	NA	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	75-71-8	NA	NA	--	--	--	--	2.1	1.9	3	4.9	4.8	NA	NA	NA	NA	NA	NA	2.1 *	0.99 J	2.5	2.8	1.4	0.93 J	1.0
Dichlorofluoromethane	75-43-4	NA	NA	30	26	18.6	23.7	16.3	19.4	22.5	39.8	25.5	NA	NA	NA	NA	NA	NA	NA	NA	24	20	20	6.9	--
Methylene Chloride	75-09-2	--	--	--	--	--	--	--	--	--	--	--	--	1 J,B	0.2 J	--	0.4 J,B	--	--	--	--	--	--	--	--
methyl t-butyl ether	1634-04-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3 J	0.4 J	--	--	--	--	--	0.33 J	0.38 J	--	--
Toluene	108-88-3	--	--	--	--	--	--	--	1.8	--	--	--	--	--		0.1 J	--	--	--	--	--	--	--	--	--
Trichloroethene	79-01-6	4	--	--	4.2	1.9	3.7	2.1	2.2	3.7	4.1	3.2	--	3 J	2.3	3.8	1.2	1.4	2.4	0.60 J	2.2	1.8	2.0	0.87 J	1.1
Trichlorofluoromethane	75-69-4	NA	NA	51	31	26.2	43.8	26.8	24.8	32.4	42.3	32.9	NA	NA	NA	NA	NA	NA	20 *	9.4	22	18	13	6.9	12
Inorganic Analytes (total) (ug/l)	**CAS No.**																								
Barium	7440-39-3	90	--	NA	NA	52	53	56	51	53	58	63	61.1	67 B	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate Alkalinity as CaCO3	71-52-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	280000	260000	NA	NA	NA
Carbonate Alkalinity as CaCO3	3812-32-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Chromium	7440-47-3	--	--	NA	NA	--	--	--	--	--	--	--	--	4.5 B	39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	10	8	NA	NA	--	--	--	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate as N	14797-55-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	820 H	NA	NA	NA
Nitrite as N	14797-65-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA
Orthophosphate	14265-44-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	190 J,H	NA	NA	NA
Inorganic Analytes (dissolved) (ug/l)	**CAS No.**																								
Ammonia	7664-41-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	120 J,B	82 J,B	NA	NA	NA
Barium	7440-39-3	NA	NA	--	53	60	58	64	57	56	55	54	NA	NA	NA	--	62 B	58 B	53	60.6 B,J	62 J	55 J,B	56 J,B	55 J,B	75 J
Boron	7440-42-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Bromide	7726-95-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	88 J	NA	NA	NA
Calcium	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	58000	57000 B	NA	NA	NA
Chloride	16887-00-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6600	7400	NA	NA	NA
Chromium	7440-47-3	NA	NA	--	--	--	--	--	--	--	--	--	NA	NA	NA	--	--	--	--	2.9 B	--	--	--	0.55 J	--
Fluoride	16984-48-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28 J	43 J	NA	NA	NA
Iron	7439-89-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	120	--	NA	NA	NA
Lead	7439-92-1	NA	NA	--	--	--	--	--	--	--	--	--	NA	NA	NA	--	--	--	--	--	--	--	--	--	--
Lithium	554-13-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	11 J	NA	NA	NA
Magnesium	7440-47-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	31000 B	32000 B	NA	NA	NA
Manganese	7439-96-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Nickel	7440-02-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Nitrate as N	14797-55-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 H	--	NA	NA	NA
Nitrite as N	14-797-65-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Orthophosphate	14265-44-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Potassium	7440-07-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1500 J,B	1900 J	NA	NA	NA
SiO2, Silica	7631-86-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10000	9000 B	NA	NA	NA
Sodium	7440-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3900 J	4900 J	NA	NA	NA
Strontium	7440-24-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56 B	52 B	NA	NA	NA
Sulfate	18785-72-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6700	7200	NA	NA	NA
Zinc	7440-66-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35	27 J,B	NA	NA	NA
Total Phosphorus as PO4	98059-61-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA

KEY:

-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
E = Result exceeded calibration range.
NS = Not sampled

TABLE 3 A

MW-103
HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES
SULLIVAN LANDFILL

		Sample Event																							
		5/20/1992	7/22/1992	2/11/1993	8/30/1993	5/24/1994	9/6/1994	3/29/1995	6/28/1995	9/28/1995	12/18/1995	5/3/1996	6/24/1997	7/23/1998	6/30/1999	5/23/00	5/13/2002	5/26/2004	4/27/2006	4/11/2008	3/13/2012	6/21/2012	5/28/2014	5/9/2016	5/17/2018
Volatile Organic Compounds (ug/l)	**CAS No.**																								
1,1,1-Trichloroethane	71-55-6	--	--	--	--	1.1	1.4	1.3	1.1	1.4	1.9	1	--	2 J	2	0.8 J	0.8 J	--	--	--	1	0.83 J	0.87 J	0.54 J	--
1,1-Dichloroethane	1717-00-6	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4 J	--	0.4 J	0.35 J	0.78 J	--	1.6	1.2	1.3	1.6	1.5 J
1,1-Dichloroethene	75-35-4	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3 J	--	--	--	0.57 J	--	0.67 J	0.54 J	0.50 J	--	--
1,2-Dichloroethane	107-06-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene	540-59-0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	87616	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--
2-Butanone (MEK)	78-93-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	108-10-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9 J	--	--	--	--	--	--	--
Acetone	67-64-1	--	--	--	--	--	--	--	--	--	--	--	--	4 J,B	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	75-27-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	75-25-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.4	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.48 J	--	--	0.69 J	--
cis-1,2-Dichloroethene	156-59-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	124-48-1	--	--	--	--	--	--	--	--	--	--	--	NA	NA	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	75-71-8	NA	NA	--	--	4.7	3.6	7.7	6	6.1	7.5	10.1	NA	NA	NA	NA	NA	NA	6.7 *	1.9 J	5.9	10*	4.3	3.5	2.2 J
Dichlorofluoromethane	75-43-4	NA	NA	--	5.6	24.4	37.5	43.3	42	54.2	88.8	74.1	NA	NA	NA	NA	NA	NA	NA	NA	150	130	120	98	--
Methylene Chloride	75-09-2	--	--	--	--	--	--	--	--	--	--	--	--	35 B	0.6 J	--	0.8 J,B	--	--	--	--	--	--	--	--
methyl t-butyl ether	1634-04-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.78 J	--	--	--	--	--	--
Naphthalene	91-20-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	0.7 J	0.7 J	1	1.5	--	1.3	1.2	1.8	1.7	1.4 J
Toluene	108-88-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	0.23 J	--
Trichloroethene	79-01-6	--	--	--	--	--	--	--	--	--	--	--	--	1 J	0.5 J	--	0.6 J	0.44 J	0.63 J	--	0.77 J	0.69 J	0.80 J	0.74 J	--
Trichlorofluoromethane	75-69-4	NA	NA	--	5.6	24.4	37.5	43.3	42	54.2	88.8	74.1	NA	NA	NA	NA	NA	NA	150	76	130	130	90	50	69
Inorganic Analytes (total) (ug/l)	**CAS No.**																								
Barium	7440-39-3	NA	--	--	NA	52	48	52	48	54	56	54	57.1 B	117 B	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate Alkalinity as CaCO3	71-52-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	190000	190000	NA	NA	NA
Carbonate Alkalinity as CaCO3	3812-32-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Chromium	7440-47-3	NA	70	70	NA	--	--	--	--	--	--	--	--	17.4 B	12.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	NA	10	160	NA	--	--	198	119	119	119	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate as N	14797-55-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA
Nitrite as N	14797-65-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA
Orthophosphate	14265-44-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA
Inorganic Analytes (dissolved) (ug/l)	**CAS No.**																								
Ammonia	7664-41-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	120 J,B	--	NA	NA	NA
Barium	7440-39-3	NA	NA	NA	50	52	55	58	51	90	53	58	NA	NA	NA	--	59 B	58.6 B	57	65 B,J	69 J,B	77 J,B	69 J,B	76 J,B	72 J
Boron	7440-42-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Bromide	7726-95-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	160 J	180 J	NA	NA	NA
Calcium	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	42000 B	46000 B	NA	NA	NA
Chloride	16887-00-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13000	13000	NA	NA	NA
Chromium	7440-47-3	NA	NA	NA	--	--	--	--	--	--	--	--	NA	NA	NA	--	--	--	--	2.5 B	--	--	--	--	0.75 J
Fluoride	16984-48-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	63 J	78 J	NA	NA	NA
Iron	7439-89-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Lead	7439-92-1	NA	NA	NA	--	--	--	--	--	--	--	--	NA	NA	NA	--	--	--	--	--	--	--	--	--	--
Lithium	554-13-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Magnesium	7440-47-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23000 B	24000 B	NA	NA	NA
Manganese	7439-96-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.87 J,B	0.85 J,B	NA	NA	NA
Nickel	7440-02-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Nitrate as N	14797-55-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1900	1800	NA	NA	NA
Nitrite as N	14-797-65-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Orthophosphate	14265-44-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	180 J,H	NA	NA	NA
Potassium	7440-07-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	960 J,B	880 J	NA	NA	NA
SiO2, Silica	7631-86-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10000	11000	NA	NA	NA
Sodium	7440-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4600 J	41 B	NA	NA	NA
Strontium	7440-24-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46 B	820 J	NA	NA	NA
Sulfate	18785-72-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	690 J	6.4 J,B	NA	NA	NA
Zinc	7440-66-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Total Phosphorus as PO4	98059-61-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA

KEY:
-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
E = Result exceeded calibration range.
NS = Not sampled

TABLE 3 A

MW-104
HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES
SULLIVAN LANDFILL

		Sample Event													
		5/23/1992	7/22/1992	2/13/1993	8/30/1993	5/23/2000	5/14/2002	5/26/2004	4/27/2006	4/11/2008	3/13/2012	6/21/2012	5/28/2014	5/9/2016	5/17/2018
Volatile Organic Compounds (ug/l)	**CAS No.**														
1,1,1-Trichloroethane	71-55-6	--	--	--	--	0.37 J	0.95 J	--	--	0.38 J	0.22 J	--	--	--	--
1,1-Dichloroethane	1717-00-6	--	--	--	--	0.35 J	0.82 J	0.88 J	1.1	0.77 J	0.78 J	0.78 J	1.2	1	1.3
1,1-Dichloroethene	75-35-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene	540-59-0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	87616	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--
2-Butanone (MEK)	78-93-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	108-10-1	30 J	--	--	--	--	--	0.48	--	--	--	--	--	--	--
Acetone	67-64-1	4 J	--	--	--	0.92 J	1.4 J,B	--	--	--	--	--	--	--	--
Bromodichloromethane	75-27-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	75-25-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	--	--	--	--	--	--	3.50	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	--	--	--	--	--	0.23 J	0.23 J	--	0.42 J	0.32 J	0.19 J	--	0.48 J	--
cis-1,2-Dichloroethene	156-59-2	--	--	--	--	--	0.55 J	0.51 J	0.60 J	0.32 J	0.35 J	--	--	0.28 J	0.32 J
Dibromochloromethane	124-48-1	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	75-71-8	NA	NA	--	--	NA	NA	NA	4.3 *	1.5	3.2	4.8*	1.8	1.9	2.4
Dichlorofluoromethane	75-43-4	NA	NA	--	--	NA	NA	NA	NA	NA	51	71	82 E	39	--
Methylene Chloride	75-09-2	--	--	--	--	--	0.37 J,B	--	--	--	--	--	--	--	--
methyl t-butyl ether	1634-04-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	--	--	--	--	0.49	1.1	1.10	1.3	0.88 J	0.60 J	0.42 J	1.3	1.1	1.3
Toluene	108-88-3	--	--	--	--	--	--	--	--	--	0.15 J	--	--	--	--
Trichloroethene	79-01-6	4 J	--	--	--	4.3	6.8	6.60	6.5	3.4	3.5	3.1	3.1	2.6	2.9
Trichlorofluoromethane	75-69-4	NA	NA	89	58	NA	NA	NA	65 *	34	34	39	24	18	28
Inorganic Analytes (total) (ug/l)	**CAS No.**														
Barium	7440-39-3	NA	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate Alkalinity as CaCO3	71-52-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	350000	350000	NA	NA	NA
Carbonate Alkalinity as CaCO3	3812-32-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Chromium	7440-47-3	NA	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	NA	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate as N	14797-55-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA
Nitrite as N	14797-65-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA
Orthophosphate	14265-44-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA
Inorganic Analytes (dissolved) (ug/l)	**CAS No.**														
Ammonia	7664-41-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Barium	7440-39-3	70	NA	--	56	--	90.3 B	75.1 B	82	96.9 B,J	86 J,B	92 J,B	100 J,B	96 J,B	96 J
Boron	7440-42-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Bromide	7726-95-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Calcium	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	76000 B	80000 B	NA	NA	NA
Chloride	16887-00-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	22000	24000	NA	NA	NA
Chromium	7440-47-3	--	NA	--	3.1	--	--	--	--	--	--	--	--	0.99 J	0.64 J
Fluoride	16984-48-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	24 J	35 J	NA	NA	NA
Iron	7439-89-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Lead	7439-92-1	--	NA	--	3.1	--	--	--	--	--	--	3.2	--	--	--
Lithium	554-13-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	2.0 J	NA	--	NA
Magnesium	7440-47-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	43000 B	42000 B	NA	NA	NA
Manganese	7439-96-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.65 J,B	1.1 J,B	NA	NA	NA
Nickel	7440-02-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Nitrate as N	14797-55-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	850	890	NA	NA	NA
Nitrite as N	14-797-65-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Orthophosphate	14265-44-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	190 J	NA	NA	NA
Potassium	7440-07-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	2000 J,B	2100 J	NA	NA	NA
SiO2, Silica	7631-86-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	12000	13000	NA	NA	NA
Sodium	7440-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	8200	8800	NA	NA	NA
Strontium	7440-24-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	64 B	60 B	NA	NA	NA
Sulfate	18785-72-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	5600	6200	NA	NA	NA
Zinc	7440-66-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	35 B	52 B	NA	NA	NA
Total Phosphorus as PO4	98059-61-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA

KEY:
-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
E = Result exceeded calibration range.
NS = Not sampled

TABLE 3 A

MW-105
HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES
SULLIVAN LANDFILL

		Sample Event																							
		5/24/1992	7/22/1992	2/2/1993	8/30/1993	5/24/1994	9/6/1994	3/29/1995	6/28/1995	9/22/1995	12/18/1995	5/3/1996	6/23/1997	7/22/1998	6/29/1999	5/23/2000	5/13/2002	5/26/2004	4/26/2006	4/11/2008	3/13/2012	6/21/2012	5/27/2014	5/9/2016	5/16/2018
Volatile Organic Compounds (ug/l)	**CAS No.**																								
1,1,1-Trichloroethane	71-55-6	5	--	--	--	9.4	9.6	8.9	7.1	6.2	3.6	1.7	--	3 J	2.5	1.1	0.8 J	--	--	0.22 J	--	--	--	--	--
1,1-Dichloroethane	1717-00-6	21	--	27	--	8.0	11.7	11.5	10.1	12.5	8.1	17.1	--	12	13	8.0	7.6	8.60	6.9	3.0	2.9	2.8	3.3	2.6	2.7
1,1-Dichloroethene	75-35-4	--	--	--	--	--	--	--	--	--	--	--	--	1 J	0.93 J	0.24 J	--	0.73 J	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.19 J	--	--	--	--	--	--	--
1,2-Dichloroethene	540-59-0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	87616	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--
2-Butanone (MEK)	78-93-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	108-10-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.47 J	--	--	--	--	--	--	--
Acetone	67-64-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.4 B	--	--	--	--	--	--	--	--
Bromodichloromethane	75-27-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	75-25-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.70	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.27 J	0.35 J	--	0.28 J	0.24 J	0.26 J	--	0.30 J	--
cis-1,2-Dichloroethene	156-59-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.47 J	0.47 J	--	0.24 J	0.28 J	--	--	--	--
Dibromochloromethane	124-48-1	--	--	--	23 J	--	--	--	--	--	--	--	NA	NA	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	75-71-8	NA	NA	--	--	2.7	--	4.4	2.3	2.8	3.6	7.7	NA	NA	NA	NA	NA	NA	3.2 *	1.5	1.7	1.4	0.99 J	1.1	1.0
Dichlorofluoromethane	75-43-4	NA	NA	320	120	84.1	114	121	88.8	104	114	28.9	NA	NA	NA	NA	NA	NA	NA	NA	45	40	42	29	--
Methylene Chloride	75-09-2	3 J	--	--	--	--	--	--	--	--	--	--	--	2 J,B	0.73 J	0.4 J	0.86 J,B	--	--	--	--	--	--	0.48 J,B	--
methyl t-butyl ether	1634-04-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	--	--	--	--	--	--	--	--	--	--	--	--	--	0.61 J	0.7 J	0.59 J	0.62 J	--	0.46 J	0.42 J	0.37 J	0.52 J	0.42 J	0.49 J
Toluene	108-88-3	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	79-01-6	6	--	--	--	2.5	4.3	3.6	2.6	5.4	2.9	4.8	--	4 J	3.9	3.0	2.5	--	2.4	1.1	1.1	1.0	1.2	1.0	0.98 J
Trichlorofluoromethane	75-69-4	NA	NA	89	--	31	50.6	44.2	29.5	26.7	25.6	197	NA	NA	NA	NA	NA	NA	18 *	7.4	8.4	7.6	6.4	5.5	6.8
Inorganic Analytes (total) (ug/l)	**CAS No.**																								
Barium	7440-39-3	300	120	NA	NA	152	123	136	121	129	139	160	158 B	144 B	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate Alkalinity as CaCO3	71-52-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	320000	330000	NA	NA	NA
Carbonate Alkalinity as CaCO3	3812-32-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Chromium	7440-47-3	30	--	NA	NA	--	--	--	--	--	--	--	--	1.5 B	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	120	50	NA	NA	--	--	--	--	--	--	5.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate as N	14797-55-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA
Nitrite as N	14797-65-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA
Orthophosphate	14265-44-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NA
Inorganic Analytes (dissolved) (ug/l)	**CAS No.**																								
Ammonia	7664-41-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	160 J,B	43 J	NA	NA	NA
Barium	7440-39-3	NA	NA	120	120	--	139	153	136	131	145	173	NA	NA	NA	--	143 B	119 B	120	132 B,J	120 J	120 J,B	110 J,B	99 J,B	100 J
Boron	7440-42-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36 J,B	40 J	NA	NA	NA
Bromide	7726-95-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Calcium	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	70000	72000 B	NA	NA	NA
Chloride	16887-00-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8900	8300	NA	NA	NA
Chromium	7440-47-3	NA	NA	--	--	--	--	--	--	--	--	--	NA	NA	NA	--	--	--	--	--	--	--	--	0.70 J	1.3 J
Fluoride	16984-48-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	15 J	NA	NA	NA
Iron	7439-89-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Lead	7439-92-1	NA	NA	--	--	--	--	--	--	--	--	--	NA	NA	NA	--	--	--	--	--	--	2.2 J	--	--	160
Lithium	554-13-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	--	NA
Magnesium	7440-47-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37000 B	39000 B	NA	NA	NA
Manganese	7439-96-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	0.41 J,B	NA	NA	NA
Nickel	7440-02-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Nitrate as N	14797-55-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2000 H	1800	NA	NA	NA
Nitrite as N	14-797-65-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA
Orthophosphate	14265-44-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	140 J	NA	NA	NA
Potassium	7440-07-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3100 J,B	3300 J	NA	NA	NA
SiO2, Silica	7631-86-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12000	13000	NA	NA	NA
Sodium	7440-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6400	7600	NA	NA	NA
Strontium	7440-24-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	96 B	89 B	NA	NA	NA
Sulfate	18785-72-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8400	8200	NA	NA	NA
Zinc	7440-66-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	7.8 J,B	NA	NA	NA
Total Phosphorus as PO4	98059-61-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NA

KEY:
-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
E = Result exceeded calibration range.
NS = Not sampled

TABLE 3 A

VOSS WELL
HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES
SULLIVAN LANDFILL

		Sample Event																					
		2/12/1993	8/31/1993	5/24/1994	9/6/1994	3/29/1995	6/28/1995	9/22/1995	12/18/1995	5/3/1996	6/23/1997	7/22/1998	6/30/1999	5/23/2000	5/14/2002	5/26/2004	4/26/2006	4/9/2008	3/13/2012	6/21/2012	5/27/2014	5/9/2016	5/16/2018
Volatile Organic Compounds (ug/l)	**CAS No.**																						
1,1,1-Trichloroethane	71-55-6	--	--	1.7	1.7	1.5	1.6	1.5	1.8	1.6	--	2 J	1.9	1.2 J	1.5	--	--	0.63 J	0.29 J	0.33 J	--	--	NS
1,1-Dichloroethane	1717-00-6	--	--	1.9	2.0	2.3	3.1	2.6	3.1	3.5	--	4 J	5.2	3.6	5.5	5.0	6.2	4.0	2.5	2.9	2.3	3	NS
1,1-Dichloroethene	75-35-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.27 J	--	0.23 J	--	NS
1,2-Dichloroethane	107-06-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NS
1,2-Dichloroethene	540-59-0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NS
1,2,3-Trichlorobenzene	87616	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	NS
2-Butanone (MEK)	78-93-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NS
4-Methyl-2-Pentanone (MIBK)	108-10-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.59 J	--	--	--	--	--	--	NS
Acetone	67-64-1	--	--	--	--	--	--	--	--	--	--	--	--	--	6.3 B	--	--	--	--	--	--	--	NS
Bromodichloromethane	75-27-4	--	--	--	--	--	--	--	--	--	--	--	--	--	0.38 J	--	--	--	--	--	--	--	NS
Bromoform	75-25-2	--	--	--	--	--	--	--	--	--	--	--	--	--	0.44 J	--	--	--	--	--	--	--	NS
Carbon Disulfide	75-15-0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NS
Chlorobenzene	108-90-7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NS
Chloroform	67-66-3	--	--	--	--	--	--	--	--	--	--	--	--	--	0.89 J	0.19 J	--	0.52 J	0.32 J	--	--	0.61 J	NS
cis-1,2-Dichloroethene	156-59-2	--	--	--	--	--	--	--	--	--	--	--	--	--	0.24 J	0.28 J	--	--	--	--	--	--	NS
Dibromochloromethane	124-48-1	--	--	--	--	--	--	--	--	--	NA	NA	0.11 J	--	--	--	--	--	--	--	--	--	NS
Dichlorodifluoromethane	75-71-8	NA	--	3.9	3.8	4.7	5.2	5.7	7	8.7	NA	NA	NA	NA	NA	NA	8.0 *	4.0	3.1	3.7	2.8	2.8	NS
Dichlorofluoromethane	75-43-4	150	19 J	70	66.7	76.7	97.4	80.8	161	192	NA	NA	NA	NA	NA	NA	--	--	68	91	76	65	NS
Methylene Chloride	75-09-2	--	--	--	--	--	--	--	--	--	--	2 J,B	0.85 J	--	0.99 J, B	0.61 J	1.2	--	--	--	--	0.56 J	NS
methyl t-butyl ether	1634-04-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NS
Naphthalene	91-20-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.90 J	--	--	--	--	NS
Tetrachloroethene	127-18-4	--	--	--	--	--	--	--	--	--	8	1 J	1	0.9 J	1.2	1.1	1.2	0.88 J	0.76 J	0.91 J	0.88 J	1.2	NS
Toluene	108-88-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NS
Trichloroethene	79-01-6	--	--	2.5	2.4	2.8	2.7	2.8	3.1	3.4	--	3 J	2.6	1.6 J	3.3	3.6	4.0	2.4 J	1.8	2.0	1.4	--	NS
Trichlorofluoromethane	75-69-4	120	15 J	73.9	--	70.1	90.3	81.4	88.7	92.7	NA	NA	NA	NA	NA	NA	93 H,*	62	40	43	38	32	NS
Inorganic Analytes (total) (ug/l)	**CAS No.**																						
Barium	7440-39-3	NA	NA	76	82	82	69	83	83	85	88.2 B	83 B	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Bicarbonate Alkalinity as CaCO3	71-52-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	230000	240000	NA	NA	NS
Carbonate Alkalinity as CaCO3	3812-32-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NS
Chromium	7440-47-3	NA	NA	--	--	--	--	--	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Lead	7439-92-1	NA	NA	--	--	--	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Nitrate as N	14797-55-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NS
Nitrite as N	14797-65-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NS
Orthophosphate	14265-44-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	NA	NS
Inorganic Analytes (dissolved) (ug/l)	**CAS No.**																						
Ammonia	7664-41-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38 J	--	NA	NA	NS
Barium	7440-39-3	90	76	78	91	93	78	85	86	96	NA	NA	NA	--	94.8 B	97.7 B	94	88.4 B,J	180 J,B	190 J	200 B	160 J,B	NS
Boron	7440-42-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NS
Bromide	7726-95-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NS
Calcium	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51000 B	52000	NA	NA	NS
Chloride	16887-00-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8100	8700	NA	NA	NS
Chromium	7440-47-3	--	--	--	--	--	--	--	--	--	NA	NA	NA	--	--	--	--	--	--	--	--	0.55 J	NS
Fluoride	16984-48-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33 J	45 J	NA	NA	NS
Iron	7439-89-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NS
Lead	7439-92-1	--	--	--	--	--	--	--	--	--	NA	NA	NA	--	--	--	--	2.7 B	--	2.2 J	--	--	NS
Lithium	554-13-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	--	NS
Magnesium	7440-47-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29000 B	29000	NA	NA	NS
Manganese	7439-96-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.74 J,B	--	NA	NA	NS
Nickel	7440-02-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NS
Nitrate as N	14797-55-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	970	1100	NA	NA	NS
Nitrite as N	14-797-65-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NS
Orthophosphate	14265-44-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	83 J	NA	NA	NS
Potassium	7440-07-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1500 J, B	1400 J	NA	NA	NS
SiO2, Silica	7631-86-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11000	12000	NA	NA	NS
Sodium	7440-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4900 J	5400	NA	NA	NS
Strontium	7440-24-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49 B	49	NA	NA	NS
Sulfate	18785-72-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11000	11000	NA	NA	NS
Zinc	7440-66-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3 J,B	7.3 J	NA	NA	NS
Total Phosphorus as PO4	98059-61-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	NA	NA	NS

KEY:
-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
E = Result exceeded calibration range.
NS = Not sampled

ARCADIS

Table 2A Slurry and Groundwater Samples from Monitoring Well MW-108 and Representative Sample of Potable Water Used during Drilling
Oak Grove Village - Sullivan, Missouri

	Location ID	MW-107	MW-107	MW-107	MW-107	MW-107	MW-107	MW-107	MW-107	MW-107	Slurry Samples from MW-108 collected from above the water table		
	Sample ID	MW-107BH@16'(20110426)	MW-107B4@97'(20110516)	MW-107 BH@185(20110617)	MW-107BH@235'(20110711)	MW-107BH@295'(20110817)	MW-107BH@355'(20110822)	MW-107BH@340'(20111005)	MW-107BH@360'(20111005)	MW-107BH@390'(20111005)	MW-108* MW-108 BH@26'-20101112	MW-108 MW-108 BA@80' 20101119	MW-108* MW-108 BH@141'-20101201
	Sample Date	4/26/2011	5/16/2011	6/17/2011	7/11/2011	8/17/2011	8/22/2011	10/5/2011	10/5/2011	10/5/2011	11/12/2010	11/19/2010	12/1/2010
VOCs													
1,1,1,2-TETRACHLOROETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,1,1-TRICHLOROETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,1,2,2-TETRACHLOROETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,1,2-TRICHLOROETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,1-DICHLOROETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	0.19 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,1-DICHLOROETHENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,1-DICHLOROPROPENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.55 JB	< 18 U	< 10 U	< 1 U
1,2,3-TRICHLOROBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,2,3-TRICHLOROPROPANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.27 JB	< 18 U	< 10 U	< 1 U
1,2,4-TRICHLOROBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,2,4-TRIMETHYLBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,2-DIBROMOETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,2-DICHLOROBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,2-DICHLOROETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,2-DICHLOROPROPANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,3,5-TRIMETHYLBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,3-DICHLOROBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,3-DICHLOROPROPANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
1,4-DICHLOROBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
2,2-DICHLOROPROPANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
2-CHLOROTOLUENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
2-PHENYLBUTANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
4-CHLOROTOLUENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
BENZENE	ug/L	< 1 U	< 170 U	0.28 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
BROMOBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
BROMODICHLOROMETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
BROMOFORM	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
BROMOMETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
CARBON TETRACHLORIDE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
CHLOROBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
CHLOROBROMOMETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
CHLOROETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
CHLOROFORM	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	0.37 J	0.31 J	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
CHLOROMETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
CIS-1,2-DICHLOROETHENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
CIS-1,3-DICHLOROPROPENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
CYMENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
DIBROMOCHLOROMETHANE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
DIBROMOMETHANE	ug/L	< 1 U	< 170 U	1.7	1.1	1.2	1.0	0.48 J	0.46 J	0.36 J	< 36 U	31	< 2 U
Freon-12 (DICHLORODIFLUOROMETHANE)	ug/L	2.2	1600	37	22	32	18	18	15	15	20	< 10 U	< 1 U
Freon-21 (DICHLOROMONOFLUOROMETHANE)	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.31 JB	< 18 U	< 10 U	< 1 U
ETHYLBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
HEXACHLORO-1,3-BUTADIENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 2 U	72	< 20 U	< 2 U
ISOPROPYLBENZENE (Cumene)	ug/L	< 2 U	< 330 U	< 2.9 U	< 2 U	< 2 U	< 2 U	< 2 U	< 1 U	< 1 U	43	38	< 1 U
M/P XYLENE	ug/L	< 1 U	3500	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.52 JB	< 18 U	< 10 U	< 1 U
METHYLENE CHLORIDE	ug/L	0.47 JB	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
NAPHTHALENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
N-BUTYL BENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	20	< 10 U	< 1 U
N-PROPYL BENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
O-XYLENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
STYRENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
TERT-BUTYLBENZENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	0.40 J	0.38 J	0.30 J	< 1 U	< 1 U	580	< 10 U	< 1 U
TETRACHLOROETHANE	ug/L	< 1 U	< 170 U	0.49 J	2.1	3.0	0.95 J	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
TOLUENE	ug/L	0.36 J	300	1.6	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
TRANS-1,2-DICHLOROETHENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
TRANS-1,3-DICHLOROPROPENE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U	3.2	1.7	1.4	1.2	1.2	< 18 U	< 10 U	< 1 U
TRICHLOROETHENE	ug/L	< 1 U	< 170 U	2.6	2.0	30	23	13	10	8.8	< 18 U	< 10 U	< 1 U
Freon-11 (TRICHLOROFLUOROMETHANE)	ug/L	< 1 U	300	37 *	32	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 18 U	< 10 U	< 1 U
VINYL CHLORIDE	ug/L	< 1 U	< 170 U	< 1.4 U	< 1 U								
Metals													
BARIUM	ug/L	NA	NA	NA	49 JB	51 JB	130 JB	NA	NA	NA	NA	NA	NA
BORON	ug/L	NA	NA	NA	< 200 U	< 200 U	< 200 U	NA	NA	NA	NA	NA	NA
CALCIUM	ug/L	NA	NA	NA	50000 B	53000 B	46000 B	NA	NA	NA	NA	NA	NA
CHROMIUM	ug/L	NA	NA	NA	< 5 U	< 5 U	< 5 U	NA	NA	NA	NA	NA	NA
IRON	ug/L	NA	NA	NA	< 100 U	< 100 U	< 100 U	NA	NA	NA	NA	NA	NA
LEAD	ug/L	NA	NA	NA	< 3 U	< 3 U	< 3 U	NA	NA	NA	NA	NA	NA
LITHIUM	ug/L	NA	NA	NA	5.1 J	< 50 U	< 50 U	NA	NA	NA	NA	NA	NA
MAGNESIUM	ug/L	NA	NA	NA	33000	34000	27000 B	NA	NA	NA	NA	NA	NA
MANGANESE	ug/L	NA	NA	NA	17	3.5 JB	4.3 JB	NA	NA	NA	NA	NA	NA
NICKEL	ug/L	NA	NA	NA	< 40 U	< 40 U	4.7 J	NA	NA	NA	NA	NA	NA
POTASSIUM	ug/L	NA	NA	NA	2100 JB	1500 JB	1200 JB	NA	NA	NA	NA	NA	NA
Silica	ug/L	NA	NA	NA	9800	9200	8700	NA	NA	NA	NA	NA	NA
SODIUM	ug/L	NA	NA	NA	4600 J	5700	3300 J	NA	NA	NA	NA	NA	NA
STRONTIUM	ug/L	NA	NA	NA	56	61 B	46 B	NA	NA	NA	NA	NA	NA
ZINC	ug/L	NA	NA	NA	< 20 U	11 JB	7.2 JB	NA	NA	NA	NA	NA	NA
Other													
Ammonia	mg/L	NA	NA	NA	NA	0.11 J	0.036 J	NA	NA	NA	NA	NA	NA
Bicarbonate Alkalinity	mg/L	NA	NA	NA	240	250	210	NA	NA	NA	NA	NA	NA
Bromide	mg/L	NA	NA	NA	< 0.5 U	< 0.5 U	< 0.5 U	NA	NA	NA	NA	NA	NA
Carbonate Alkalinity	mg/L	NA	NA	NA	< 5 U	< 5 U	< 5 U	NA	NA	NA	NA	NA	NA
CHLORIDE	mg/L	NA	NA	NA	6.6	6.1	2.4	NA	NA	NA	NA	NA	NA
Dissolved ortho-Phosphate	mg/L	NA	NA	NA	0.58 H	< 0.5 U	< 0.5 U	NA	NA	NA	NA	NA	NA
FLUORIDE	mg/L	NA	NA	NA	0.077 J	0.064 J	0.060 J	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/L	NA	NA	NA	0.52 H	0.42	0.31	NA	NA	NA	NA	NA	NA
Nitrite-N	mg/L	NA	NA	NA	< 0.1 UH	< 0.1 U	< 0.1 U	NA	NA	NA	NA	NA	NA
Phosphorus	mg/L	NA	NA	NA	0.033 J	0.035 J	< 0.1 U	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	NA	NA	NA	9.8	7.2	10	NA	NA	NA	NA	NA	NA

* The USGS requested the original MW-3 nomenclature be changed to avoid confusion with well names in OU1. Therefore, MW-3 was renamed MW-108 to be consistent with the nomenclature used on the existing shallow wells surrounding the landfill.

NA Not Analyzed
ug/L Micrograms per liter
mg/L Milligrams per liter
J Estimated value
B Analyte detected in Blank
U Not detected above reporting limit

ARCADIS

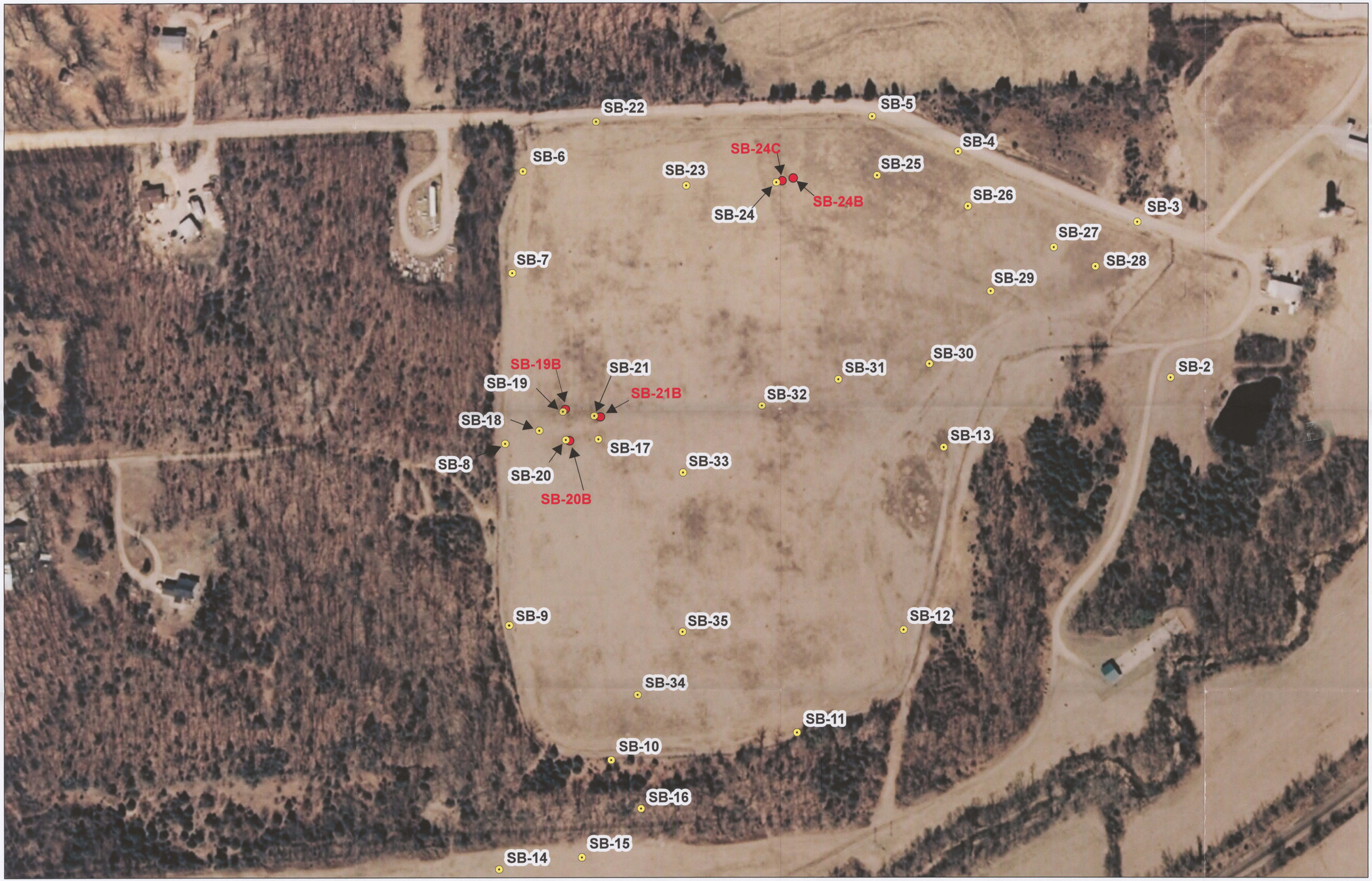
Table 2A Slurry and Groundwater Samples from Monitoring Well MV
Oak Grove Village - Sullivan, Missouri

	Location ID	Water Samples collected from below the water table									Potable Water Sample
	Sample ID	MW-108*	MW-108	MW-108	MW-108	MW-108	MW-108	MW-108	MW-108	MW-108	MW-108*
		MW-108BH@185'(20101211	MW-108BH@195(20110105)	MW-108BH@210(20110106)	MW108(187-235)(20110316)	MW-108BH@295'(20110829)	MW-108BH@355'(20110831)	MW-108BH@340'(20111005)	MW-108BH@370'(20111005)	MW-108BH@390'(20111005)	MW-3 POTABLE-20101118
	Sample Date	12/15/2010	1/5/2011	1/6/2011	3/16/2011	8/29/2011	8/31/2011	10/5/2011	10/5/2011	10/5/2011	11/18/2010
VOCs											
1,1,1,2-TETRACHLOROETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,1-TRICHLOROETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	0.24 J	0.28 J	0.23 J	< 1 U
1,1,2,2-TETRACHLOROETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,2-TRICHLOROETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-DICHLOROETHANE	ug/L	1.8	< 1 U	1.2	1.4 J	1.3	0.92 J	2.1	2.5	2.3	< 1 U
1,1-DICHLOROETHENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-DICHLOROPROPENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,3-TRICHLOROBENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,3-TRICHLOROPROPANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,4-TRICHLOROBENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,4-TRIMETHYLBENZENE	ug/L	< 1 U	< 1 U	< 1 U	1.0 JB	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-DIBROMOETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-DICHLOROBENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-DICHLOROETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-DICHLOROPROPANE	ug/L	< 1 U	< 1 U	< 1 U	0.92 JB	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3,5-TRIMETHYLBENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3-DICHLOROBENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3-DICHLOROPROPANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,4-DICHLOROBENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2,2-DICHLOROPROPANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-CHLOROTOLUENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-PHENYLBUTANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
4-CHLOROTOLUENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
BENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
BROMOBENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
BROMODICHLOROMETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
BROMOFORM	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
BROMOMETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
CARBON TETRACHLORIDE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
CHLOROBENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
CHLOROBROMOMETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
CHLOROETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	0.20 J	0.19 J	0.48 J	0.50 J	0.50 J	< 1 U
CHLOROFORM	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
CHLOROMETHANE	ug/L	< 1 U	< 1 U	< 1 U	0.51 J	0.59 J	0.56 J	0.66 J	0.62 J	0.70 J	< 1 U
CIS-1,2-DICHLOROETHENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
CIS-1,3-DICHLOROPROPENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
CYMENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
DIBROMOCHLOROMETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
DIBROMOMETHANE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Freon-12 (DICHLORODIFLUOROMETHANE)	ug/L	2.0	< 1 U	< 1 U	0.83 J	2.8	2.7	2.1	1.7	1.5	< 1 U
Freon-21 (DICHLOROMONOFLUOROMETHANE)	ug/L	33	26	39	65	68	50	79	90	100	< 2 U
ETHYLBENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
HEXACHLORO-1,3-BUTADIENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
ISOPROPYLBENZENE (Cumene)	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
M/P XYLENE	ug/L	< 2 U	< 2 U	< 2 U	< 4 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
METHYLENE CHLORIDE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
NAPHTHALENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
N-BUTYL BENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
N-PROPYL BENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
O-XYLENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
STYRENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
TERT-BUTYLBENZENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
TETRACHLOROETHANE	ug/L	1.0	< 1 U	< 1 U	0.91 J	0.60 J	0.65 J	0.98 J	1.2	1.2	< 1 U
TOLUENE	ug/L	1.6	< 1 U	< 1 U	3.5	2.9	3.0	< 1 U	< 1 U	< 1 U	< 1 U
TRANS-1,2-DICHLOROETHENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
TRANS-1,3-DICHLOROPROPENE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
TRICHLOROETHENE	ug/L	1.1	< 1 U	1.1	1.7 J	2.0	2.3	2.8	3.3	3.1	< 1 U
Freon-11 (TRICHLOROFLUOROMETHANE)	ug/L	6.4	4.7	5.8	14	25	27	26	30	27	< 1 U
VINYL CHLORIDE	ug/L	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Metals											
BARIUM	ug/L	NA	NA	NA	184 B	120 JB	100 JB	NA	NA	NA	NA
BORON	ug/L	NA	NA	NA	< 200 U	< 200 U	< 200 U	NA	NA	NA	NA
CALCIUM	ug/L	NA	NA	NA	77800 J	67000 B	55000 B	NA	NA	NA	NA
CHROMIUM	ug/L	NA	NA	NA	< 5 U	< 5 U	< 5 U	NA	NA	NA	NA
IRON	ug/L	NA	NA	NA	< 100 U	< 100 U	< 100 U	NA	NA	NA	NA
LEAD	ug/L	NA	NA	NA	< 3 U	< 3 U	< 3 U	NA	NA	NA	NA
LITHIUM	ug/L	NA	NA	NA	3.5 B	< 50 U	< 50 U	NA	NA	NA	NA
MAGNESIUM	ug/L	NA	NA	NA	42400	37000 B	33000	NA	NA	NA	NA
MANGANESE	ug/L	NA	NA	NA	218	92	39 B	NA	NA	NA	NA
NICKEL	ug/L	NA	NA	NA	6.7 B	9.7 J	5.3 J	NA	NA	NA	NA
POTASSIUM	ug/L	NA	NA	NA	2720 BJ	2100 JB	1600 JB	NA	NA	NA	NA
Silica	ug/L	NA	NA	NA	12500	12000	10000	NA	NA	NA	NA
SODIUM	ug/L	NA	NA	NA	7000	6000	5000	NA	NA	NA	NA
STRONTIUM	ug/L	NA	NA	NA	102 J	98	81	NA	NA	NA	NA
ZINC	ug/L	NA	NA	NA	74.4 J	470 B	300 B	NA	NA	NA	NA
Other											
Ammonia	mg/L	NA	NA	NA	< 2 U	0.16 J	0.088 JB	NA	NA	NA	NA
Biocarbonate Alkalinity	mg/L	NA	NA	NA	357	310	240	NA	NA	NA	NA
Bromide	mg/L	NA	NA	NA	< 0.5 U	0.11 J	< 0.5 U	NA	NA	NA	NA
Carbonate Alkalinity	mg/L	NA	NA	NA	< 5 U	< 5 U	< 5 U	NA	NA	NA	NA
CHLORIDE	mg/L	NA	NA	NA	10.2	10	8.7	NA	NA	NA	NA
Dissolved ortho-Phosphate	mg/L	NA	NA	NA	< 0.5 U	< 0.5 U	< 0.5 UH	NA	NA	NA	NA
FLUORIDE	mg/L	NA	NA	NA	0.030 B	0.036 J	0.038 J	NA	NA	NA	NA
Nitrate-N	mg/L	NA	NA	NA	0.26	0.38	0.46 H	NA	NA	NA	NA
Nitrite-N	mg/L	NA	NA	NA	< 0.1 U	< 0.1 U	< 0.1 UH	NA	NA	NA	NA
Phosphorus	mg/L	NA	NA	NA	< 0.1 U	0.042 J	< 0.1 U	NA	NA	NA	NA
Sulfate	mg/L	NA	NA	NA	11.7	14	13	NA	NA	NA	NA

* The USGS requested the original MW-3 nomenclature be changed to avoid confusion with well names in OU1. Therefore, MW-3 was renamed MW-108 to be consistent with the nomenclature used on the existing shallow wells surrounding the landfill.

NA Not Analyzed
ug/L Micrograms per liter
mg/L Milligrams per liter
J Estimated value
B Analyte detected in Blank
ug/L Not detected above reporting limit

Oak Grove Village Well Site
closed Sullivan Landfill Investigation
July-August 2005



Legend

- Soil Samples
- Lechate/Volitles Samples

Missouri Department of Natural Resources
Division of Environmental Quality
Hazardous Waste Program
Created by Candice McGhee July 12, 2006

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Plate 1 Sample Locations

APPENDIX K

LA JOLLA SPRING CAVE COMPLEX

Figure 1 Cave Layout
Table 1 Cave Air Controls and Monitoring Result Summary
EPA Analytical Data *(Provided on CD)*

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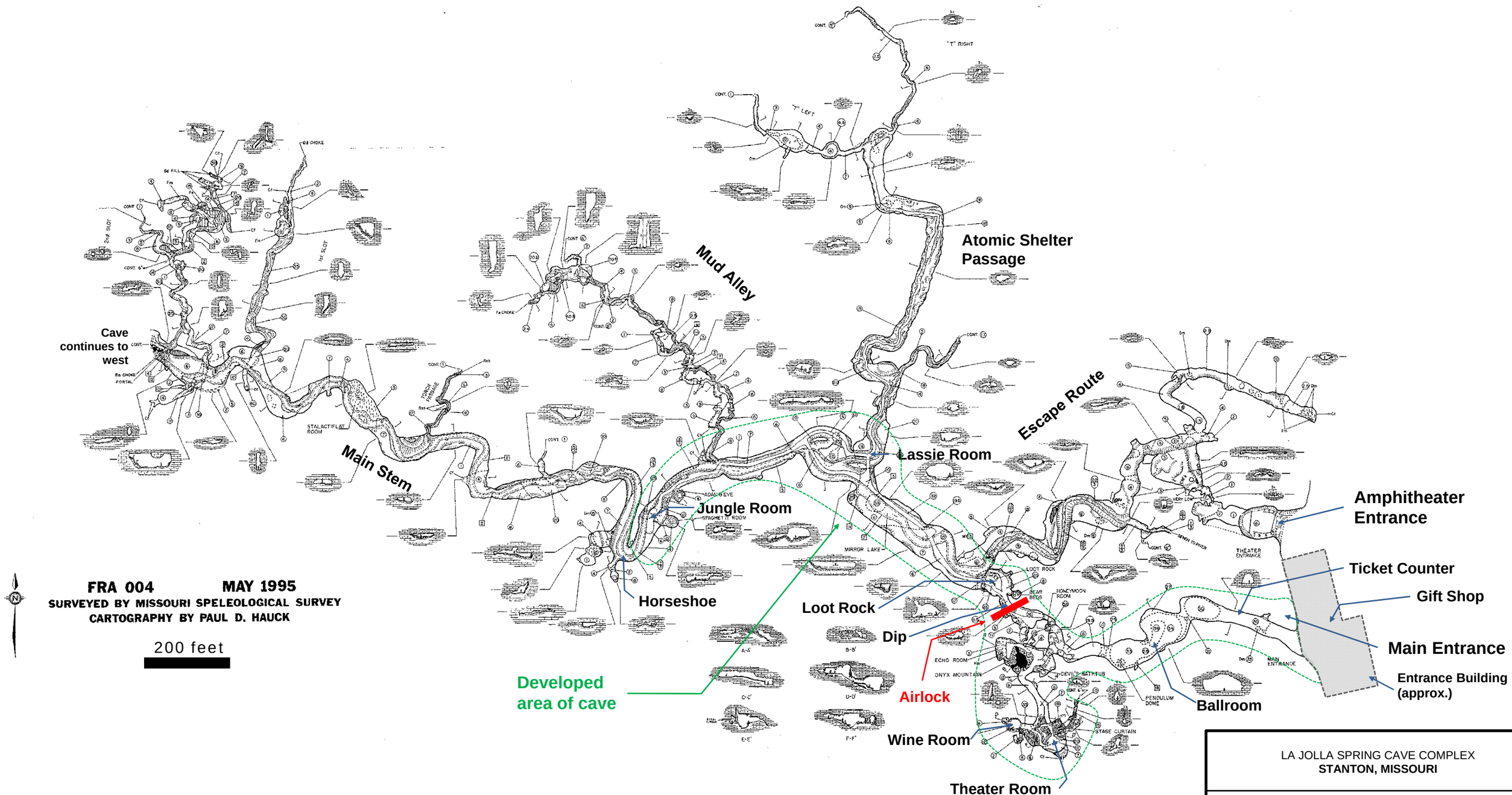
Cave continues to west
Main Stem
Mud Alley
Atomic Shelter Passage
Escape Route
Lassie Room
Jungle Room
Horseshoe
Loot Rock
Dip
Airlock
Developed area of cave
Wine Room
Theater Room
Ballroom
Amphitheater Entrance
Ticket Counter
Gift Shop
Main Entrance
Entrance Building (approx.)
FRA 004 MAY 1995
SURVEYED BY MISSOURI SPELEOLOGICAL SURVEY
CARTOGRAPHY BY PAUL D. HAUCK
200 feet
LA JOLLA SPRING CAVE COMPLEX
STANTON, MISSOURI
CAVE LAYOUT

Table 1
Cave Air Controls And Monitoring Result Summary
Meramec Caverns, Sullivan, Missouri

	Air Control Settings and Other Conditions							Personal Air Monitoring (PAM) TCE Results						Stationary Air Sample TCE Results					Stream Sampling TCE Results		
Date	Outside Air Temp. (24-hr average)	Vent-Well Blower	Up-Cave Airflow Rate (24-hr average)	SSDS (B-Ballroom, G-Giftshop, V- Vault)	Wine Room Vents	Main Entrance Windows	Airlock	Portion of Cave Tested	PAM Sample Duration	5 Tour PAM	4 Tour PAM	3 Tour PAM	Back-pack Blank	Gift Shop	Ball-room	Theater	Loot Rock	Jungle Room	Sample Date	Loot Rock	Jungle Room
	°F		CFM		Op- Open, Cl - Closed, PtO - partly open				hh:mm	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³		µg/L	µg/L
9/3/2019	72.6	On	3,619	B,G,V	Op	Cl	Cl	NA	NA										9/3/2019	1.2 / 1.0	1.2
8/21/2019	75.7	On	3,601	B,G,V	Op	Cl	Cl	Full	8:30		2.9			NA	NA	NA	NA	NA	8/21/2019	NA	NA
8/5/2019	73.8	On	1,711	B,G,V	Op	Cl	Cl	Full	8:30		7.1			0.83 J	0.78 J	1.1 U	30	35	8/6/2019	0.99 J / 0.89 J	1.0 J
7/15/2019	77.1	On	1,663	B,G,V	Op	Cl	Cl	NA	NA										7/15/2019	0.65 J / 0.70 J	0.68 J
6/10/2019	74	On	3,927	B,G,V	Cl	Cl	Cl	NA	NA										6/10/2019	0.29 J / 0.27 J	0.31 J
5/7/2019	66.8	On	4,781	B,G,V	Cl	Cl	Cl	Full	8:30		0.3 J			1.1 U / 1.1 U	1.1 U	1.1 U	5.9	7.4	5/8/2019	0.54 J	0.61 J
4/1/2019	36.9	On	5,257	B,G,V	Cl	Cl	Cl	NA	NA										4/1/2019	0.98 J / 0.93 J	1.1
3/11/2019	41.8	On	7,196	B,G,V	Cl	Cl	Cl	NA	NA										3/11/2019	1.2 / 1.2	1.2
02/13/19	36.0	On	7,265	B,G,V	Op	Cl	Cl	Full	8:30		2.9			1.1 U / 1.1 U	1.1 U	0.69 J	13	15	02/13/19	1.9 /0.14 J	1.9
01/10/19	37.1	On	8,173	B,G,V	Op	Cl	Cl	NA	NA										01/10/19	3.0 / 3.0	3.0
12/20/18	45.7	On	8,370	B,G,V	Op	Cl	Cl	Full	8:30		2.5			1.1 U / 1.1 U	1.1 U	0.69 J	13	15	12/21/18	2.9 / 3.2	3.5
11/16/18	33.0	On	7,313	B,G,V	Op	Cl	Cl	Full	8:30		4.1			1.1 U / 1.1 U	1.1 U	1.1 U	26	21	11/14/18	2.7 / 2.7	2.9
10/15/18	46.9	On	6,319	B,G,V	Op	Cl	Cl	Full	8:30		4.2			1.1 U / 1.1 U	1.1 U	1.1 U	20	20	10/16/18	3.9 / 3.8	4.1
09/17/18	74.9	On	4500 (b)	B,G,V	Op	Cl	Cl	Full	8:30		4.6			0.61 J / 0.44 J	0.058 J	1.1 U	22	23	09/19/18	2.6 / 2.6	2.6
08/13/18	75.0	On	3,872	B,G,V	Op	Cl	Cl	Full	8:30		3.9			0.41 J /0.43 J	0.45 J	1.3	15	17	08/14/18	2.2 / 2.1	2.4
07/09/18	79.8	On	3,133	B,G,V	Op	Cl	Cl	Full	8:30		3.6			0.28 J	0.22 J	1.1 U	17	15	07/10/18	1.9/1.6	1.8
06/12/18	78.7	On	3,232	B,G,V	Op	Cl	Cl	Full	8:32		3.6			1.1 U / 1.1 U	1.1 U	1.1 U	17	16	06/11/18	1.4	1.7
05/14/18	75.3	On	3,669	B,G,V	Op	PtO	Cl	Full	8:30		2.9			1.1 U / 1.1 U	1.1 U	1.1 U	12	14	05/15/18	1.6 / 1.6	1.8
04/20/18	53.4	On	6,185	B,G,V	Op	PtO	Cl	Full	8:30		2.1			1.1 U / 1.1 U	1.1 U	1.1 U	10	12	04/16/18	2.0 / 1.7	2.0
03/13/18	39.6	On	7,466	B,G,V	Op	PtO	Cl	Full	8:30		2.2			1.1 U / 1.1 U	1.1 U	1.1 U	12	12	03/12/18	2.3 / 2.6	2.5
02/12/18	22.1	On	11,246	B,G,V	Op	PtO	Cl	Full	8:30		1.9			0.23 J / 0.23 J	0.31 J	0.27 J	17	17	02/13/18	5.5 / 4.9	5.7
01/18/18	22.6	On	10,542	B,G	Op	PtO	Cl	Full	8:30		4.1			1.6 / 1.8	1.6	1.1	18	17	01/17/18	4.1 / 4.3	4.2
01/04/18	13.3	On	16,531	B	Op	Op	Op	Full	8:30			0.97 J		0.91 J	0.46 J	0.53 J	0.50 J	4.6	01/04/18	2.3 / 2.1	2.1
12/12/17	38.2	On	6,081	B	Op	Cl	Cl	Full	8:30		9.4			7.5 / 7.5	7.7	5.6	37	34	12/11/17	6.0 / 6.2	7.1
11/14/17	48.3	On	5,758	B	Op	Cl	Cl	Full	8:31		5.4			1.8 / 1.6	1.4	0.56 J	21	26	11/15/17	4.1	4.5 / 4.3
10/24/17	52.0	On	5,815	B	Op	Op	Cl	Full	8:30		4.2			0.69 J / 0.68 J	0.20 J	1.4	31	19	10/23/17	4.1 / 4.2	4.1
10/10/17	69.9	On	3,692	B	Op	Op	Cl	Full	8:30		5.6			1.1 U / 1.1 U	1.1 U	1.1 U	15	21			
09/19/17	73.2	On	3,722	B	Op	Cl	Cl	Full	8:30		3.7			1.1 U / 0.56 J	1.1 U	1.1 U	13	16	09/18/17	1.8 / 1.8	1.6
08/14/17	71.5	On	3,958	B	Op	Cl	Cl	Full	8:30		4.2			0.24 J / 0.24 J	1.1 U	1.1 U	16	22	08/15/17	2.4 / 2.6	2.4
07/31/17	76.0	On	4,275	B	Op	Cl	Cl	NA	NA										07/31/17	2.1 / 2.0	2.3
07/17/17	79.6	On	3,718	B	Op	Cl	Cl	Full	8:30		4.9			0.33 J / 1.1 U	1.1 U	1.1 U	28	20	07/19/17	1.9 / 2.1	2.4
07/06/17	75.9	On	4,238	B	Op	Cl	Cl	Full	8:30		3.5			1.1 U / 0.19 J	1.1 U	1.1 U	20	16			
06/20/17	74.0	On	4,315	B	Op	Cl	Cl	Full	8:30		2.8			1.1 U / 1.1 U	1.1 U	1.1 U	13	12	06/20/17	1.0 / 1.1	1.1
06/06/17	70.2	On	6,292	B	Op	Cl	Cl	Full	8:30		2.1			1.1 U / 1.1 U	1.1 U	1.1 U	8.2	8.3			
05/24/17	57.8	On	6,058	B	Op	Op	Cl	Full	8:30		1.3			1.1 U / 1.1 U	1.1 U	1.1 U	8.6	7.4	05/24/17	1.1 / 1.1	
05/17/17	74.8	On	NA [c]	B	Op	Op	Cl	Full	8:30		1.6										
04/24/17	54.9	On	6,222	B	Op	Op	Cl	Full	8:30		4.4			0.44 J / 0.47 J	1.1 U	1.1 U	25	24	04/25/17	2.7 / 2.8	2.8
04/10/17	72.8	On	7,605	B	Op	Op	Cl	Full	8:30		2.9			0.32 J / 0.33 J	1.1 U	1.1 U	15	15			
03/27/17	54.1	On	7,372	B	Op	Op	Cl	Full	8:30		2.7			0.34 J / 0.37 J	1.1 U	1.1 U	16	16	03/27/17	2.5 / 2.3	2.6
03/16/17	36.7	On	7,890	B	Op	Op	Cl	Full	8:30		4.9			1.1 UB / 1.1 UB	1.1 UB	1.1 UB	18	19			

Table 1
Cave Air Controls And Monitoring Result Summary
Meramec Caverns, Sullivan, Missouri

	Air Control Settings and Other Conditions							Personal Air Monitoring (PAM) TCE Results						Stationary Air Sample TCE Results					Stream Sampling TCE Results		
Date	Outside Air Temp. (24-hr average)	Vent-Well Blower	Up-Cave Airflow Rate (24-hr average)	SSDS (B-Ballroom, G-Giftshop, V- Vault)	Wine Room Vents	Main Entrance Windows	Airlock	Portion of Cave Tested	PAM Sample Duration	5 Tour PAM	4 Tour PAM	3 Tour PAM	Back-pack Blank	Gift Shop	Ball-room	Theater	Loot Rock	Jungle Room	Sample Date	Loot Rock	Jungle Room
	°F		CFM		Op- Open, Cl - Closed, PtO - partly open				hh:mm	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³		µg/L	µg/L
02/20/17	47.7	On	6,755	B	Op	Op	Cl	Full	8:30		4.0			0.58 J / 0.57 J	0.50 J	0.54 J	17	22			
02/13/17	35.7	On	6,301	B	Cl	PtO	Cl	Full	8:30		8.2			3.1 / 2.8	2.8	1.2	24	27	02/14/17	6.1 / 5.9	6.5
01/30/17	35.0	On	6,156	B	Cl	PtO	Cl	Full	8:30		5.2			1.8 / 2.7	0.86 J	0.45 J	23	20			
01/17/17	44.6	On	5,414	B	Cl	PtO	Cl	Full	8:32		4.8			0.74 J / 0.76 J	1.2	0.89 J	32	24	01/19/17	5.1. / 5.1	5.4
01/03/17	44.2	On	4,433	B	Op	Op	Cl	Full	8:30		5.5			1.2 / 1.2	0.56 J	0.55 J	27	35			
12/19/16	8.1	On	8,828	B	Op	Op	Cl	Full	8:30		2.7			2.7 / 1.9	1.9	1.8	11	7.5			
12/13/16	35.2	On	6,441	B	Op	Op	Cl	Full	8:31			3.1		1.2 / 1.7	0.64 J	0.89 J	18	17			
12/06/16	37.8	On	6,625	B	Op	Op	Cl	Full	8:31			3.5		1.9 / 2.1	0.95 J	1.1	22	23			
11/30/16	38.3	On	7,798	B	Op	Op	Op	Full	8:30			2.1		1.5 / 1.5	0.77 J	1.1	1.1	11			
11/29/16	49.3	On	5,767	B	Op	Op	C	Full	8:30			3.2		1.2 / 1.1	0.63 J	1.1	22	19	11/29/16	3.5	
11/23/16	52.3	On	8,330	B	Op	Op	Op	NA	NA					0.60 J (a)	0.33 J (a)	1.9 (a)	8.8 (a)	12 (a)			
11/16/16	51.1	On	6,212	NA	Op	PtO	PtO	Full	8:30			7.7		0.53 J / 0.56 J	19	9.9	34	26	11/17/16	2.4 / 2.4	2.6
11/09/16	49.4	On	5,716	NA	Op	PtO	C	NA	NA					1.4	16	9.1	21	14	11/10/16	2.5	2.6 / 2.6
11/08/16	57.2	On	5,346	NA	Op	PtO	PtO	Full	8:31			6.7		1.6 / 1.3	14	0.76 J	29	20			
11/02/16	69.9	On	4,363	NA	Op	PtO	PtO	Full	8:30		4.9	4.2		2.4 / 2.4	4.5	1.1 U	27	19	11/02/16	2.3	2.2
10/27/16	61.1	On	3,430	NA	Op	PtO	PtO	NA	NA					4.7	1.5	1.2	35	30			
10/26/16	57.3	On	3,960	NA	Op	Op	Op	Full	8:30		6.5	5.5		4.8/4.6	3.1	3.9	39	27			
10/23/16	57.7	On	6,701	NA	Op	Op	Op	Full	8:30		6.2			3.4	3.4	1.7	32	21			
10/19/16	58.7	On	5,617	NA	Op	Cl	Op	NA	NA					1.0 J (a)	5.6 (a)	1.1 U (a)	26 (a)	15 (a)			
10/19/16	58.7	On	5,617	NA	Op	Op	Op	NA	NA						2.5 (a)						
10/13/16	52.8	On	7,153	NA	Op	Cl	Op	Full	8:30		7.6			0.74 J/0.59 J	14	1.2	28	19			
10/12/16	54.0	On	5,492	NA	Op	Cl	Op	NA	NA						4.4			16			
10/11/16	64.0	On	5,207	NA	Op	Op	Cl	NA	NA					4.2	6.4	4.5		18			
10/04/16	67.1	On	5,043	NA	Op	Cl	Cl	Full	8:30		6.0			1.3	7.1						
09/29/16	62.7	On	5,232	NA	Op	Op	Cl	NA	NA						3.0				09/29/16	2.5	2.1 / 1.8
09/27/16	60.8	On	5,216	NA	Op	Cl	Cl	Full	8:30		6.6			0.99 J / 0.91 J	6.1	1.6	13	13			
09/13/16	73.7	On	4,898	NA	Op	Cl	Cl	Full	8:31		6.0			3.2/3.3	8.9	0.55 J	13	11			
08/29/16	77.3	On	3,839	NA	Op	Cl	Cl	Full	8:31		3.9	3.2		2.2 / 2.4	2.1	1.1 U	16	15			
08/23/16	77.5	On	4,753	NA	Op	Cl	Cl	Full	8:31		4.1	4.2		2.3 / 2.5	6.1	0.28 J	14	11			
08/16/16	73.2	On	4,497	NA	Op	Cl	Cl	Full	8:31 / 8:40		3.5	3.5		3.4 / 2.9	4.5	1.1 U	11	14			
08/09/16	78.7	On	4,029	NA	Op	Cl	Cl	Full	8:31		4.4	4.4		3.4 / 2.9	3.0	1.1 U	12	14			
08/03/16	79.2	On	4,216	NA	Op	Cl	Cl	Full	8:35		4.3	4.0		3.6 / 3.5	3.7	1.1 U	12	15			
07/27/16	NM	On	3,836	NA	Op	Cl	Cl	Front	8:31	0.97 J	0.85 J								07/28/16	1.5 / 1.5	1.6
07/26/16	NM	On	3,745	NA	Op	Cl	Cl	Full	8:35			2.7 2.6		1.7 / 1.7	1.7	1.1 U	13	13			
07/20/16	NM	On	3,678	NA	Op	Cl	Cl	Front	8:31		1.1 U 1.1 U										
07/19/16	80.6	On	3,169	NA	Op	Cl	Cl	Full	8:32 8:28			3.9 4.0		3.7 / 3.7	2.7	1.1 U	14	14			
07/13/16	74.7	On	3,209	NA	Op	Cl	Cl	Front	8:32	1.5	1.3										
07/12/16	77.1	On	4,128	NA	Op	Cl	Cl	Full	8:32		2.7	2.9	1.1 U	4.0	3.1 / 2.8	1.1 U	19	14			
07/06/16	73.2	On	4,017	NA	Op	Cl	Cl	Front	8:31		1.4	1.6	1.1 U	11 J	3.1	0.44 J	28	17 / 17			
06/28/16	72.9	On	3,788	NA	Op	Cl	Cl	Front	8:00		1.0 J	0.79 J	1.1 U	1.1	3.1	1.1 U / 2.5	15	15			

Table 1
Cave Air Controls And Monitoring Result Summary
Meramec Caverns, Sullivan, Missouri

	Air Control Settings and Other Conditions							Personal Air Monitoring (PAM) TCE Results						Stationary Air Sample TCE Results					Stream Sampling TCE Results		
Date	Outside Air Temp. (24-hr average)	Vent-Well Blower	Up-Cave Airflow Rate (24-hr average)	SSDS (B-Ballroom, G-Giftshop, V- Vault)	Wine Room Vents	Main Entrance Windows	Airlock	Portion of Cave Tested	PAM Sample Duration	5 Tour PAM	4 Tour PAM	3 Tour PAM	Back-pack Blank	Gift Shop	Ball-room	Theater	Loot Rock	Jungle Room	Sample Date	Loot Rock	Jungle Room
	°F		CFM		Op- Open, Cl - Closed, PtO - partly open				hh:mm	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³		µg/L	µg/L
06/20/16	76.6	On	3,657	NA	Op	Cl	Cl	Front	8:30	1.29	1.24 1.07			1.72	4.14	0.43 U		21.9			
06/13/16	78.5	On	774	NA	Op	Cl	Cl	Front	8:12	1.34	2.2 4.19			1.18	3.92	0.43 U		88.7			
06/05/16	68.0	On	2,796	NA	Op	Cl	Cl	Front	7:10		1.3 1.3	1.1 U		4.6	6.4	1.1 U		33			
05/31/16	70.4	On	1,848	NA	Op	Cl	Cl	Front	8:30		1.4 2.09	1.07 0.97	0.43 U	3.06	4.94			66.3			
05/23/16	NM	NA	NM	NA	Op	Cl	Cl	Front	5:52		5.16	3.98 4.4 4.78	0.43 U	4.35	11.5			316			
05/16/16	NM	NA	NM	NA	Op	Cl	Cl	Front	5:44		8.16	9.4	1.13	0.75				101			
05/12/16	NM	NA	NM	NA	Op	Cl	Cl	Front	6:18		6.88	8	0.43 U	1.07							
05/10/16	NM	NA	NM	NA	Op	Cl	Cl	Front	5:39		8.11	9.19	0.43 U	1.56				398			

Table 1
Cave Air Controls And Monitoring Result Summary
Meramec Caverns, Sullivan, Missouri

General Notes:
1) Data qualifiers: B = Analyte found in associated blank, J = Estimated, U = Not detected
2) Replicate sample results shown via "/" or on separate lines
3) 24-hour outside temperature and airflow averaged over 24 hour period ending 18:00 on day of sampling.
4) Up-cave airflow based on fixed-base anemometer stationed at Jungle. Flow estimated as mean velocity times 13 square-meter cross-section.
5) All air samples were collected over an 8.5-hour period, except as noted.

Specific notes (referenced in table)
a) Air sample obtained over a 4-hour period instead of uisual 8-hour collection time.
b) Anemometer malfunction. Flow is based on vent well speed programming set to maintain 4,500 CFM through the Jungle Room
c) Anemometer damaged by flood; front doors to the entrance building and glass sliding doors to the cave were both open during sampling.

Acronyms and Abbreviations
°F = Fahrenheit
CFM = cubic feet per minute
hh:mm = Hours and minutes
NA = Not applicable
NM = Not measured
PAM = personal air monitoring
SSDS - sub-slab depressurization system
TCE = trichloroethene
$\mu g/m^3$ = micrograms per cubic meter
µg/L = micrograms per liter

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 09/11/2015

Subject: Transmittal of Sample Analysis Results for ASR #: 6901

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/MOKS Phone: 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL Site ID: 07PZ Site OU: 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume in Franklin, County, Missouri.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FD = Field Duplicate

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 6901 Sample Information Summary 09/11/2015

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		08/25/2015	10:40	08/26/2015	08:35	08/27/2015
1 -	FD	Air	Gift shop		08/25/2015	10:40	08/26/2015	08:35	08/27/2015
3 -	__	Air	Ball Room		08/25/2015	10:54	08/26/2015	09:06	08/27/2015
4 -	__	Air	Loot Rock		08/25/2015	10:57	08/26/2015	09:10	08/27/2015
5 -	__	Air	Lassie		08/25/2015	11:13	08/26/2015	08:57	08/27/2015
6 -	__	Air	Jungle Room		08/25/2015	11:15	08/26/2015	09:00	08/27/2015
7 -	__	Air	Theater		08/25/2015	11:10	08/26/2015	09:01	08/27/2015
8 -	__	Air	Gazebo		08/25/2015	10:22	08/26/2015	09:31	08/27/2015
9 -	__	Air	Conference Room		08/25/2015	10:30	08/26/2015	09:23	08/27/2015
10 -	__	Air	B11		08/25/2015	11:22	08/25/2015	08:50	08/27/2015
11 -	__	Air	Mud Alley		08/25/2015	11:40	08/26/2015	10:03	08/27/2015
12 -	__	Air	Between Airlock Doors		08/25/2015	10:59	08/26/2015	09:12	08/27/2015

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: Region 7 EPA Laboratory - Kansas City, Ks.

Method: EPA Region 7 RLAB Method 3230.4G

Samples: 1-__ 1-FD 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__ 11-__ 12-__

Comments:

Freons: Several Freons were requested for this ASR. Three of them, Freon 11 (Trichlorofluoromethane), Freon 12 (Dichlorodifluoromethane) and Freon 113 (1,1,2-Trichlorofluoroethane), are target compounds and are reported as such in the LIMS report. A library search routine was performed for the other Freons, and only Freon 21 was detected in the samples. Because no standard was analyzed, this compounded was reported in the Tentatively Identified Compounds (TIC) reports. The quantitations are estimates.

Analysis/ Analyte	Units	1-__	1-FD	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	14	15	1.6	2.1
Allyl Chloride	ug/m3	0.66 U	0.66 U	0.66 U	0.66 U
Benzene	ug/m3	0.68 U	0.68 U	0.68 U	0.68 U
Benzyl Chloride	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Bromoform	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Bromomethane	ug/m3	0.84 U	0.84 U	0.84 U	0.84 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
2-Butanone	ug/m3	1.3	1.3	0.58 U	0.58 U
Carbon Disulfide	ug/m3	0.64 U	0.64 U	0.64 U	0.64 U
Carbon Tetrachloride	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Chlorobenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
Chloroethane	ug/m3	0.57 U	0.57 U	0.57 U	0.57 U
Chloroform	ug/m3	1.0 U	1.0 U	1.0 U	1.3
Chloromethane	ug/m3	1.1	1.0	0.44 U	0.44 U
Cyclohexane	ug/m3	0.74 U	0.74 U	0.74 U	0.74 U
Dibromochloromethane	ug/m3	1.8 U	1.8 U	1.8 U	1.8 U
1,2-Dibromoethane	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
1,2-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
1,3-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
1,4-Dichlorobenzene	ug/m3	75	72	5.4	1.3 U
Dichlorodifluoromethane	ug/m3	2.8	2.8	2.9	3.3
1,1-Dichloroethane	ug/m3	0.84 U	0.84 U	0.84 U	2.0
1,2-Dichloroethane	ug/m3	0.85 U	0.85 U	0.85 U	0.85 U
1,1-Dichloroethene	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
cis-1,2-Dichloroethene	ug/m3	0.84 U	0.84 U	0.84 U	3.0
trans-1,2-Dichloroethene	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
1,2-Dichloropropane	ug/m3	0.98 U	0.98 U	0.98 U	0.98 U
cis-1,3-Dichloropropene	ug/m3	0.96 U	0.96 U	0.96 U	0.96 U
trans-1,3-Dichloropropene	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,4-Dioxane	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
4-Ethyltoluene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Heptane	ug/m3	0.89 U	0.89 U	0.89 U	0.89 U
Hexachlorobutadiene	ug/m3	2.1 U	2.1 U	2.1 U	2.1 U
Hexane	ug/m3	0.77	0.82	0.76 U	0.76 U
2-Hexanone	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
Methyl tert-butyl ether	ug/m3	0.77 U	0.77 U	0.77 U	0.77 U
Methylene Chloride	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
4-Methyl-2-Pentanone	ug/m3	0.81 U	0.81 U	0.81 U	0.81 U
2-Propanol	ug/m3	8.0	9.0	0.63	0.45 U
Propene	ug/m3	5.1	5.2	0.45	0.38 U
Styrene	ug/m3	1.9	1.9	0.91 U	0.91 U

Analysis/ Analyte	Units	1-__	1-FD	3-__	4-__
1,1,2,2-Tetrachloroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
Tetrachloroethene	ug/m3	1.4 U	1.4 U	1.4 U	2.9
Tetrahydrofuran	ug/m3	0.57 U	0.57 U	0.57 U	0.57 U
Toluene	ug/m3	1.8	1.8	0.80 U	0.80 U
1,2,4-Trichlorobenzene	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
Trichloroethene	ug/m3	14	13	43	300
Trichlorofluoromethane	ug/m3	7.2	7.1	20	130
1,1,2-Trichlorotrifluoroethane	ug/m3	1.5 U	1.5 U	1.5 U	5.5
1,2,4-Trimethylbenzene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,3,5-Trimethylbenzene	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
2,2,4-Trimethylpentane	ug/m3	1.0	1.1	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.98	0.78	0.72 U	0.72 U
Vinyl Bromide	ug/m3	0.96 U	0.96 U	0.96 U	0.96 U
Vinyl Chloride	ug/m3	0.55 U	0.55 U	0.55 U	0.55 U
m and/or p-Xylene	ug/m3	1.9 U	1.9 U	1.9 U	1.9 U
o-Xylene	ug/m3	0.94 U	0.94 U	0.94 U	0.94 U

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	2.8	1.1	1.5	8.4
Allyl Chloride	ug/m3	0.66 U	0.66 U	0.66 U	0.66 U
Benzene	ug/m3	0.68 U	0.68 U	0.68 U	0.68 U
Benzyl Chloride	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Bromoform	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Bromomethane	ug/m3	0.84 U	0.84 U	0.84 U	0.84 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
2-Butanone	ug/m3	0.58 U	0.58 U	0.58 U	0.58 U
Carbon Disulfide	ug/m3	0.64 U	0.64 U	0.64 U	0.64 U
Carbon Tetrachloride	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Chlorobenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
Chloroethane	ug/m3	0.57 U	0.57 U	0.57 U	0.57 U
Chloroform	ug/m3	1.1	1.5	1.0 U	1.0 U
Chloromethane	ug/m3	0.44 U	0.44 U	0.44 U	1.1
Cyclohexane	ug/m3	0.74 U	0.74 U	0.74 U	0.74 U
Dibromochloromethane	ug/m3	1.8 U	1.8 U	1.8 U	1.8 U
1,2-Dibromoethane	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
1,2-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
1,3-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
1,4-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Dichlorodifluoromethane	ug/m3	3.2	3.8	1.4	2.8
1,1-Dichloroethane	ug/m3	1.5	2.4	0.84 U	0.84 U
1,2-Dichloroethane	ug/m3	0.85 U	0.85 U	0.85 U	0.85 U
1,1-Dichloroethene	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
cis-1,2-Dichloroethene	ug/m3	2.2	3.6	0.84 U	0.84 U
trans-1,2-Dichloroethene	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
1,2-Dichloropropane	ug/m3	0.98 U	0.98 U	0.98 U	0.98 U
cis-1,3-Dichloropropene	ug/m3	0.96 U	0.96 U	0.96 U	0.96 U
trans-1,3-Dichloropropene	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,4-Dioxane	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
4-Ethyltoluene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Heptane	ug/m3	0.89 U	0.89 U	0.89 U	0.89 U
Hexachlorobutadiene	ug/m3	2.1 U	2.1 U	2.1 U	2.1 U
Hexane	ug/m3	0.76 U	0.76 U	0.76 U	0.76 U
2-Hexanone	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
Methyl tert-butyl ether	ug/m3	0.77 U	0.77 U	0.77 U	0.77 U
Methylene Chloride	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
4-Methyl-2-Pentanone	ug/m3	0.81 U	0.81 U	0.81 U	0.81 U
2-Propanol	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
Propene	ug/m3	0.38 U	0.38 U	0.38 U	0.40
Styrene	ug/m3	0.91 U	0.91 U	0.91 U	0.91 U

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1,1,2,2-Tetrachloroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
Tetrachloroethene	ug/m3	2.6	3.3	1.4 U	1.4 U
Tetrahydrofuran	ug/m3	0.57 U	0.57 U	0.57 U	0.57 U
Toluene	ug/m3	0.80 U	0.80 U	0.80 U	2.4
1,2,4-Trichlorobenzene	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
Trichloroethene	ug/m3	260	300	13	1.1 U
Trichlorofluoromethane	ug/m3	120	140	8.7	1.5
1,1,2-Trichlorotrifluoroethane	ug/m3	5.2	6.8	1.5 U	1.5 U
1,2,4-Trimethylbenzene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,3,5-Trimethylbenzene	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U	1.0 U	5.6
Vinyl Acetate	ug/m3	1.0	0.72 U	0.72 U	0.72 U
Vinyl Bromide	ug/m3	0.96 U	0.96 U	0.96 U	0.96 U
Vinyl Chloride	ug/m3	0.55 U	0.55 U	0.55 U	0.55 U
m and/or p-Xylene	ug/m3	1.9 U	1.9 U	1.9 U	1.9 U
o-Xylene	ug/m3	0.94 U	0.94 U	0.94 U	0.94 U

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	2.4	0.72	1.7	1.4
Allyl Chloride	ug/m3	0.66 U	0.66 U	0.66 U	0.66 U
Benzene	ug/m3	0.68 U	0.68 U	0.68 U	0.68 U
Benzyl Chloride	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Bromoform	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Bromomethane	ug/m3	0.84 U	0.84 U	0.84 U	0.84 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
2-Butanone	ug/m3	0.58 U	0.58 U	0.58 U	0.58 U
Carbon Disulfide	ug/m3	0.64 U	0.64 U	0.64 U	0.64 U
Carbon Tetrachloride	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Chlorobenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
Chloroethane	ug/m3	0.57 U	0.57 U	0.57 U	0.57 U
Chloroform	ug/m3	1.1	1.1	1.8	1.2
Chloromethane	ug/m3	1.5	0.44 U	0.44 U	0.44 U
Cyclohexane	ug/m3	0.74 U	0.74 U	0.74 U	0.74 U
Dibromochloromethane	ug/m3	1.8 U	1.8 U	1.8 U	1.8 U
1,2-Dibromoethane	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
1,2-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
1,3-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
1,4-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Dichlorodifluoromethane	ug/m3	3.3	3.5	1.3	3.4
1,1-Dichloroethane	ug/m3	1.6	1.4	0.84 U	1.6
1,2-Dichloroethane	ug/m3	0.85 U	0.85 U	0.85 U	0.85 U
1,1-Dichloroethene	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
cis-1,2-Dichloroethene	ug/m3	2.3	2.0	0.84 U	2.0
trans-1,2-Dichloroethene	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
1,2-Dichloropropane	ug/m3	0.98 U	0.98 U	0.98 U	0.98 U
cis-1,3-Dichloropropene	ug/m3	0.96 U	0.96 U	0.96 U	0.96 U
trans-1,3-Dichloropropene	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,4-Dioxane	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
4-Ethyltoluene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Heptane	ug/m3	0.89 U	0.89 U	0.89 U	0.89 U
Hexachlorobutadiene	ug/m3	2.1 U	2.1 U	2.1 U	2.1 U
Hexane	ug/m3	0.76 U	0.76 U	0.76 U	0.76 U
2-Hexanone	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
Methyl tert-butyl ether	ug/m3	0.77 U	0.77 U	0.77 U	0.77 U
Methylene Chloride	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
4-Methyl-2-Pentanone	ug/m3	0.81 U	0.81 U	0.81 U	0.81 U
2-Propanol	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
Propene	ug/m3	0.38 U	0.38 U	0.38 U	0.38 U
Styrene	ug/m3	0.91 U	0.91 U	0.91 U	0.91 U

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1,1,2,2-Tetrachloroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
Tetrachloroethene	ug/m3	2.4	2.6	1.4 U	2.7
Tetrahydrofuran	ug/m3	0.57 U	0.57 U	0.57 U	0.57 U
Toluene	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
1,2,4-Trichlorobenzene	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
Trichloroethene	ug/m3	250	260	45	270
Trichlorofluoromethane	ug/m3	110	130	24	130
1,1,2-Trichlorotrifluoroethane	ug/m3	4.8	5.6	1.5	5.4
1,2,4-Trimethylbenzene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,3,5-Trimethylbenzene	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.72 U	0.72 U	0.72 U	0.72 U
Vinyl Bromide	ug/m3	0.96 U	0.96 U	0.96 U	0.96 U
Vinyl Chloride	ug/m3	0.55 U	0.55 U	0.55 U	0.55 U
m and/or p-Xylene	ug/m3	1.9 U	1.9 U	1.9 U	1.9 U
o-Xylene	ug/m3	0.94 U	0.94 U	0.94 U	0.94 U

United States Environmental Protection Agency
Region VII
300 Minnesota Avenue
Kansas City, KS 66101

Date: __/__/____

Subject: Data Disposition/Sample Release for ASR #: 6901

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Tonya Howell
SUPR/MOKS

To: Alisha Claycamp
ENSV/CARB

I have received and reviewed the Transmittal of Sample Analysis Results for the above-referenced Analytical Services Request(ASR) and have indicated my findings below by checking one of the boxes for Data Disposition.

I understand all samples will be disposed upon receipt of this form, unless samples are requested to be held. If I do not return this form all samples will be disposed of on _____.

☐ "RELEASED" - Read-only to all Region 7 employees and contractors that have R7LIMS "Customer" account. All Samples may be disposed of upon receipt of this form if not requested to be held.

☐ "Project Manager Accessible" - Available on the LAN in R7LIMS for my use only. All Samples may be disposed of upon receipt of this form if not requested to be held.

☐ "Archived" - THIS DATA IS OF A SENSITIVE NATURE. Any future reports must be requested through the laboratory. All samples may be disposed of upon receipt of the form if not requested to be held.

☐ Hold Samples - I have determined that the samples need to be held until _____, after which time they will be disposed of in accordance with applicable regulations.
The reason for the hold is:

☐ Samples are associated with a legal proceeding.

☐ Question/Concern with data - possible reanalysis requested.

☐ Other:_____

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 10/14/2015

Subject: Transmittal of Sample Analysis Results for ASR #: 6922

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/MOKS Phone: 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL Site ID: 07PZ Site OU: 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FD = Field Duplicate

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 6922 Sample Information Summary 10/14/2015

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1	__	Air	Gift shop		09/17/2015	13:05	09/18/2015	14:21	09/24/2015
1	FD	Air	Gift shop		09/17/2015	13:05	09/18/2015	14:21	09/24/2015
3	__	Air	Ball Room		09/17/2015	13:28	09/18/2015	13:55	09/24/2015
4	__	Air	Loot Rock		09/17/2015	13:48	09/18/2015	13:46	09/24/2015
5	__	Air	Jungle Room		09/17/2015	14:09	09/18/2015	13:22	09/24/2015
6	__	Air	Theater		09/17/2015	13:44	09/17/2015	14:04	09/24/2015
7	__	Air	Ampitheater		09/17/2015	13:10	09/18/2015	14:30	09/24/2015
8	__	Air	B11		09/17/2015	13:58	09/18/2015	13:35	09/24/2015
9	__	Air	Gift shop		09/22/2015	10:50	09/23/2015	08:30	09/24/2015
10	__	Air	Ball Room		09/22/2015	11:22	09/23/2015	09:54	09/24/2015
11	__	Air	Loot Rock		09/22/2015	11:35	09/23/2015	10:53	09/24/2015
12	__	Air	B11		09/22/2015	11:45	09/23/2015	10:45	09/24/2015
13	__	Air	Jungle Room		09/22/2015	11:55	09/23/2015	10:30	09/24/2015
14	__	Air	Theater		09/22/2015	12:15	09/23/2015	10:02	09/24/2015
15	__	Air	Gazebo		09/22/2015	10:38	09/23/2015	11:12	09/24/2015
16	__	Air	Ampitheater		09/22/2015	10:55	09/23/2015	11:10	09/24/2015

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples:						
1-__	1-FD	3-__	4-__	5-__	6-__	7-__
8-__	9-__	10-__	11-__	12-__	13-__	14-__
15-__	16-__					

Comments:

A couple of non-routine Freon compounds, Dichlorodifluoromethane and Trichlorofluoromethane, were added to the target compound target list and had reporting limits of 2.47 ug/m3 and 2.81 ug/m3, respectively.

Samples 6922-4; -5; -7; -11; -13; & -16 required dilution due to target compound concentrations.

Analysis/ Analyte	Units	1-__	1-FD	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	19.2	32	5.95 U	6.6
Benzene	ug/m3	0.351	0.862	0.31 U	0.31 U
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	2.24	6.28	1.47 U	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	2.44 U
Chloromethane	ug/m3	1.94	2.93	1.86	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	3.07	4	4.25	7.07
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.931	2.59	0.19 U	0.19 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	2.73
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	3.45	4.4	2.22	1.76 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	11.6	18.3	18	8.7 U
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	3.07	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	0.881	1.76	0.678	1.9
Toluene	ug/m3	3.92	20.3	1.88 U	1.88 U
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.23 U	0.23 U	0.23 U	0.23 U
Trichloroethene	ug/m3	19.4	18.3	56.2	158
Trichlorofluoromethane	ug/m3	12.7	12.6	31.8	115
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	5.06
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U

Analysis/ Analyte	Units	1-__	1-FD	3-__	4-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	9.45	7.76	5.95 U	20.6
Benzene	ug/m3	0.31 U	0.31 U	0.31 U	0.671
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	1.92	1.47 U	1.47 U	3.77
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	2.44 U
Chloromethane	ug/m3	1.03 U	1.84	1.03 U	2.91
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	7.37	3.07	7.86	5.59
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.19 U	0.19 U	0.19 U	0.971
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	3.01	1.98 U	2.77	1.98 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	7.08	1.76 U	14.2
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	8.7 U	32.9	8.7 U	64.4
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	2.1	0.678	1.83	2.1
Toluene	ug/m3	1.88 U	7.08	1.88 U	20.9
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.23 U	0.23 U	0.23 U	0.23 U
Trichloroethene	ug/m3	207	4.46	168	119
Trichlorofluoromethane	ug/m3	121	3.93	124	53.8
1,1,2-Trichlorotrifluoroethane	ug/m3	4.83	3.83 U	5.59	3.83 U
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	18.5	5.95 U	11.8	8.12
Benzene	ug/m3	0.31 U	0.31 U	0.31 U	0.31 U
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	2.48	1.47 U	1.47 U	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.41 U	0.44	0.503	0.503
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	2.44 U
Chloromethane	ug/m3	1.8	2.06	22.4	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	3.66	4.2	18.9	4.8
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.566	0.19 U	0.19 U	0.19 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	3.33	1.98 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	1.76 U	1.76 U	1.76 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	8.7 U	8.7 U	43.5 U	8.7 U
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	1.02	0.475	2.51	1.22
Toluene	ug/m3	1.88 U	1.88 U	1.88 U	1.88 U
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.23 U	0.23 U	0.23 U	0.23 U
Trichloroethene	ug/m3	15.3	55	181	129
Trichlorofluoromethane	ug/m3	6.63	19.3	120	42.7
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	5.82	3.83 U
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	13-__	14-__	15-__	16-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	5.95 U	5.95 U	5.95 U	5.95 U
Benzene	ug/m3	0.31 U	0.31 U	0.31 U	0.31 U
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	1.47 U	1.47 U	1.47 U	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.44	0.41 U	0.41 U	0.44
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	2.44 U
Chloromethane	ug/m3	1.03 U	10.4	1.03 U	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	9.34	8.21	3.61	6.48
1,1-Dichloroethane	ug/m3	2.02	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.19 U	0.19 U	0.19 U	0.19 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	4.6	1.98 U	1.98 U	2.5
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	5.32	1.76 U	1.76 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	8.7 U	47	8.7 U	8.7 U
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	2.98	0.41 U	0.41 U	1.97
Toluene	ug/m3	1.88 U	1.88 U	1.88 U	1.88 U
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.23 U	0.23 U	0.23 U	0.23 U
Trichloroethene	ug/m3	241	17.9	0.43 U	159
Trichlorofluoromethane	ug/m3	179	8.82	2.81 U	103
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	4.67
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U

Analysis/ Analyte	Units	13-__	14-__	15-__	16-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

United States Environmental Protection Agency
Region VII
300 Minnesota Avenue
Kansas City, KS 66101

Date: __/__/____

Subject: Data Disposition/Sample Release for ASR #: 6922

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Tonya Howell
SUPR/MOKS

To: Alisha Claycamp
ENSV/CARB

I have received and reviewed the Transmittal of Sample Analysis Results for the above-referenced Analytical Services Request(ASR) and have indicated my findings below by checking one of the boxes for Data Disposition.

I understand all samples will be disposed upon receipt of this form, unless samples are requested to be held. If I do not return this form all samples will be disposed of on _____.

☐ "RELEASED" - Read-only to all Region 7 employees and contractors that have R7LIMS "Customer" account. All Samples may be disposed of upon receipt of this form if not requested to be held.

☐ "Project Manager Accessible" - Available on the LAN in R7LIMS for my use only. All Samples may be disposed of upon receipt of this form if not requested to be held.

☐ "Archived" - THIS DATA IS OF A SENSITIVE NATURE. Any future reports must be requested through the laboratory. All samples may be disposed of upon receipt of the form if not requested to be held.

☐ Hold Samples - I have determined that the samples need to be held until _____, after which time they will be disposed of in accordance with applicable regulations.
The reason for the hold is:

☐ Samples are associated with a legal proceeding.

☐ Question/Concern with data - possible reanalysis requested.

☐ Other:_____

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 11/16/2015

Subject: Transmittal of Sample Analysis Results for ASR #: 6923

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/MOKS Phone: 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL Site ID: 07PZ Site OU: 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume in Franklin, County, Missouri.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FD = Field Duplicate

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.
J = The identification of the analyte is acceptable; the reported value is an estimate.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 6923 Sample Information Summary 11/16/2015

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		10/21/2015	08:59	10/22/2015	09:06	10/23/2015
1 -	FD	Air	Gift shop		10/21/2015	09:00	10/22/2015	09:05	10/23/2015
3 -	__	Air	Ball Room		10/21/2015	09:02	10/22/2015	09:10	10/23/2015
4 -	__	Air	Loot Rock		10/21/2015	10:10	10/22/2015	10:15	10/23/2015
6 -	__	Air	Jungle Room		10/21/2015	09:40	10/22/2015	09:50	10/23/2015
7 -	__	Air	Theater		10/21/2015	10:40	10/22/2015	10:35	10/23/2015
8 -	__	Air	Gazebo		10/21/2015	11:30	10/22/2015	11:15	10/23/2015
9 -	__	Air	Conference Room		10/21/2015	09:07	10/22/2015	09:30	10/23/2015
10 -	__	Air	B11		10/21/2015	09:58	10/22/2015	10:05	10/23/2015
11 -	__	Air	Mud Alley		10/21/2015	10:50	10/22/2015	10:50	10/23/2015
12 -	__	Air	Between Airlock Doors		10/21/2015	10:35	10/22/2015	10:30	10/23/2015

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: Region 7 EPA Laboratory - Kansas City, Ks.

Method: EPA Region 7 RLAB Method 3230.4G

Samples: 1-__ 1-FD 3-__ 4-__ 6-__ 7-__ 8-__
9-__ 10-__ 11-__ 12-__

Comments:

Several Freons were requested for this ASR. Three of them, Freon 11 (Trichlorofluoromethane), Freon 12 (Dichlorodifluoromethane) and Freon 113 (1,1,2-Trichlorofluoroethane), are target compounds and are reported as such in the LIMS report. A library search routine was performed for the other Freons, and only Freon 21 was detected in the samples. Because no standard was analyzed, this compound was reported in the Tentatively Identified Compounds (TIC) reports. The quantitations are estimates.

Vinyl Acetate and 2-Propanol were UJ-coded in samples 3, 4, and 6-12. These analytes were not found in the samples at or above the reporting limits, however, the reporting limits are estimates (UJ-coded) due to the continuing calibration checks not meeting accuracy specifications. The actual reporting limits for these analytes may be higher than the reported values.

Vinyl Acetate and 2-Propanol were J-coded in samples 1 and 1-fd. Although the analytes in question have been positively identified in the samples, the quantitations are estimates (J-coded) due to the continuing calibration checks not meeting accuracy specifications. The actual concentrations for these analytes may be higher than the reported values.

Analysis/ Analyte	Units	1-__	1-FD	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	17	16	1.3	1.3
Allyl Chloride	ug/m3	0.66 U	0.66 U	0.66 U	0.66 U
Benzene	ug/m3	0.68 U	0.68 U	0.68 U	0.68 U
Benzyl Chloride	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Bromoform	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Bromomethane	ug/m3	0.84 U	0.84 U	0.84 U	0.84 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
2-Butanone	ug/m3	1.8	1.7	0.58 U	0.58 U
Carbon Disulfide	ug/m3	0.64 U	0.64 U	0.64 U	0.64 U
Carbon Tetrachloride	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Chlorobenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
Chloroethane	ug/m3	0.57 U	0.57 U	0.57 U	0.57 U
Chloroform	ug/m3	4.3	4.5	13	1.2
Chloromethane	ug/m3	1.1	1.0	0.44 U	0.44 U
Cyclohexane	ug/m3	0.74 U	0.74 U	0.74 U	0.74 U
Dibromochloromethane	ug/m3	1.8 U	1.8 U	1.8 U	1.8 U
1,2-Dibromoethane	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
1,2-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
1,3-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
1,4-Dichlorobenzene	ug/m3	150	150	8.3	1.3 U
Dichlorodifluoromethane	ug/m3	2.6	2.7	2.8	4.7
1,1-Dichloroethane	ug/m3	0.84 U	0.84 U	0.84 U	1.9
1,2-Dichloroethane	ug/m3	0.85 U	0.85 U	0.85 U	0.85 U
1,1-Dichloroethene	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
cis-1,2-Dichloroethene	ug/m3	0.84 U	0.84 U	0.94	5.3
trans-1,2-Dichloroethene	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
1,2-Dichloropropane	ug/m3	0.98 U	0.98 U	0.98 U	0.98 U
cis-1,3-Dichloropropene	ug/m3	0.96 U	0.96 U	0.96 U	0.96 U
trans-1,3-Dichloropropene	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,4-Dioxane	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
Ethyl Acetate	ug/m3	1.2	1.2	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
4-Ethyltoluene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Heptane	ug/m3	0.89 U	0.89 U	0.89 U	0.89 U
Hexachlorobutadiene	ug/m3	2.1 U	2.1 U	2.1 U	2.1 U
Hexane	ug/m3	0.76 U	0.76 U	0.76 U	0.76 U
2-Hexanone	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
Methyl tert-butyl ether	ug/m3	0.77 U	0.77 U	0.77 U	0.77 U
Methylene Chloride	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
4-Methyl-2-Pentanone	ug/m3	0.81 U	0.81 U	0.81 U	0.81 U
2-Propanol	ug/m3	13 J	13 J	0.45 UJ	0.45 UJ
Propene	ug/m3	9.4	9.4	0.56	0.38 U
Styrene	ug/m3	0.91 U	0.93	0.91 U	0.91 U

Analysis/ Analyte	Units	1-__	1-FD	3-__	4-__
1,1,2,2-Tetrachloroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
Tetrachloroethene	ug/m3	29	32	4.7	3.0
Tetrahydrofuran	ug/m3	0.57 U	0.57 U	0.57 U	0.57 U
Toluene	ug/m3	1.2	1.2	0.80 U	0.80 U
1,2,4-Trichlorobenzene	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
Trichloroethene	ug/m3	50	51	150	590
Trichlorofluoromethane	ug/m3	12	13	41	200
1,1,2-Trichlorotrifluoroethane	ug/m3	1.5 U	1.5 U	2.0	10
1,2,4-Trimethylbenzene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,3,5-Trimethylbenzene	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.93 J	0.99 J	0.72 UJ	0.72 UJ
Vinyl Bromide	ug/m3	0.96 U	0.96 U	0.96 U	0.96 U
Vinyl Chloride	ug/m3	0.55 U	0.55 U	0.55 U	0.55 U
m and/or p-Xylene	ug/m3	1.9 U	1.9 U	1.9 U	1.9 U
o-Xylene	ug/m3	0.94 U	0.94 U	0.94 U	0.94 U

Analysis/ Analyte	Units	6-__	7-__	8-__	9-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	1.0	1.5	9.4	2.9
Allyl Chloride	ug/m3	0.66 U	0.66 U	0.66 U	0.66 U
Benzene	ug/m3	0.68 U	0.68 U	0.71	0.68 U
Benzyl Chloride	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/m3	1.3 U	1.3	1.3 U	1.3 U
Bromoform	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Bromomethane	ug/m3	0.84 U	0.84 U	0.84 U	0.84 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
2-Butanone	ug/m3	0.58 U	0.58 U	0.81	0.58 U
Carbon Disulfide	ug/m3	0.64 U	0.64 U	0.64 U	0.64 U
Carbon Tetrachloride	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Chlorobenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
Chloroethane	ug/m3	0.57 U	0.57 U	0.57 U	0.57 U
Chloroform	ug/m3	1.4	25	1.0 U	1.0 U
Chloromethane	ug/m3	0.44 U	0.44 U	1.3	0.44 U
Cyclohexane	ug/m3	0.74 U	0.74 U	0.74 U	2.7
Dibromochloromethane	ug/m3	1.8 U	1.8 U	1.8 U	1.8 U
1,2-Dibromoethane	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
1,2-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
1,3-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
1,4-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Dichlorodifluoromethane	ug/m3	5.0	1.7	2.8	4.4
1,1-Dichloroethane	ug/m3	2.1	0.84 U	0.84 U	1.2
1,2-Dichloroethane	ug/m3	0.85 U	0.85 U	0.85 U	0.85 U
1,1-Dichloroethene	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
cis-1,2-Dichloroethene	ug/m3	6.2	0.84 U	0.84 U	3.2
trans-1,2-Dichloroethene	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
1,2-Dichloropropane	ug/m3	0.98 U	0.98 U	0.98 U	0.98 U
cis-1,3-Dichloropropene	ug/m3	0.96 U	0.96 U	0.96 U	0.96 U
trans-1,3-Dichloropropene	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,4-Dioxane	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
4-Ethyltoluene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Heptane	ug/m3	0.89 U	0.89 U	0.89 U	0.89 U
Hexachlorobutadiene	ug/m3	2.1 U	2.1 U	2.1 U	2.1 U
Hexane	ug/m3	0.76 U	0.76 U	0.76 U	0.76 U
2-Hexanone	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
Methyl tert-butyl ether	ug/m3	0.77 U	0.77 U	0.77 U	0.77 U
Methylene Chloride	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
4-Methyl-2-Pentanone	ug/m3	0.81 U	0.81 U	0.81 U	0.81 U
2-Propanol	ug/m3	0.45 UJ	0.45 UJ	0.45 UJ	0.45 UJ
Propene	ug/m3	0.38 U	0.38 U	0.38 U	0.38 U
Styrene	ug/m3	0.91 U	0.91 U	0.91 U	0.91 U

Analysis/ Analyte	Units	6-__	7-__	8-__	9-__
1,1,2,2-Tetrachloroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
Tetrachloroethene	ug/m3	3.5	1.4 U	1.4 U	2.1
Tetrahydrofuran	ug/m3	0.57 U	0.57 U	0.57 U	0.57 U
Toluene	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
1,2,4-Trichlorobenzene	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
Trichloroethene	ug/m3	660	45	1.1 U	410
Trichlorofluoromethane	ug/m3	240	9.1	1.8	140
1,1,2-Trichlorotrifluoroethane	ug/m3	12	1.5 U	1.5 U	6.6
1,2,4-Trimethylbenzene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,3,5-Trimethylbenzene	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.72 UJ	0.72 UJ	0.72 UJ	0.72 UJ
Vinyl Bromide	ug/m3	0.96 U	0.96 U	0.96 U	0.96 U
Vinyl Chloride	ug/m3	0.55 U	0.55 U	0.55 U	0.55 U
m and/or p-Xylene	ug/m3	1.9 U	1.9 U	1.9 U	1.9 U
o-Xylene	ug/m3	0.94 U	0.94 U	0.94 U	0.94 U

Analysis/ Analyte	Units	10-__	11-__	12-__
1 VOCs in Air at Ambient Levels by GC/MS				
Acetone	ug/m3	0.76	1.2	0.84
Allyl Chloride	ug/m3	0.66 U	0.66 U	0.66 U
Benzene	ug/m3	0.68 U	0.68 U	0.68 U
Benzyl Chloride	ug/m3	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/m3	1.3 U	1.3 U	1.3 U
Bromoform	ug/m3	2.2 U	2.2 U	2.2 U
Bromomethane	ug/m3	0.84 U	0.84 U	0.84 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U	0.45 U
2-Butanone	ug/m3	0.58 U	0.58 U	0.58 U
Carbon Disulfide	ug/m3	0.64 U	0.64 U	0.64 U
Carbon Tetrachloride	ug/m3	1.3 U	1.3 U	1.3 U
Chlorobenzene	ug/m3	0.99 U	0.99 U	0.99 U
Chloroethane	ug/m3	0.57 U	0.57 U	0.57 U
Chloroform	ug/m3	1.0 U	1.0 U	3.7
Chloromethane	ug/m3	0.44 U	0.44 U	0.44 U
Cyclohexane	ug/m3	0.74 U	0.74 U	0.74 U
Dibromochloromethane	ug/m3	1.8 U	1.8 U	1.8 U
1,2-Dibromoethane	ug/m3	1.7 U	1.7 U	1.7 U
1,2-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U
1,3-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U
1,4-Dichlorobenzene	ug/m3	1.3 U	1.3 U	1.3 U
Dichlorodifluoromethane	ug/m3	2.9	2.3	4.5
1,1-Dichloroethane	ug/m3	0.84 U	0.84 U	1.6
1,2-Dichloroethane	ug/m3	0.85 U	0.85 U	0.85 U
1,1-Dichloroethene	ug/m3	0.80 U	0.80 U	0.80 U
cis-1,2-Dichloroethene	ug/m3	0.92	0.84 U	3.8
trans-1,2-Dichloroethene	ug/m3	0.83 U	0.83 U	0.83 U
1,2-Dichloropropane	ug/m3	0.98 U	0.98 U	0.98 U
cis-1,3-Dichloropropene	ug/m3	0.96 U	0.96 U	0.96 U
trans-1,3-Dichloropropene	ug/m3	1.0 U	1.0 U	1.0 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.5 U	1.5 U	1.5 U
1,4-Dioxane	ug/m3	0.71 U	0.71 U	0.71 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.93 U	0.93 U	0.93 U
4-Ethyltoluene	ug/m3	1.1 U	1.1 U	1.1 U
Heptane	ug/m3	0.89 U	0.89 U	0.89 U
Hexachlorobutadiene	ug/m3	2.1 U	2.1 U	2.1 U
Hexane	ug/m3	0.76 U	0.76 U	0.76 U
2-Hexanone	ug/m3	0.80 U	0.80 U	0.80 U
Methyl tert-butyl ether	ug/m3	0.77 U	0.77 U	0.77 U
Methylene Chloride	ug/m3	0.71 U	0.71 U	0.71 U
4-Methyl-2-Pentanone	ug/m3	0.81 U	0.81 U	0.81 U
2-Propanol	ug/m3	0.45 UJ	0.45 UJ	0.45 UJ
Propene	ug/m3	0.38 U	0.38 U	0.38 U
Styrene	ug/m3	0.91 U	0.91 U	0.91 U

Analysis/ Analyte	Units	10-__	11-__	12-__
1,1,2,2-Tetrachloroethane	ug/m3	1.5 U	1.5 U	1.5 U
Tetrachloroethene	ug/m3	1.4 U	1.4 U	2.9
Tetrahydrofuran	ug/m3	0.57 U	0.57 U	0.57 U
Toluene	ug/m3	0.80 U	0.80 U	0.80 U
1,2,4-Trichlorobenzene	ug/m3	1.5 U	1.5 U	1.5 U
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.2 U	1.2 U	1.2 U
Trichloroethene	ug/m3	170	97	540
Trichlorofluoromethane	ug/m3	36	37	190
1,1,2-Trichlorotrifluoroethane	ug/m3	1.6	1.8	8.5
1,2,4-Trimethylbenzene	ug/m3	1.1 U	1.1 U	1.1 U
1,3,5-Trimethylbenzene	ug/m3	1.0 U	1.0 U	1.0 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.72 UJ	0.72 UJ	0.72 UJ
Vinyl Bromide	ug/m3	0.96 U	0.96 U	0.96 U
Vinyl Chloride	ug/m3	0.55 U	0.55 U	0.55 U
m and/or p-Xylene	ug/m3	1.9 U	1.9 U	1.9 U
o-Xylene	ug/m3	0.94 U	0.94 U	0.94 U

United States Environmental Protection Agency
Region VII
300 Minnesota Avenue
Kansas City, KS 66101

Date: __/__/____

Subject: Data Disposition/Sample Release for ASR #: 6923

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Tonya Howell
SUPR/MOKS

To: Alisha Claycamp
ENSV/CARB

I have received and reviewed the Transmittal of Sample Analysis Results for the above-referenced Analytical Services Request(ASR) and have indicated my findings below by checking one of the boxes for Data Disposition.

I understand all samples will be disposed upon receipt of this form, unless samples are requested to be held. If I do not return this form all samples will be disposed of on _____.

☐ "RELEASED" - Read-only to all Region 7 employees and contractors that have R7LIMS "Customer" account. All Samples may be disposed of upon receipt of this form if not requested to be held.

☐ "Project Manager Accessible" - Available on the LAN in R7LIMS for my use only. All Samples may be disposed of upon receipt of this form if not requested to be held.

☐ "Archived" - THIS DATA IS OF A SENSITIVE NATURE. Any future reports must be requested through the laboratory. All samples may be disposed of upon receipt of the form if not requested to be held.

☐ Hold Samples - I have determined that the samples need to be held until _____, after which time they will be disposed of in accordance with applicable regulations.
The reason for the hold is:

☐ Samples are associated with a legal proceeding.

☐ Question/Concern with data - possible reanalysis requested.

☐ Other:_____

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 12/28/2015

Subject: Transmittal of Sample Analysis Results for ASR #: 7008

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/MOKS Phone: 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL Site ID: 07PZ Site OU: 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FD = Field Duplicate

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7008 Sample Information Summary 12/28/2015

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift Shop		11/30/2015	09:39	12/01/2015	08:14	12/03/2015
1 -	FD	Air	Gift Shop		11/30/2015	09:40	12/01/2015	08:15	12/03/2015
3 -	__	Air	Ballroom		11/30/2015	09:34	12/01/2015	08:10	12/03/2015
4 -	__	Air	Loot Rock		11/30/2015	09:52	12/01/2015	08:23	12/03/2015
5 -	__	Air	B11		11/30/2015	09:45	12/01/2015	08:40	12/03/2015
6 -	__	Air	Jungle Room		11/30/2015	09:55	12/01/2015	08:29	12/03/2015
7 -	__	Air	Theatre		11/30/2015	09:47	12/01/2015	08:49	12/03/2015
8 -	__	Air	Ampitheatre		11/30/2015	10:09	12/01/2015	09:40	12/03/2015

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 1-FD 3-__ 4-__ 5-__ 6-__ 7-__ 8-__

Comments:

A couple of non-routine Freon compounds, Dichlorodifluoromethane and Trichlorofluoromethane, were added to the target compound target list and had reporting limits of 2.47 ug/m3 and 2.81 ug/m3, respectively.

1,1,2-trichloroethane and 1,2-dicholoroethane had very low requested reporting limits that could not be met. In order to report to the lowest limit possible, these compounds were reported down to their respective method detection limit (MDL). Any concentration for these compounds that was below the reporting limit but above the applicable MDL was reported with a "J" code.

Samples 7008-1; & -1FD required dilution due to target compound concentrations.

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	1-FD	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	84.2	167	5.95 U	5.95 U
Benzene	ug/m3	0.607	0.671	0.31 U	0.31 U
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	1.47 U	1.47 U	1.47 U	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.44	0.629	0.503	0.44
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	3.9	3.51	6.59	2.44 U
Chloromethane	ug/m3	1.03 U	1.03 U	1.03 U	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	3.51	5.78	3.21	2.72
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	1.54	1.46	0.202	0.19 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	1.76 U	1.76 U	1.76 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	8.7 U	34.8 U	8.7 U	15.3
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	7.8	8.54	1.97	0.41 U
Toluene	ug/m3	1.92	2.94	1.88 U	1.88 U
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.23 U	0.327	0.23 U	0.23 U
Trichloroethene	ug/m3	6.5	5.69	43.3	36.7
Trichlorofluoromethane	ug/m3	4.16	4.21	11.6	5.17
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	3.83 U
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U

Analysis/ Analyte	Units	1-__	1-FD	3-__	4-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	5.95 U	5.95 U	5.95 U	6.89
Benzene	ug/m3	0.31 U	0.31 U	0.31 U	0.575
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	1.47 U	1.47 U	1.47 U	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.44	0.503	0.503	0.566
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.73	2.44 U
Chloromethane	ug/m3	1.03 U	1.03 U	1.03 U	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	3.21	2.92	3.66	3.21
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.19 U	0.19 U	0.19 U	0.19 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	1.76 U	1.76 U	2.96
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	8.7 U	8.7 U	17	17.6
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	1.08	0.475	1.83	0.41 U
Toluene	ug/m3	1.88 U	1.88 U	1.88 U	1.88 U
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.23 U	0.23 U	0.23 U	0.23 U
Trichloroethene	ug/m3	52.9	51.8	33.4	1.02
Trichlorofluoromethane	ug/m3	8.93	6.96	12.1	2.81 U
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	3.83 U
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

United States Environmental Protection Agency
Region VII
300 Minnesota Avenue
Kansas City, KS 66101

Transmittal Date: __/__/____

Subject: Data Disposition/Sample Disposition for ASR : 7008

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Tonya Howell
SUPR/MOKS

To: Alisha Claycamp
ENST/LTAB/LABS

I have received and reviewed the Transmittal of Sample Analysis Results for the above-referenced Analytical Services Request(ASR) and have indicated my findings below by checking one of the boxes for Data Disposition and Sample Disposition.

I understand all samples will be disposed of unless samples are requested to be held. If I do not return this form within 30 days of the transmittal all samples will have a waste determination made and scheduled for disposal.

Data Disposition

☐ "RELEASED" - Read-only to all Region 7 employees and contractors that have R7LIMS "Customer" account. All Samples may be disposed of upon receipt of this form if not requested to

☐ "Project Manager Accessible" - Available on the LAN in R7LIMS for my use only. All Samples may be disposed of upon receipt of this form if not requested to be held.

☐ "Archived" - THIS DATA IS OF A SENSITIVE NATURE. Any future reports must be requested through the laboratory. All samples may be disposed of upon receipt of the form if not requested to be held.

Sample Disposition

☐ No longer need samples for site characterization

☐ Hold Samples - I have determined that the samples need to be held until _____, after which time they will be disposed of in accordance with applicable regulations.
The reason for the hold is:

☐ Samples are associated with a legal proceeding.

☐ Question/Concern with data - possible reanalysis requested.

☐ Other:_____

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: MAR - 8 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7054

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief MEWSt Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30285834
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FD = Field Duplicate

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7054 **Sample Information Summary** **03/08/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		02/17/2016	16:03	02/18/2016	14:28	02/24/2016
2 -	__	Air	Jungle Room		02/17/2016	16:00	02/18/2016	15:19	02/24/2016
3 -	__	Air	Theater		02/17/2016	16:18	02/18/2016	15:20	02/24/2016
4 -	__	Air	Ball Room		02/17/2016	16:24	02/18/2016	15:11	02/24/2016
5 -	__	Air	Gift shop		02/22/2016	10:55	02/23/2016	09:15	02/24/2016
5 -	FD	Air	Gift Shop		02/22/2016	10:56	02/23/2016	09:16	02/24/2016
7 -	__	Air	Ball Room		02/22/2016	10:51	02/23/2016	09:25	02/24/2016
8 -	__	Air	Theater		02/22/2016	11:38	02/23/2016	09:40	02/24/2016
9 -	__	Air	Loot Rock		02/22/2016	11:01	02/23/2016	09:45	02/24/2016
10 -	__	Air	Jungle Room		02/22/2016	11:06	02/23/2016	10:00	02/24/2016
11 -	__	Air	Ampi-Theater		02/22/2016	12:06	02/23/2016	10:45	02/24/2016
12 -	__	Air	Motel		02/22/2016	12:14	02/23/2016	11:13	02/24/2016

ASR Number: 7054 **RLAB Approved Analysis Comments** **03/08/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 5-FD 7-__
8-__ 9-__ 10-__ 11-__ 12-__

Comments:
Sample 7054-4 was received at 3.4 psia. The sample required pressurization in order to properly analyze the sample. This resulted in a 4X initial dilution factor. Reporting limits were adjusted accordingly.
Samples 7054-1 required dilution due to some target compound concentrations.

ASR Number: 7054 **RLAB Approved Sample Analysis Results** **03/08/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	165	5.95 U	5.95 U	34.2
Benzene	ug/m3	0.319	0.31 U	0.31 U	1.24 U
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	13.4 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	20.7 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	7.76 U
2-Butanone	ug/m3	26.1	1.47 U	1.47 U	5.88 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	6.24 U
Carbon Tetrachloride	ug/m3	0.41 U	0.41 U	0.41 U	1.64 U
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	9.2 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	5.28 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	9.76 U
Chloromethane	ug/m3	1.03 U	1.03 U	1.03 U	4.12 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	17 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	15.4 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	12 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	12 U
Dichlorodifluoromethane	ug/m3	2.47 U	2.47 U	2.47 U	9.88 U
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	8.08 U
1,2-Dichloroethane	ug/m3	0.607	0.19 U	0.19 U	0.76 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	7.92 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	7.92 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	7.92 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	9.24 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	9.08 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	9.08 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	8.68 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	8.2 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	21.3 U
Hexane	ug/m3	1.76 U	1.76 U	1.76 U	7.04 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	8.2 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	9.84 U
Methylene Chloride	ug/m3	8.7 U	8.7 U	8.7 U	34.8 U
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	8.2 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	10.5 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	8.52 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	13.7 U
Tetrachloroethene	ug/m3	0.949	0.41 U	0.814	1.64 U
Toluene	ug/m3	3.99	1.88 U	1.88 U	25
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	14.8 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	10.9 U
1,1,2-Trichloroethane	ug/m3	0.23 U	0.23 U	0.23 U	0.92 U
Trichloroethene	ug/m3	3.38	19.6	14.6	20
Trichlorofluoromethane	ug/m3	2.86	3.93	6.51	11.2 U
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	15.3 U
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	9.84 U

ASR Number: 7054 **RLAB Approved Sample Analysis Results** **03/08/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	9.84 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.64 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	17.4 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	8.68 U

ASR Number: 7054 **RLAB Approved Sample Analysis Results** **03/08/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	5-FD	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	40.8	40.4	5.95 U	7.69
Benzene	ug/m3	0.447	0.415	0.31 U	0.31 U
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	4.98	4.54	1.47 U	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.41 U	0.41 U	0.44	0.41 U
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	2.44 U
Chloromethane	ug/m3	1.03 U	1.03 U	1.03 U	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	2.47 U	2.47 U	2.47 U	2.47 U
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.607	0.647	0.19 U	0.19 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	1.76 U	1.76 U	1.76 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	8.7 U	8.7 U	8.7 U	8.7 U
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	0.61	0.61	1.02	1.22
Toluene	ug/m3	5.24	5.2	1.88 U	1.88 U
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.23 U	0.23 U	0.23 U	0.23 U
Trichloroethene	ug/m3	5.26	5.69	36.3	28.4
Trichlorofluoromethane	ug/m3	3.82	4.04	16.1	14.5
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	3.83 U
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U

Analysis/ Analyte	Units	5-__	5-FD	7-__	8-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

ASR Number: 7054 **RLAB Approved Sample Analysis Results** **03/08/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	5.95 U	6.7	11.5	18.3
Benzene	ug/m3	0.31 U	0.31 U	0.447	0.511
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	1.47 U	1.47 U	2.21	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	2.44 U
Chloromethane	ug/m3	1.03 U	1.03 U	1.03 U	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	2.47 U	2.47 U	2.47 U	2.47 U
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.19 U	0.19 U	0.19 U	1.86
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	4.83
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	1.76 U	1.76 U	1.76 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	20.1	8.7 U	23	8.7 U
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U
Toluene	ug/m3	7.72	1.88 U	30.9	49.6
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.23 U	0.23 U	0.23 U	0.23 U
Trichloroethene	ug/m3	22.8	29.2	0.43 U	0.43 U
Trichlorofluoromethane	ug/m3	5.5	7.3	2.81 U	2.81 U
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	3.83 U
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U

ASR Number: 7054 **RLAB Approved Sample Analysis Results** **03/08/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print): Tonya Howell

NAME OF SURVEY OR ACTIVITY: 7054

DATE OF COLLECTION: 17-18 (DAY) 2 (MONTH) 2016 (YEAR)

SHEET: 1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ Canister	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	~~other~~ air	RECEIVING LABORATORY REMARKS:OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.) 2/24/16
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7054-1	1									*	
2	↓									↓	
3											
4											
5											
5FD											
7											
8											
9											
10											
11											
12											
											Air canisters. No Temp. Needed.

DESCRIPTION OF SHIPMENT

12 PIECE(S) CONSISTING OF 3 ~~BOX(ES)~~ crates

___ ICE CHEST(S): OTHER 2/24/16

MODE OF SHIPMENT 2/24/16

___ COMMERCIAL CARRIER: ___

✓ COURIER

✓ SAMPLER CONVEYED

(SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED ☒	24 Feb 16	1130	[signature] SEALED UNSEALED ☒	Reid at lab
RELINQUISHED BY SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/17/16	16:03
Longitude: ___ ___ ___	**End:**	2/18/16	14:28

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A) CAN # L5112
REG # ARDL155
INIT VAC: 0.0
~~FI~~ DEPLOY VAC: -29.0
FINAL VAC: -1.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/17/16	16:00
Longitude: ___ ___ ___	**End:**	2/18/16	15:19

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A) CAN # 5949
REG # ARDL154
INIT VAC: 0.0
DEPLOY VAC: -30.0
FINAL VAC: 0.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Theater

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/17/16	16:18
Longitude: ___ ___ ___	**End:**	2/18/16	15:26

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A) CAN # L5110
REG # ARDL157
INIT VAC: 0.0
DEPLOY VAC: -28.5
FINAL VAC: 0.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ball Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/17/16	16:24
Longitude: ___ ___ ___	**End:**	2/18/16	15:11

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A) CHN # L5119
REG # ARDL163
DEPLOY ~~INIT~~ VAC: -36.0
INIT ~~DEPLOY~~ VAC: -6.0
FINAL VAC: -28.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/22/16	10:55
Longitude: ___ ___ ___	**End:**	2/23/16	09:15

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)
CAN # A7490
REG # A011 4854-2
INIT VAC: 0.0
DEPLOY VAC: -30.0
FINISH VAC: -2.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** ~~6~~ 5 **QC Code:** FD **Matrix:** Air **Tag ID:** 7054-~~6~~-5FD

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop (FD)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	2/22/16	10:56
Longitude:	**End:**	2/23/16	09:16

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A) CAN # 5946
REG # A012 1695-3
INIT VAC: ~~-1.0~~ 0.0
DEPLOY VAC: ~~-30.0~~ -28.5
FINAL VAC: ~~-3.0~~ 0.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 7 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ball Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/22/16	10:51
Longitude: ___ ___ ___	**End:**	2/23/16	09:25

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient.Levels by GC/MS

Sample Comments:
(N/A) CAN# L5111
REG# A0106064-9
INIT VAC: -1.0
DEPLOY VAC: -30.0
FINAL VAC: -3.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 8 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-8-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Theater

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/22/16	11:38
Longitude: ___ ___ ___	**End:**	2/23/16	09:40

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A) CAN # 4309
REG # A0150601-7
INIT VAC: 0.0
DEPLOY VAC: -28.5
FINAL VAC: -2.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 9 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-9-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Loot Rock

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/22/16	11:01
Longitude: ___ ___ ___	**End:**	2/23/16	09:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

CAN # L5197
REG # ARDL153
INIT VAC: 0.0
DEPLOY VAC: -30.0
FINAL VAC: -4.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 10 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-10-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/22/16	11:06
Longitude: ___ ___ ___	**End:**	2/23/16	10:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) CAN # A7492
REG # A010 6062-2
INIT VAC: 0.0
DEPLOY VAC: -26.0
FINISH VAC: -0.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 11 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-11-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ampi-theater

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/22/16	12:06
Longitude: ___ ___ ___	**End:**	2/23/16	10:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) CAN # L5192
REG # 7273045
INIT VAC: 0.0
DEPLOY VAC: -29.5
FINISH VAC: 0.0

* Ampitheater regulator nut not tight. -Jschu 2-23-16

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7054 **Sample Number:** 12 **QC Code:** __ **Matrix:** Air **Tag ID:** 7054-12-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Motel

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	2/22/16	12:14
Longitude: ___ ___ ___	**End:**	2/23/16	11:13

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A) CAN # A7496
REG # ARDL154

INIT VAC: 0.0
DEPLOY VAC: -29.5
FINAL VAC: -2.5

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: MAR 30 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7055

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30285836
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

ASR Number: 7055 **Sample Information Summary** **03/30/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		03/21/2016	10:45	03/22/2016	08:50	03/25/2016
2 -	__	Air	Gift shop		03/23/2016	13:45	03/24/2016	09:58	03/25/2016
3 -	__	Air	Cafeteria		03/23/2016	13:48	03/24/2016	10:05	03/25/2016
4 -	__	Air	Jungle Room		03/23/2016	14:32	03/24/2016	11:00	03/25/2016

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3230.4G

Samples: 1-__ 2-__ 3-__ 4-__

Comments:

ASR Number: 7055 **RLAB Approved Sample Analysis Results** **03/30/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	**Units**	**1-__**	**2-__**	**3-__**	**4-__**
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	4.2	5.6	6.9	460

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Tonya Howell	7055	21-24 / MAR / 2016	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ Canister	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	~~other~~ air	RECEIVING LABORATORY REMARKS:OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7055-1	1									X	
2	1										
3											
4	✓										
											Air canisters No Temp. Needed.

Complete

DESCRIPTION OF SHIPMENT

4 PIECE(S) CONSISTING OF 1 ~~BOX(ES)~~ crate

_____ ICE CHEST(S): OTHER _____

MODE OF SHIPMENT 3/25/16

✓ COMMERCIAL CARRIER _____

_____ COURIER

_____ SAMPLER CONVEYED _____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD 3/25/16

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] ☒ SEALED ☐ UNSEALED	3/24/15	1400	[signature] ☒ SEALED ☐ UNSEALED	Analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7055 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7055-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/21/16	10:45
Longitude: ___ ___ ___	**End:**	3/22/16	08:50

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

INITIAL VAC: 0.0
DEPLOY VAC: -29.0
FINAL VAC: -2.5

CAN # 3263
REG # 7264336

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7055 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7055-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/23/16	13:45
Longitude: ___ ___ ___	**End:**	3/24/16	09:58

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

INITIAL VAC: 0.0
DEPLOY VAC: -25.3
FINISH VAC: -1.0

CAN # 3261
REG # 73452944

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7055 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7055-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Cafeteria

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/23/16	13:48
Longitude: ___ ___ ___	**End:**	3/24/16	10:05

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

INITIAL VAC. 0.0

DEPLOY VAC: -29.5

FINISH VAC: -5.0

CAN # 3021

REG # 02710551

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7055 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7055-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/23/15	14:32
Longitude: ___ ___ ___	**End:**	3/24/15	11:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

INITIAL VAC: 0.0

DEPLOY VAC: -29.0

FINAL VAC: -5.5

CAN # 14974

REG # 2710553

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: APR 18 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7056

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30285831
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

ASR Number: 7056 **Sample Information Summary** **04/18/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Cafeteria		04/11/2016	12:15	04/12/2016	10:45	04/13/2016
2 -	__	Air	Gift shop		04/11/2016	12:16	04/12/2016	10:46	04/13/2016
3 -	__	Air	Theater		04/11/2016	12:22	04/12/2016	10:43	04/13/2016
4 -	__	Air	Jungle Room		04/11/2016	12:30	04/12/2016	10:25	04/13/2016

ASR Number: 7056 **RLAB Approved Analysis Comments** **04/18/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3230.4G

Samples: 1-__ 2-__ 3-__ 4-__

Comments:

ASR Number: 7056 **RLAB Approved Sample Analysis Results** **04/18/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	2.6	2.5	4.3	100

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Tonya Howell	7056	11-12 April 2016	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ Canister	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	~~other~~ air	RECEIVING LABORATORY REMARKS:OTHER INFORMATION (condition of samples upon receipt other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7056 - 1	X									X	
2											
3											
4											

Complete

* Rec'd about the tags on crates but custody seal was loosely on opening of crate. 4/13/16 4/13/16 pm/Ronda emailed on

DESCRIPTION OF SHIPMENT

4 PIECE(S) CONSISTING OF 1 ~~BOX(ES)~~ crate

_____ ICE CHEST(S): OTHER _____

MODE OF SHIPMENT

✓ COMMERCIAL CARRIER: Air canisters. No Temp. Needed. 4/13/16

_____ COURIER

_____ SAMPLER CONVEYED

(SHIPPING DOCUMENT NUMBER)

4/13/16

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Garrett Eb ☒ SEALED ☐ UNSEALED	4/12/16	1600	Nicole Rowly ☒ SEALED ☐ UNSEALED	Analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☒ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

* Appears that samples were not tampered with during transit. 4/13/16

7-EPA-9262(Revised 5/85)

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7056 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7056-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Cafeteria

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/11/16	12:15
Longitude: ___ ___ ___	**End:**	4/12/16	10:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Initial : _____ -6.5
depth ~~initial~~ vac : -31.0
final vac : -12.0
Can # : 4552
reg # : 7276964

on counter next to silverware.
* Regulator dial is bad. many light taps to get to move & would stick @ -12 & @ other values

NOTE Please Check

4-12 Scrubber on SE cor room on "Low"

4-12- scrubber moe to work counter ~ 10' N. of Summer

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7056 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7056-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/11/16	12:16
Longitude: ___ ___ ___	**End:**	4/12/16	10:46

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

on portable table
@ jewley counter

scribbler nearby on
"low" setting

Initl dial: 0.0
deploy -31.0
final -5.0
reg. 7279706
Can #: 3020

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7056 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7056-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Theater

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/11/16	12:22
Longitude: ___ ___ ___	**End:**	4/12/16	10:43

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

on 2nd row of bench
from front - East set
next to center walkway

e initial dial 0.0
deploy -31.0
final -6.0
Can # 3241
regul # 7277437

* outside air lock doors
demo'd ~ 0800 am
on 4-12-16
temp. doors ok on 4-11-16

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7056 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7056-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/11/16	12:30
Longitude: ___ ___ ___	**End:**	4/12/16	10:25

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

outside
air locks down
demand
thermometer 4-12-16

Initial dial: 0.0
deploy: 30.5
final: -5.0
can #: 14975
reg #: A1006063-3

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: MAY - 5 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7057

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30303337
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7057 **Sample Information Summary** **05/05/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		04/26/2016	10:10	04/27/2016	08:20	04/29/2016
2 -	__	Air	Cafeteria		04/26/2016	10:19	04/26/2016	17:04	04/29/2016
3 -	__	Air	Cafeteria		04/26/2016	10:18	04/27/2016	08:21	04/29/2016
4 -	__	Air	Gift shop		04/26/2016	10:11	04/26/2016	17:00	04/29/2016
5 -	__	Air	Ball room		04/26/2016	10:20	04/27/2016	08:56	04/29/2016
6 -	__	Air	Ball room		04/26/2016	10:20	04/26/2016	17:45	04/29/2016
7 -	__	Air	Honey room		04/26/2016	10:23	04/27/2016	08:50	04/29/2016
8 -	__	Air	Honey room		04/26/2016	10:24	04/26/2016	17:39	04/29/2016
9 -	__	Air	Theater		04/26/2016	10:28	04/27/2016	08:52	04/29/2016
10 -	__	Air	Theater		04/26/2016	10:29	04/26/2016	17:36	04/29/2016
11 -	__	Air	Jungle room		04/26/2016	10:35	04/27/2016	08:45	04/29/2016
12 -	__	Air	Jungle room		04/26/2016	10:34	04/26/2016		04/29/2016

ASR Number: 7057 **RLAB Approved Analysis Comments** **05/05/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3230.4G

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__ 11-__ 12-__

Comments:

ASR Number: 7057 **RLAB Approved Sample Analysis Results** **05/05/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	5.3	1.1 U	1.1 U	1.1 U

ASR Number: 7057 **RLAB Approved Sample Analysis Results** **05/05/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	*ug/m3*	1.1 U	13	31	54

ASR Number: 7057 **RLAB Approved Sample Analysis Results** **05/05/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1. VOCs in Air at Ambient Levels by GC/MS					
[illegible]	[illegible]	2.6	1.5	[illegible]	[illegible]

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER (Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Tom Howell	7057	29 Apr 2016	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: Canister	BOTTLE	BOTTLE	BOTTLE	BOTTLE	SAMPLE MEDIA: WATER	SOIL	SEDIMENT	OIL	AIR	REPORTING LABORATORY REMARKS OTHER INFORMATION
7057-1	X									X	
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

Air canisters
No Tom Nichols
4/29/16

DESCRIPTION OF SHIPMENT

12 Bottles Samples, 2 Crates
1 Box ~~Reports~~ Other (with regulators)

MODE OF SHIPMENT 4/29/16

Commercial Carrier
Other
Sampler Vehicle — Shipping Bill Number

PERSONNEL CUSTODY RECORD 4/29/16

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] ☒ SEALED ☐ UNSEALED	4/29/16	1600	[signature] ☒ SEALED ☐ UNSEALED	Analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7057-1-

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	4 26 16	10:10
Longitude:	**End:**	4 27 16	08:20

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 Other Canist	None	[illegible] Day	[illegible] in Air at Ambient Level by GC/MS

Sample Comments:

(N/A)

INIT VAC: -2.0

DEPLOY VAC: -34.0

FINISH VAC: ~~-0~~.5
-6.5

CAN # 14973

REG # 0104425-3

24-hr

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 2 **QC Code:** _ **Matrix:** Air **Tag ID:** 7057-2-_

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village Well - RA Sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Cafeteria (8hr)

External Sample Number: _

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	4 26 16	10:19
Longitude:	**End:**	4 26 16	17:04

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 Lit Canister	None	60 Day	1 VOCs in Air at Ambient Level by GC MS

Sample Comments:

(N/A) INIT VAC: +1.0 CAN # 4557

DEPLOY VAC: -10.0 REG # 7267070 (8hr)

FINISH VAC 0.0

* SUPPLIED VAC GAGE DOESN'T APPEAR TO WORK

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 3 **QC Code:** **Matrix:** Air **Tag ID:** 7057-3-

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Cafeteria

External Sample Number:

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	4 26 16	10:18
Longitude:	**End:**	4 27 16	08 21

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
[illegible]	None	[illegible] Days	[illegible] in Air at Ambient Level by GC MS

Sample Comments:

(N/A)

INIT VAC: ~~0.0~~ *

DEPLOY VAC: ? / ? *

FINAL VAC: — *

* GAGE DOESN'T WORK

appears to have @ least -15 @ deploy using hand pump gage

CAN # 14977

REG # 128097

24-hr

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7057-4-_

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - PA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: **Sample Collection: Start:** 4 26 16 10:11
Longitude: **End:** 4 26 16 17:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
[illegible]	[illegible]	[illegible]	[illegible]

Sample Comments:

INIT VAC: +1.0

DEPLOY VAC: -29.0

FINAL VAC: -0.5

CAN # R0489

REG # A010-4425-9
(8hr)

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7057-5-_

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ball Room

External Sample Number:

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	4 26 16	10:20
Longitude:	**End:**	4 27 16	08:56

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 Regulator Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC. ~~0.0~~ *

DEPLOY VAC: ? *

FINAL VAC: ? *

CAN # 3026

REG # 0271055-8

24-hr

* GAGE NOT WORKING

appears to be @ least -15 psi
we deployed using hand pump gage

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 6 **QC Code:** **Matrix:** Air **Tag ID:** 7057-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove village well - PA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ball Room

External Sample Number: ___ ___ ___ ___ ___

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: __ __ ___	**Sample Collection: Start:**	4 26 16	10:20
Longitude: __ __	**End:**	4 26 16	17:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 Stor Canister	Non	[illegible] Day	1 [illegible] in Air at Ambient Level by GC/M

Sample Comments:

(N/A) INIT VAC: +1.0

DEPLOY VAC: -29.0

FINAL VAC: 0.0

CAN # 3922

REG # 7264306

8-hr

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 7 **QC Code:** __ **Matrix:** Air **Tag ID:** 7057-7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Honeymoon

External Sample Number: __

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: __	**Sample Collection: Start:**	4 26 16	10:23 JE
Longitude: __	**End:**	4 27 16	~~17:57~~ 08:50

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 Sorbent Canister	None	[illegible] Days	1 [illegible] in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0 CAN# 3255

DEPLOY VAC: -29.5 REG# 0271059-2

24-hr

FINAL VAC: ~~-7.0~~ JE
-3.0 JL

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 8 **QC Code:** __ **Matrix:** Air **Tag ID:** 7057-8-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Honeymoon

External Sample Number:

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: __	**Sample Collection: Start:**	4 26 16	10:24
Longitude: __ __	**End:**	4 26 16	17:39

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
[illegible]	None	[illegible] Day	[illegible] Air at Ambient Level [illegible]

Sample Comments:

(N/A) INIT VAC: -1.5

DEPLOY VAC: -32.0

FINAL VAC: -7.0

CAN # 4554

REG # 7262487

8-hr

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 9 **QC Code:** __ **Matrix:** Air **Tag ID:** 7057-9-

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village Well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Theater

External Sample Number:

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	4 26 16	10:28
Longitude:	**End:**	4 27 16	08:52

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 Uncontainer	None	[illegible]	[illegible] in Air at Ambient Level by GC MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY VAC: -10.0

FINAL VAC: -0.0

CAN # 3025

REG # 7262306

24-hr

* LOW VACUUM, MAY BE BAD GAGE on resulton

(*) checked with extra vac gage = -3.0 final

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 10 **QC Code:** __ **Matrix:** Air **Tag ID:** 7057-10-__

Project ID: TH07P201 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village Well - PA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07P2 **Site OU:** 01

Location Desc: Theater

External Sample Number: _

Expected Conc: (Circle One) Low Medium High

	Date	Time(24 hr)
Latitude: __ **Sample Collection: Start:**	4 26 16	10:29
Longitude: __ **End:**	4 26 16	17:36

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
[illegible]	[illegible]	[illegible]	[illegible]

Sample Comments:

INIT VAC : -1.0

DEPLOY VAC : -31.0

FINAL VAC : -0.3

CAN # 3012

REG # A[illegible] 4425-1

8-hr

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 11 **QC Code:** **Matrix:** Air **Tag ID:** 7057-11-

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove village well - PA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number:

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	4 26 16	10:35
Longitude:	**End:**	4 27 16	08:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
[illegible]	[illegible]	[illegible]	[illegible]

Sample Comments:

(N/A)

INIT VAC: 0.0

DEPLOY VAC: -22.0 *

FINAL VAC: ~~-21.5~~ 0.0

* LOW VACUUM

CAN # 3030

REG # 727.844

24-hr

~-3.0 ~~or~~ final vac. w/ extra gage supplied - however this extra gage is not reading correctly either ambient = +1 to +3

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7057 **Sample Number:** 12 **QC Code:** __ **Matrix:** Air **Tag ID:** 7057-12-

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number:

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude:	**Sample Collection: Start:**	9 26 10	10:34
Longitude:	**End:**	9 26 10	17:18

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 Cylinder Canister	None	60 Days	1 VOC in Air at Ambient Level, by GC/MS

Sample Comments:

(N/A) INIT VAC -1.0 CAN # 3249

DEPLOY VAC -28.0 REG # 7007055

FINAL VAC -7.0

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: MAR 16 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7085

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

Daniel R. Pass 03/16/2016

From: Margaret E.W. St. Germain, Chief FOR
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30285833
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.

ASR Number: 7085 **Sample Information Summary** **03/16/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		03/08/2016	09:45	03/09/2016	09:05	03/10/2016
2 -	__	Air	Ball Room		03/08/2016	09:49	03/09/2016	09:08	03/10/2016
3 -	__	Air	Theater		03/08/2016	10:05	03/09/2016	09:27	03/10/2016
4 -	__	Air	Loot Rock		03/08/2016	10:03	03/09/2016	09:25	03/10/2016
5 -	__	Air	Jungle Room		03/08/2016	10:09	03/09/2016	09:20	03/10/2016

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3230.4G

Samples: 1-__ 2-__ 3-__ 4-__ 5-__

Comments:

The lowest standard for 2-Hexanone and 4-Ethyltoluene was dropped in the initial calibration raising the reporting limits to 1.6 µg/m3 for 2-Hexanone and 2.2 µg/m3 for 4-Ethyltoluene.

The two lowest standards were dropped for 1,2,4-Trichlorobenzene in the initial calibration raising the reporting limit to 6.0 µg/m3.

Benzyl Chloride (39.47%) was biased high in the initial calibration and was UJ-coded in samples 7085-(1 - 5). The analyte was not found in the samples at or above the reporting limit however, the reporting limit is an estimate (UJ-coded) due to the initial instrument calibration not meeting specifications. The actual reporting limit for this analyte may be higher than the reported value.

ASR Number: 7085 **RLAB Approved Sample Analysis Results** **03/16/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Acetone	ug/m3	47	1.9	1.9	2.4
Allyl Chloride	ug/m3	0.63 U	0.63 U	0.63 U	0.63 U
Benzene	ug/m3	0.65 U	0.65 U	0.65 U	0.65 U
Benzyl Chloride	ug/m3	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Bromodichloromethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
Bromoform	ug/m3	2.1 U	2.1 U	2.1 U	2.1 U
Bromomethane	ug/m3	0.78 U	0.78 U	0.78 U	0.78 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
2-Butanone	ug/m3	5.5	0.96 U	0.96 U	0.96 U
Carbon Disulfide	ug/m3	0.63 U	0.63 U	0.63 U	0.63 U
Carbon Tetrachloride	ug/m3	1.3 U	1.3 U	1.3 U	1.3 U
Chlorobenzene	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
Chloroethane	ug/m3	0.53 U	0.53 U	0.53 U	0.53 U
Chloroform	ug/m3	1.4	1.1	0.99 U	1.1
Chloromethane	ug/m3	1.3	0.42 U	0.42 U	0.42 U
Cyclohexane	ug/m3	0.70 U	0.70 U	0.70 U	0.70 U
Dibromochloromethane	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
1,2-Dibromoethane	ug/m3	1.6 U	1.6 U	1.6 U	1.6 U
1,2-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,3-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	ug/m3	4.8	1.2 U	1.2 U	1.2 U
Dichlorodifluoromethane	ug/m3	3.4	4.6	2.6	7.2
1,1-Dichloroethane	ug/m3	0.82 U	1.6	0.82 U	2.8
1,2-Dichloroethane	ug/m3	1.2	0.82 U	0.82 U	0.82 U
1,1-Dichloroethene	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
cis-1,2-Dichloroethene	ug/m3	0.80 U	1.4	0.80 U	2.8
trans-1,2-Dichloroethene	ug/m3	0.80 U	0.80 U	0.80 U	0.80 U
1,2-Dichloropropane	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
cis-1,3-Dichloropropene	ug/m3	0.92 U	0.92 U	0.92 U	0.92 U
trans-1,3-Dichloropropene	ug/m3	0.92 U	0.92 U	0.92 U	0.92 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
1,4-Dioxane	ug/m3	0.73 U	0.73 U	0.73 U	0.73 U
Ethyl Acetate	ug/m3	2.2	1.1 U	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U
4-Ethyltoluene	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Heptane	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
Hexachlorobutadiene	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Hexane	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
2-Hexanone	ug/m3	1.6 U	1.6 U	1.6 U	1.6 U
Methyl tert-butyl ether	ug/m3	0.73 U	0.73 U	0.73 U	0.73 U
Methylene Chloride	ug/m3	0.82	0.70 U	0.70 U	0.70 U
4-Methyl-2-Pentanone	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
2-Propanol	ug/m3	10	0.50 U	0.50 U	0.50 U
Propene	ug/m3	4.0	0.35 U	0.35 U	0.35 U
Styrene	ug/m3	3.1	0.86 U	0.86 U	0.86 U

ASR Number: 7085 **RLAB Approved Sample Analysis Results** **03/16/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
Tetrachloroethene	ug/m3	2.5	3.8	1.9	6.7
Tetrahydrofuran	ug/m3	2.2	0.60 U	0.60 U	0.60 U
Toluene	ug/m3	3.5	0.76 U	0.76 U	0.76 U
1,2,4-Trichlorobenzene	ug/m3	6.0 U	6.0 U	6.0 U	6.0 U
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.6
1,1,2-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Trichloroethene	ug/m3	64	210	59	420
Trichlorofluoromethane	ug/m3	27	95	25	220
1,1,2-Trichlorotrifluoroethane	ug/m3	1.7	3.9	1.6	10
1,2,4-Trimethylbenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
1,3,5-Trimethylbenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
2,2,4-Trimethylpentane	ug/m3	0.94 U	0.94 U	0.94 U	0.94 U
Vinyl Acetate	ug/m3	2.1	0.72 U	0.72 U	0.72 U
Vinyl Bromide	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U
Vinyl Chloride	ug/m3	0.52 U	0.52 U	0.52 U	0.52 U
m and/or p-Xylene	ug/m3	2.9	1.8 U	1.8 U	1.8 U
o-Xylene	ug/m3	1.1	0.88 U	0.88 U	0.88 U

Analysis/ Analyte	Units	5-__
1 VOCs in Air at Ambient Levels by GC/MS		
Acetone	ug/m3	2.4
Allyl Chloride	ug/m3	0.63 U
Benzene	ug/m3	0.65 U
Benzyl Chloride	ug/m3	1.0 UJ
Bromodichloromethane	ug/m3	1.4 U
Bromoform	ug/m3	2.1 U
Bromomethane	ug/m3	0.78 U
1,3-Butadiene	ug/m3	0.45 U
2-Butanone	ug/m3	0.96 U
Carbon Disulfide	ug/m3	0.63 U
Carbon Tetrachloride	ug/m3	1.3 U
Chlorobenzene	ug/m3	0.93 U
Chloroethane	ug/m3	0.53 U
Chloroform	ug/m3	1.4
Chloromethane	ug/m3	0.42 U
Cyclohexane	ug/m3	0.70 U
Dibromochloromethane	ug/m3	1.7 U
1,2-Dibromoethane	ug/m3	1.6 U
1,2-Dichlorobenzene	ug/m3	1.2 U
1,3-Dichlorobenzene	ug/m3	1.2 U
1,4-Dichlorobenzene	ug/m3	1.2 U
Dichlorodifluoromethane	ug/m3	7.9
1,1-Dichloroethane	ug/m3	3.7
1,2-Dichloroethane	ug/m3	0.82 U
1,1-Dichloroethene	ug/m3	0.80 U
cis-1,2-Dichloroethene	ug/m3	3.9
trans-1,2-Dichloroethene	ug/m3	0.80 U
1,2-Dichloropropane	ug/m3	0.93 U
cis-1,3-Dichloropropene	ug/m3	0.92 U
trans-1,3-Dichloropropene	ug/m3	0.92 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.4 U
1,4-Dioxane	ug/m3	0.73 U
Ethyl Acetate	ug/m3	1.1 U
Ethyl Benzene	ug/m3	0.88 U
4-Ethyltoluene	ug/m3	2.2 U
Heptane	ug/m3	0.83 U
Hexachlorobutadiene	ug/m3	2.2 U
Hexane	ug/m3	0.71 U
2-Hexanone	ug/m3	1.6 U
Methyl tert-butyl ether	ug/m3	0.73 U
Methylene Chloride	ug/m3	0.70 U
4-Methyl-2-Pentanone	ug/m3	0.83 U
2-Propanol	ug/m3	0.76
Propene	ug/m3	0.35 U
Styrene	ug/m3	0.86 U

Analysis/ Analyte	Units	5-__
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U
Tetrachloroethene	ug/m3	7.6
Tetrahydrofuran	ug/m3	0.60 U
Toluene	ug/m3	0.76 U
1,2,4-Trichlorobenzene	ug/m3	6.0 U
1,1,1-Trichloroethane	ug/m3	1.8
1,1,2-Trichloroethane	ug/m3	1.1 U
Trichloroethene	ug/m3	490
Trichlorofluoromethane	ug/m3	290
1,1,2-Trichlorotrifluoroethane	ug/m3	13
1,2,4-Trimethylbenzene	ug/m3	0.99 U
1,3,5-Trimethylbenzene	ug/m3	0.99 U
2,2,4-Trimethylpentane	ug/m3	0.94 U
Vinyl Acetate	ug/m3	0.72 U
Vinyl Bromide	ug/m3	0.88 U
Vinyl Chloride	ug/m3	0.52 U
m and/or p-Xylene	ug/m3	1.8 U
o-Xylene	ug/m3	0.88 U

Tentatively Identified Compounds from:
Analysis for Volatile Organic Compounds in Air

Sample: **7024-980-MB**

Retention Time	Tentatively Identified Compound	Result	Units (Est.*)
25.296	Butane, 1,1,3,4-tetrachloro-1,2,2,3,4,4-hexafluoro-	2	ug/m3

Scanned + emailed to PM (per ASR)
w/ final data transmitted on
3/16/16

(*) This is a crude estimation based on response relative to an internal standard. An authentic standard has not been run.

p 16 of 26
JM

Tentatively Identified Compounds from:
Analysis for Volatile Organic Compounds in Air

Sample: **7085-1-__**

Retention Time	Tentatively Identified Compound	Result	Units (Est.*)
4.364	Norflurane	5	ug/m3
5.750	Ethyl alcohol	30	ug/m3
6.884	Pentane	6	ug/m3
13.542	Pentanal	2	ug/m3
18.208	Hexanal	8	ug/m3
22.886	Benzaldehyde	5	ug/m3
22.952	1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)-	4	ug/m3
23.700	Octanal	5	ug/m3
24.206	3-Carene	3	ug/m3
24.272	Benzene, 1-methyl-4-(1-methylethyl)-	2	ug/m3
24.327	Nonane, 2,6-dimethyl-	2	ug/m3
24.547	Cyclohexane, butyl-	2	ug/m3
24.954	Decane, 3-methyl-	1	ug/m3
25.131	Nonanal	3	ug/m3
25.230	Oxalic acid, cyclohexylmethyl nonyl ester	1	ug/m3
25.285	Undecane	8	ug/m3
25.384	Butane, 1,1,2,3,4,4-hexachloro-1,2,3,4-tetrafluoro-	2	ug/m3
25.879	Benzeneethanamine, N-[(pentafluorophenyl)methylene]-.beta.,4-bis[(trimethylsilyl)oxy]-	10	ug/m3
25.923	2-Decene, 5-methyl-, (Z)-	1	ug/m3
26.418	Dodecane	2	ug/m3

(*) This is a crude estimation based on response relative to an internal standard. An authentic standard has not been run.

Tentatively Identified Compounds from:
Analysis for Volatile Organic Compounds in Air

Sample: **7085-2-__**

Retention Time	Tentatively Identified Compound	Result	Units (Est.*)
5.739	Fluorodichloromethane	50	ug/m3
23.854	Tetrasiloxane, 1,1,3,3,5,5,7,7-octamethyl-	2	ug/m3
25.296	Butane, 1,1,3,4-tetrachloro-1,2,2,3,4,4-hexafluoro-	2	ug/m3
25.879	Benzeneethanamine, N-[(pentafluorophenyl)methylene]-beta,4-bis[(trimethylsilyl)oxy]-	8	ug/m3

(*) This is a crude estimation based on response relative to an internal standard. An authentic standard has not been run.

Tentatively Identified Compounds from:
Analysis for Volatile Organic Compounds in Air

Sample: **7085-3-__**

Retention Time	Tentatively Identified Compound	Result	Units (Est.*)
4.364	Norflurane	4	ug/m3
5.729	Fluorodichloromethane	10	ug/m3
25.296	Butane, 1,1,3,4-tetrachloro-1,2,2,3,4,4-hexafluoro-	2	ug/m3
25.384	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-	0.7	ug/m3
25.879	Benzeneethanamine, N-[(pentafluorophenyl)methylene]-.beta.,4-bis[(trimethylsilyl)oxy]-	40	ug/m3

(*) This is a crude estimation based on response relative to an internal standard. An authentic standard has not been run.

Tentatively Identified Compounds from:
Analysis for Volatile Organic Compounds in Air

Sample: **7085-4-__**

Retention Time	Tentatively Identified Compound	Result	Units (Est.*)
5.740	Fluorodichloromethane	80	ug/m3

(*) This is a crude estimation based on response relative to an internal standard. An authentic standard has not been run.

Tentatively Identified Compounds from:
Analysis for Volatile Organic Compounds in Air

Sample: **7085-5-__**

Retention Time	Tentatively Identified Compound	Result	Units (Est.*)
5.739	Fluorodichloromethane	100	ug/m3
6.246	Ethane, 1,2-dichloro-1,1,2-trifluoro-	4	ug/m3

(*) This is a crude estimation based on response relative to an internal standard. An authentic standard has not been run.

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Tonya Howell	7085	8-9 MAR 2016	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: Canister (1) ~~CUBITAINER~~	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	~~other~~ air	RECEIVING LABORATORY REMARKS: OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7085-1	x									x	
2											
3											
4											
5											

Complete

Air canisters. No Temp. Needed. —

DESCRIPTION OF SHIPMENT

5 PIECE(S) CONSISTING OF 1 ~~BOX(ES)~~ crate

_____ ICE CHEST(S): OTHER _____

MODE OF SHIPMENT 3/10/16

✓ COMMERCIAL CARRIER _____

_____ COURIER

_____ SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD 3/10/16

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Tonya Howell ☐ SEALED UNSEALED ☒	3/9/16	1605	Nick Rolla ☐ SEALED UNSEALED ☒ 1100AM	Analysis
RELINQUISHED BY ☐ SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY ☐ SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY ☐ SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY

But crate or paperwork (COC + field sheets) were Rec'd not tampered with — 3/10/16

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7085 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7085-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/8/16	09:45
Longitude: ___ ___ ___	**End:**	3/9/16	09:05

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC : 0.0
DEPLOY : -28.5
FINAL : -2.0

CAN # 3030
REG # 7273195

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7085 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7085-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ball Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/8/16	09:49
Longitude: ___ ___ ___	**End:**	3/9/16	09:08

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY VAC: -29.0

FINAL: -3.0

CAN # 3012

REG # A0271059-2

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7085 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7085-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Theater

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/8/16	10:05
Longitude: ___ ___ ___	**End:**	3/9/16	09:27

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0 CAN # 3255

DEPLOY VAC: -22.0 * REG # 7276844

FINAL VAC: 0.0

* REG. GAGE BOUNCING AROUND. NO CLEAR READING

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7085 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7085-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Loot Rock

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/8/16	10:03
Longitude: ___ ___ ___	**End:**	3/9/16	09:25

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0 CAN # 3249

DEPLOY VAC: -29.0 REG # A0271055-8

FINISH VAC: -3.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7085 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7085-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/8/16	10:09
Longitude: ___ ___ ___	**End:**	3/9/16	09:20

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

INIT VAC: 0.0

DEPLOY: -29.5

FINAL: -3.0

CAN # 3247

REG # 7262306

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: APR 12 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7086

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30285832
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

ASR Number: 7086 **Sample Information Summary** **04/12/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		04/04/2016	11:14	04/05/2016	09:30	04/05/2016
2 -	__	Air	Cafeteria (last booth)		04/04/2016	11:12	04/05/2016	09:15	04/05/2016
3 -	__	Air	Ballroom		04/04/2016	10:30	04/05/2016	09:05	04/05/2016
4 -	__	Air	Theater		04/04/2016	10:38	04/05/2016	09:00	04/05/2016
5 -	__	Air	Jungle Room		04/04/2016	10:46	04/05/2016	08:50	04/05/2016

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3230.4G

Samples: 1-__ 2-__ 3-__ 4-__ 5-__

Comments:

ASR Number: 7086 **RLAB Approved Sample Analysis Results** **04/12/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	3.2	3.0	5.4	4.4

ASR Number: 7086 **RLAB Approved Sample Analysis Results** **04/12/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	**Units**	**5-__**
1 VOCs in Air at Ambient Levels by GC/MS		
Trichloroethene	ug/m3	390

Tonya Howell (QA)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
John Schumacher (USGS)	7086	4 / 04 / 2016	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ SUMMA	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other air	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7086-1	1									X	
7086-2	1									X	
7086-3	1									X	
7086-4	1									X	
7086-5	1									X	

Complete

Air canisters. No Temp. Needed. 4/5/16.

DESCRIPTION OF SHIPMENT

5 PIECE(S) CONSISTING OF 1 ~~BOX(ES)~~ Crate

_____ ICE CHEST(S): OTHER _____

MODE OF SHIPMENT

✓ COMMERCIAL CARRIER: Fed X

_____ COURIER 4/5/16

✓ SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
SEALED ☐ UNSEALED ☒	4-5-16	1430	SEALED ☐ UNSEALED ☒	Analysis
RELINQUISHED BY: SEALED ☐ UNSEALED ☐	DATE	TIME	RECEIVED BY: SEALED ☐ UNSEALED ☐	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY: SEALED ☐ UNSEALED ☐	DATE	TIME	RECEIVED BY: SEALED ☐ UNSEALED ☐	REASON FOR CHANGE OF CUSTODY

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7086 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7086-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop (~~No Jewelry counter~~)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/4/16	11:14
Longitude: ___ ___ ___	**End:**	4/5/16	9:30

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Jewelry Counter

initial dial: Ø
start vac: -29.0
final vac: -2.0

can # 2995
regulator A0106061-5

(air scrubber 10' away)

pestide (pest control) person 4-5-16 spraying corners & floor in this area when USGS arrived ~0830am

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7086 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7086-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Cafeteria (last booth)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/4/16	11:12
Longitude: ___ ___ ___	**End:**	4/5/16	9:15

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

last booth near dish racks
(on counter by silverware rack)

initial dial: Ø

start vac: -27.5

final vac: -4.0

can # 3260

regulator A0271059-6

(air scrubber about 20' East near meeting room)

pesticide (pest control company) spraying inside building when USGS arrived ~ 0830am

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7086 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7086-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ballroom

External Sample Number: _____

Expected Conc: (or Circle One: (Low) Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/4/16	10:30
Longitude: ___ ___ ___	**End:**	4/5/16	09:05

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) on stage near back

Can# 14976
regulator A0270058-9

initial dil: ∅
start vac: -30.0
final vac: -4.0

(air scrubber about 20' South on stage)

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7086 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7086-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Theater

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/4/16	10:38
Longitude: ___ ___ ___	**End:**	4/5/16	0:900

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) By light controller on bench

Can # 3250

regulator # A0271052-10

initial dial: Ø

start vac: -29.Ø

final vac: Ø.Ø

(air scrubber behind light controller)

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7086 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7086-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/4/16	10:46
Longitude: ___ ___ ___	**End:**	4/5/16	8:50

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Jungle room
on light box

Can# 3028
regulator # 1277170

initial dial: Ø
start vac: -31.0
final vac: -5.0

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: MAR 30 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7109

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30285835
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

ASR Number: 7109 **Sample Information Summary** **03/30/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		03/27/2016	12:41	03/28/2016	09:06	03/28/2016
2 -	__	Air	Cafeteria		03/27/2016	12:47	03/28/2016	09:10	03/28/2016
3 -	__	Air	Kitchen		03/27/2016	12:50	03/28/2016	09:08	03/28/2016
4 -	__	Air	Jungle Room		03/27/2016	13:05	03/28/2016	09:14	03/28/2016

ASR Number: 7109 **RLAB Approved Analysis Comments** **03/30/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 2-__ 3-__ 4-__

Comments:
(N/A)

ASR Number: 7109 **RLAB Approved Sample Analysis Results** **03/30/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	**Units**	**1-__**	**2-__**	**3-__**	**4-__**
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	1.88	1.29	0.913	38.4

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY MONTH YEAR)	SHEET
Tonya Howell	7109	27-28 MAR 2016	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ canister	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	~~other~~ air	RECEIVING LABORATORY REMARKS-OTHER INFORMATION (condition of samples upon receipt other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7109 - 1	X									X	
2											
3											
4											

Complete

Air Canisters No Temp. Needed

DESCRIPTION OF SHIPMENT

4 PIECE(S) CONSISTING OF 1 ~~BOX(ES)~~ crate

____ ICE CHEST(S): OTHER ____

MODE OF SHIPMENT 3/29/16

____ COMMERCIAL CARRIER ____

____ COURIER

X SAMPLER CONVEYED

(SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Tonya Howell ☐ SEALED ☑ UNSEALED	3/28/16	1200 3/28/16	S. Cochran ☐ SEALED ☒ UNSEALED	Analysis.
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

*U.S. GPO: 2002-755-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7109 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7109-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/27/16	12:41
Longitude: ___ ___ ___	**End:**	3/28/16	09:06

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)
INIT VAC: 0.0
DEPLOY VAC: -28.0
FINISH VAC: 0.0

CAN # 3006
REG # ARPL150

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7109 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7109-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Cafeteria

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/27/16	12:47
Longitude: ___ ___ ___	**End:**	3/28/16	09:10

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY VAC: -29.5

FINAL VAC: -6.0

CAN # 3017

REG # ARDC160

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7109 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7109-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Kitchen

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/27/16	12:50
Longitude: ___ ___ ___	**End:**	3/28/16	09:08

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY VAC: -29.5

FINAL VAC: -1.5

CAN # 3016

REG# ARDL158

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7109 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7109-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	3/27/16	13:05
Longitude: ___ ___ ___	**End:**	3/28/16	09:14

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

INIT VAC: 0.0

DEPLOY VAC: -29.0

FINAL VAC: -1.0

REG # ARDL148

CAN # 3010

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: APR 28 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7118

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief David R. Pao FOR 04/28/2016
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30285830
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

ASR Number: 7118 **Sample Information Summary** **04/28/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		04/18/2016	12:46	04/19/2016	10:22	04/21/2016
2 -	__	Air	Cafeteria		04/18/2016	12:44	04/19/2016	10:23	04/21/2016
3 -	__	Air	Office		04/18/2016	12:48	04/19/2016	10:24	04/21/2016
4 -	__	Air	Theater		04/18/2016	12:53	04/19/2016	10:50	04/21/2016
5 -	__	Air	Ballroom		04/18/2016	12:48	04/19/2016	10:54	04/21/2016
6 -	__	Air	Jungle Room		04/18/2016	12:00	04/19/2016	10:37	04/21/2016

ASR Number: 7118 **RLAB Approved Analysis Comments** **04/28/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__

Comments:
(N/A)

ASR Number: 7118 **RLAB Approved Sample Analysis Results** **04/28/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	**Units**	**1-__**	**2-__**	**3-__**	**4-__**
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	3.17	4.51	0.913	5.59

ASR Number: 7118 **RLAB Approved Sample Analysis Results** **04/28/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__
1 VOCs in Air at Ambient Levels by GC/MS			
Trichloroethene	ug/m3	30.2	320

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Tonya Howell	7118	18-19 (DAY) Apr (MONTH) 16 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ canister	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	~~other~~ air	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7118 - 1	x(1)									x	
2											
3											
4											
5											
6											

Complete

Air Canister. No Temp. Needed. — 4/21/16

DESCRIPTION OF SHIPMENT

6 PIECE(S) CONSISTING OF 2 ~~BOX(ES)~~ crates

____ ICE CHEST(S): OTHER ____

MODE OF SHIPMENT

____ COMMERCIAL CARRIER: ____

____ COURIER

✓ SAMPLER CONVEYED

____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED ☑	4/21/16	~~1245~~ 13:40 pm	R D Wiggans SEALED UNSEALED ☑	Rec'd at lab
RELINQUISHED BY SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY WIASS# 7097 + 7091 — 4/21/16 SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7118 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7118-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/18/16	12:46
Longitude: ___ ___ ___	**End:**	4/19/16	10:22

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 9.0
DEPLOY VAC: -28.0
FINAL VAC: -1.0

CAN # 3020
REG # ARDL 164

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7118 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7118-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Cafeteria

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/18/16	12:44
Longitude: ___ ___ ___	**End:**	4/19/16	10:23

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

INIT VAC: 0.0

FINAL VAC: -5.0

DEPLOY VAC: -29.5

CAN # L5202

REG # ARDL 146

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7118 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7118-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Office

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/18/16	12:48
Longitude: ___ ___ ___	**End:**	4/19/16	10:24

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

INIT VAC : 0.0
DEPLOY VAC : -29.5
FINAL VAC : -2.5

CAN # 3019
REG # ARDL148

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7118 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7118-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Theater

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/18/16	12:53
Longitude: ___ ___ ___	**End:**	4/19/16	10:50

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

INIT VAC 0.0

DEPLOY VAC -28.5

FINAL VAC -3.0

CAN # 3021

REG # AROL157

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7118 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7118-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ball Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/18/16	12:48
Longitude: ___ ___ ___	**End:**	4/19/16	10:54

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

INIT VAC: 0.0
DEPLOY: -29.5
FINAL: -3.5

CAN# L5200
REG# AROL160

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7118 **Sample Number:** 6 **QC Code:** __ **Matrix:** Air **Tag ID:** 7118-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	4/18/16	12:00
Longitude: ___ ___ ___	**End:**	4/19/16	10:37

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

INIT VAC: 0.0

DEPLOY: -30.0

FINAL: -2.0

CAN# L5185

REG# AROL 158

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: MAY 17 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7128

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30303333
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7128 **Sample Information Summary** **05/17/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		05/10/2016	09:00	05/10/2016	15:14	05/13/2016
2 -	__	Air	Jungle Room		05/10/2016	09:28	05/10/2016	15:03	05/13/2016
3 -	__	Air	Honeymoon Room		05/10/2016	09:21	05/10/2016	15:09	05/13/2016
4 -	__	Air	P-1		05/10/2016	09:06	05/10/2016	14:49	05/13/2016
5 -	__	Air	P-2		05/10/2016	09:07	05/10/2016	14:50	05/13/2016
6 -	__	Air	P-3 (Outside)		05/10/2016	09:10	05/10/2016	14:47	05/13/2016
7 -	__	Air	P-1		05/12/2016	08:37	05/12/2016	14:49	05/13/2016
8 -	__	Air	P-2		05/12/2016	08:37	05/12/2016	14:49	05/13/2016

ASR Number: 7128 **RLAB Approved Analysis Comments** **05/17/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__ 8-__

Comments:
(N/A)

ASR Number: 7128 **RLAB Approved Sample Analysis Results** **05/17/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	**Units**	**1-__**	**2-__**	**3-__**	**4-__**
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	1.56	398	70.7	9.19

ASR Number: 7128 **RLAB Approved Sample Analysis Results** **05/17/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	8.11	0.43 U	6.88	8

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Tonya Howell	7H128	10-12 / MAY / 2016	6 of 1.

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ Canister	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	~~other~~ air	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7H128 - 11	1									X	
12	1										
13	1										
14	1										
15	1										
16	1										
17	1										
18	1										

Complete

DESCRIPTION OF SHIPMENT

8 PIECE(S) CONSISTING OF 2 ~~BOX(ES)~~ crates

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER _____

_____ COURIER

_____ SAMPLER CONVEYED _____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] ☐ SEALED ☐ UNSEALED ☑	5/13/16	1054	☐ SEALED ☐ UNSEALED	
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE 5/13/16	TIME 1054	RECEIVED BY [signature] ☐ SEALED ☒ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7128 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7128-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/10/16	09:00
Longitude: ___ ___ ___	**End:**	5/10/16	15:14

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INITIAL VAC: -3.0 CAN # 5949

DEPLOY VAC: -35.0 REG # 7342882

FINAL VAC: -5.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7128 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7128-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/10/16	09:28
Longitude: ___ ___ ___	**End:**	5/10/16	15:03

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY VAC: -30.0

FINAL VAC: -4.0

CAN #: 5109

REG #: A012 1685-3

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7128 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7128-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Honeymoon Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/10/16	09:21
Longitude: ___ ___ ___	**End:**	5/10/16	15:09

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0 CAN # L 5204

DEPLOY VAC: -29.0 REG # 7342899

FINAL VAC: -5.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7128 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7128-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: ~~Person 1~~ SB P-1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/10/16	09:06
Longitude: ___ ___ ___	**End:**	5/10/16	14:49

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY VAC: -28.0

FINAL VAC: -7.0

CAN# 2986

REG# A012-1689-7

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7128 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7128-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: ~~Person - 2~~ SITE P-2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/10/16	09:07
Longitude: ___ ___ ___	**End:**	5/10/16	14:50

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY VAC: -29.5

FINAL VAC: -5.0

CAN # 5947

REG # A010 8846-3

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7128 **Sample Number:** 6 **QC Code:** __ **Matrix:** Air **Tag ID:** 7128-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P-3 (OUTSIDE)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/10/16	09:10
Longitude: ___ ___ ___	**End:**	5/10/16	14:47

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC - 0.0

DEPLOY VAC - -31.0

FINAL VAC - -3.0

CAN # 5190

REG # 150603-1

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7128 **Sample Number:** 7 **QC Code:** __ **Matrix:** Air **Tag ID:** 7128-7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P-1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/12/16	08:37
Longitude: ___ ___ ___	**End:**	5/12/16	14:49

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY VAC: -29.0

FINAL VAC: -7.0

CAN # 8833

REG # A0121689-7

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7128 **Sample Number:** 8 **QC Code:** __ **Matrix:** Air **Tag ID:** 7128-8-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P-2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/12/16	08:37
Longitude: ___ ___ ___	**End:**	5/12/16	14:49

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC. 0.0

DEPLOY VAC: -29.0

FINAL VAC: -3.0

CAN# 3377

REG# A010 8846-3

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: MAY 20 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7129

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief Daniel R. Pass 05/20/2016 FOR
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30303334
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7129 **RLAB Approved Analysis Comments** **05/20/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__ 8-__

Comments:
(N/A)

ASR Number: 7129 **Sample Information Summary** **05/20/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		05/12/2016	08:35	05/12/2016	14:53	05/17/2016
2 -	__	Air	P3		05/12/2016	08:31	05/12/2016	14:51	05/17/2016
3 -	__	Air	Gift shop		05/16/2016	08:53	05/16/2016	15:09	05/17/2016
4 -	__	Air	Honeymoon		05/16/2016	08:58	05/16/2016	15:13	05/17/2016
5 -	__	Air	Jungle Room		05/16/2016	09:05	05/16/2016	14:37	05/17/2016
6 -	__	Air	P1		05/16/2016	08:54	05/16/2016	15:17	05/17/2016
7 -	__	Air	P2		05/16/2016	08:53	05/16/2016	15:16	05/17/2016
8 -	__	Air	P3		05/16/2016	08:50	05/16/2016	15:14	05/17/2016

ASR Number: 7129 **RLAB Approved Sample Analysis Results** **05/20/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	1.07	0.43 U	0.752	25.4

ASR Number: 7129 **RLAB Approved Sample Analysis Results** **05/20/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	101	8.16	9.4	1.13

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
[illegible] Howell	7129	12-16 (DAY) MAY (MONTH) 2016 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: Canister CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other air	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7129 - 1	X									X	
2											
3											
4											
5											
6			#2	P3							
7											
8											
											5 16 16 [illegible] 50
											5 16 16
											15 16
											[illegible]
Init VAC											
											15 14
Deprg VAC											
Final VAC											

Complete

3.0

DESCRIPTION OF SHIPMENT

3 PIECE(S) CONSISTING OF 2 BOX(ES) Crates

ICE CHEST(S): OTHER

MODE OF SHIPMENT

COMMERCIAL CARRIER

COURIER

SAMPLER CONVEYED

(SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED ☒ UNSEALED ☐	5/17/16	1150	SEALED ☐ UNSEALED ☐	
RELINQUISHED BY SEALED ☐ UNSEALED ☐	5/17/16	1150	RECEIVED BY [signature] SEALED ☒ UNSEALED ☐	
RELINQUISHED BY SEALED ☐ UNSEALED ☐			RECEIVED BY SEALED ☐ UNSEALED ☐	

7-EPA-9262(Revised 5/85)

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7129 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7129-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/12/16	08:35
Longitude: ___ ___ ___	**End:**	5/12/16	14:53

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) Init VAC : -3.0

Deploy VAC : -35.0

FINAL VAC : -5.0

CAN # 8825

REG # 7342882

Sample Collected By: _____

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7129 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7129-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/12/16	08:31
Longitude: ___ ___ ___	**End:**	5/12/16	14:51

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY VAC: -29.5

FINAL VAC: -3

CAN # 7250

REG # A015-0603-1

Sample Collected By: _____

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7129 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7129-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	05/16/16	08:53
Longitude: ___ ___ ___	**End:**	05/16/16	15:09

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can: # 2742
regulator # 7342882
initial : -3.0
deploy vac: -35.0
final : -5.0

Sample Collected By: _____

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7129 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7129-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Honeymoon

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/16/16	08:58
Longitude: ___ ___ ___	**End:**	5/16/16	15:13

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can # 10362
reg # 7342899
initial vac: 0.0
deploy: -29.0
final: -3.5

Sample Collected By: _____

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7129 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7129-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/16/16	09:05
Longitude: ___ ___ ___	**End:**	5/16/16	14:37

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 3032
reg #: A012-1685-3
initial: 0.0
deplay: -31.0
final -4.0

Sample Collected By: _____

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7129 **Sample Number:** 6 **QC Code:** __ **Matrix:** Air **Tag ID:** 7129-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/16/16	08:54
Longitude: ___ ___ ___	**End:**	5/16/16	15:17

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0 CAN # A7497

DEPLOY VAC: -29.0 REG # A012-1689-7

FINISH VAC: -7.0

(Ricky)
Backpack (1)

Sample Collected By: _____

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7129 **Sample Number:** 7 **QC Code:** __ **Matrix:** Air **Tag ID:** 7129-7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: ~~P2~~ P2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/16/16	08:53
Longitude: ___ ___ ___	**End:**	5/16/16	15:16

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC : 0.0

DEPLOY VAC: -30.0

FINAL VAC: -2.0

CAN# L5113

REG# A010-8846-3

(Jarrett pack #2)

Sample Collected By: _____

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7129 **Sample Number:** 8 **QC Code:** __ **Matrix:** Air **Tag ID:** 7129-8-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: ~~P2~~ P3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/16/16	08:50
Longitude: ___ ___ ___	**End:**	5/16/16	15:14

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY VAC: -30.0

FINAL VAC: -3.0

CAN # 5207

REG # A0150603-1

(outside Pack #3)

Sample Collected By: _____

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: MAY 27 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7137

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief MStGermain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30286020
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7137 **Sample Information Summary** **05/27/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	P1		05/23/2016	10:01	05/23/2016	15:53	05/24/2016
2 -	__	Air	P1A-3		05/23/2016	10:03	05/23/2016	15:54	05/24/2016
3 -	__	Air	P2		05/23/2016	10:04	05/23/2016	15:55	05/24/2016
4 -	__	Air	P2-A3		05/23/2016	10:02	05/23/2016	15:54	05/24/2016
5 -	__	Air	P3		05/23/2016	09:55	05/23/2016	15:56	05/24/2016
6 -	__	Air	Gift shop		05/23/2016	09:58	05/23/2016	15:32	05/24/2016
7 -	__	Air	Ballroom		05/23/2016	10:01	05/23/2016	17:03	05/24/2016
8 -	__	Air	Honeymoon		05/23/2016	10:04	05/23/2016	16:04	05/24/2016
9 -	__	Air	Air lock		05/23/2016	10:07	05/23/2016	15:40	05/24/2016
10 -	__	Air	Jungle Room		05/23/2016	10:11	05/23/2016	16:28	05/24/2016

ASR Number: 7137 **RLAB Approved Analysis Comments** **05/27/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__

Comments:
Sample 7137-10 required a dilutions due to target analyte concentration.

ASR Number: 7137 **RLAB Approved Sample Analysis Results** **05/27/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	**Units**	**1-__**	**2-__**	**3-__**	**4-__**
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	5.16	3.98	4.4	4.78

ASR Number: 7137 **RLAB Approved Sample Analysis Results** **05/27/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	0.43 U	4.35	11.5	13.8

ASR Number: 7137 **RLAB Approved Sample Analysis Results** **05/27/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	**Units**	**9-__**	**10-__**
1 VOCs in Air at Ambient Levels by GC/MS			
Trichloroethene	ug/m3	48.5	316

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Tonya Howell	7137	23 (DAY) MAY (MONTH) 2016 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: Canister ~~CUBITAINER~~	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other air	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7137 - 1	1									X	
2											
3											
4											
5											
6											
7											
8											0D7V1
9											
10											

Complete

DESCRIPTION OF SHIPMENT

10 PIECE(S) CONSISTING OF 2 ~~BOX(ES)~~ crates

____ ICE CHEST(S): OTHER ____

MODE OF SHIPMENT

____ COMMERCIAL CARRIER ____

____ COURIER

____ SAMPLER CONVEYED ____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Shelley Kappelman ☐ SEALED ☐ UNSEALED	5/24/16	10:50	☐ SEALED ☐ UNSEALED	
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE 5/24/16	TIME 1055	RECEIVED BY D L Cockrum ☒ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7137 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7137-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/23/16	10:01
Longitude: ___ ___ ___	**End:**	5/23/16	15:53

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)
4hour
pack #3
Ricky

Can # 3252
Reg # A0152703
~~S~~ Initial 0.0 psi
deploy -30.0psi
final -2.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7137 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7137-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P1A-3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/23/16	10:03
Longitude: ___ ___ ___	**End:**	5/23/16	15:54

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)
pack # 4
Jarrett

Can # 3021
Reg # A0114854-2
initial 0.0
deploy -30.0
final -2.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7137 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7137-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/23/16	10:04
Longitude: ___ ___ ___	**End:**	5/23/16	15:55

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Pack #5
Grace Philpy

Can # L5196
Reg # A0106069-9 [illegible]
initial # -1.0
deploy -30.0
final -7.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7137 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7137-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P2-A3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/23/16	10:02
Longitude: ___ ___ ___	**End:**	5/23/16	15:54

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)
pack 2
Wes Kuhn

Can # 4307
Reg # A0106063-4
initial 0.0
deploy -29.5
final : -5.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7137 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7137-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/23/16	09:55
Longitude: ___ ___ ___	**End:**	5/23/16	15:56

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Pack 1
(outside blank)

Can # 10367
Reg # A0150602-2
initial: -1.0
deploy -31.0
final -6.0

outside had rail
- concrete work Gazebo (saw cutting w/ gas saw each am)
- painting park benches by building
wind came from SE ~~toward~~ blowtowal building

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7137 **Sample Number:** 6 **QC Code:** __ **Matrix:** Air **Tag ID:** 7137-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/23/16	09:58
Longitude: ___ ___ ___	**End:**	5/23/16	15:32

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can # 4573
Reg # 7276842
Initial 0.0
deploy -30.0
final: -1.0

outside front door open
sliding doors to case also
open @ 10:00am.
@ Can on Counter

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7137 **Sample Number:** 7 **QC Code:** __ **Matrix:** Air **Tag ID:** 7137-7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ballroom

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/23/16	10:01
Longitude: ___ ___ ___	**End:**	5/23/16	17:03

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

on back of stage
air scrubber about 20' away

Can # 10361
Reg # 7273045
initial 0.0
deploy -30.0
final -1.0

John Shelby
deployed

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7137 **Sample Number:** 8 **QC Code:** __ **Matrix:** Air **Tag ID:** 7137-8-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: ~~Honeymoon~~ Honeymoon

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/23/16	10:04
Longitude: ___ ___ ___	**End:**	5/23/16	16:04

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

on grave pad
just inside rail
~ 25' from airlock

Can # 3017
Reg # A0104425-2
initial -1.0
deploy -27.0
final -3.0

John & Shelby
deployed

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7137 **Sample Number:** 9 **QC Code:** __ **Matrix:** Air **Tag ID:** 7137-9-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Air lock

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/23/16	10:07
Longitude: ___ ___ ___	**End:**	5/23/16	15:40

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can # 7440
Reg # 7276840
initial 0.0
deploy -28.0
final -1.0

on light box
about 50' from
Ballroom door
Scrubber about
50' toward
Loot Rock door

expect TCE 10-200

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7137 **Sample Number:** 10 **QC Code:** __ **Matrix:** Air **Tag ID:** 7137-10-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/23/16	10:11
Longitude: ___ ___ ___	**End:**	5/23/16	16:28

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

on light box past rail e end of tour

Can # 4308
Reg # A0150601-9
initial 0.0
deploy -29.5
final -5.5

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 06/06/2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7138

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30286021
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7138 **Sample Information Summary** **06/06/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	P1		05/31/2016	09:29	05/31/2016	18:00	06/02/2016
2 -	__	Air	P1-A3		05/31/2016	09:29	05/31/2016	18:00	06/02/2016
3 -	__	Air	P2-A3		05/31/2016	09:30	05/31/2016	18:00	06/02/2016
4 -	__	Air	P2		05/31/2016	09:31	05/31/2016	18:00	06/02/2016
5 -	__	Air	P3		05/31/2016	09:20	05/31/2016	18:00	06/02/2016
6 -	__	Air	Gift Shop		05/31/2016	09:26	05/31/2016	17:33	06/02/2016
7 -	__	Air	Ballroom		05/31/2016	09:29	05/31/2016	17:40	06/02/2016
8 -	__	Air	Honeymoon		05/31/2016	09:31	05/31/2016	17:33	06/02/2016
9 -	__	Air	Echo Room		05/31/2016	09:33	05/31/2016	17:32	06/02/2016
10 -	__	Air	Jungle Room		05/31/2016	09:38	05/31/2016	17:38	06/02/2016

ASR Number: 7138 **RLAB Approved Analysis Comments** **06/06/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__

Comments:

: Samples 7137-4 and 7137-8 were received at 3.5 and 6.5 psia, respectively. These samples required pressurization in order to analyze, resulting in an initial dilution.

ASR Number: 7138 **RLAB Approved Sample Analysis Results** **06/06/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	1.4	1.07	0.967	2.09

ASR Number: 7138 **RLAB Approved Sample Analysis Results** **06/06/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	0.43 U	3.06	4.94	3.87

ASR Number: 7138 **RLAB Approved Sample Analysis Results** **06/06/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	9-__	10-__
1 VOCs in Air at Ambient Levels by GC/MS			
Trichloroethene	ug/m3	3.28	66.3

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Tonya Howell	7138	31 (DAY) MAY (MONTH) 2016 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: Canister ~~CUBITAINER~~	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other air	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7138 - 1	1									1	
2											
3											
4											
5											
6											
7											
8											
9											
10											

Complete

Samples hand-delivered by USGS to ARDL on 6/2/16. Received email copies of paperwork on 6/3/16.

BWE 6/3/16

DESCRIPTION OF SHIPMENT

10 PIECE(S) CONSISTING OF 2 ~~BOX(ES)~~ crates

____ ICE CHEST(S): OTHER ____

MODE OF SHIPMENT

____ COMMERCIAL CARRIER ____

____ COURIER

____ SAMPLER CONVEYED ____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Shelby Kopperman ☐ SEALED UNSEALED ☐	6/2/16	1030	L.L. Cockrum ☐ SEALED UNSEALED ☐	
RELINQUISHED BY ☐ SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY ☐ SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY ☐ SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

[912-551-5144]

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7138 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7138-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/31/16	09:29
Longitude: ___ ___ ___	**End:**	5/~~13~~31/16	~~17:40~~ 1800

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

4- 40min fours

pack #1 Ricky

Can # 5195
Reg # A0150602-2
initial -1.0
deploy: -33
final: -10.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7138 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7138-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PI-A3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/31/16	09:29
Longitude: ___ ___ ___	**End:**	5/31/16	18:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

3-40m tours

Bag #2 Robby tour 1
(John S. tours 2-3-4)

too slow of Regulator

Can # 5194
Reg # A0114854-2
initial: 0.0
deploy: -29
final: -10.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7138 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7138-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P2-A3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/31/16	09:30
Longitude: ___ ___ ___	**End:**	5/31/16	18:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

4- 40min tour
Bay 3 Ellis

Can # 5192
Reg # 7276840
initial: 0.0
deploy: -23
final: -0.5

(original P2 but switch
because can losing ~~air too fast~~
air too fast)

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7138 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7138-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: ~~P2-A3~~ JTB P2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/31/16	09:31
Longitude: ___ ___ ___	**End:**	5/31/16	18:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

3-40min tours

Bay 5 - will (ARCADIS)

(*) This regulator is very slow - almost like its a 24 hr

Can # 5206
(*) Reg # A0106064-9
initial: -1.0
deploy: -30
final: -22.5

(was originally P2-A3 but switched with Sample #3 because its can was losing air too fast) JL

(*) Bad Regulator

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7138 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7138-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/31/16	09:20
Longitude: ___ ___ ___	**End:**	5/31/16	18:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Outside Blank
over rail ~75' Upstream
Gazebo

Bay #4 (red red)

Can #: 5199
Req # A0104425-2
Initial: 0.0
deploy: -27.5
final: -6.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7138 **Sample Number:** 6 **QC Code:** __ **Matrix:** Air **Tag ID:** 7138-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/31/16	09:26
Longitude: ___ ___ ___	**End:**	5/31/16	17:33

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can #. 5189
Reg # 7273045
initial: 0.0
deploy: -30.0
final: -4.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7138 **Sample Number:** 7 **QC Code:** __ **Matrix:** Air **Tag ID:** 7138-7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ballroom

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

Latitude: ___ ___ ___
Longitude: ___ ___ ___

	Date	Time(24 hr)
Sample Collection: Start:	5/31/16	09:29
End:	5/31/16	17:40

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can # 5201
Reg # 7276842
initial: 0.0
deploy: -30.0
final: 0.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7138 **Sample Number:** 8 **QC Code:** __ **Matrix:** Air **Tag ID:** 7138-8-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Honey moom

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/31/16	09:31
Longitude: ___ ___ ___	**End:**	5/31/16	17:33

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can # 5946
Reg # A01060063-4
initial: 0.0
deploy: -30.0
final: -16.50

Bad Regulator for slow

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7138 **Sample Number:** 9 **QC Code:** __ **Matrix:** Air **Tag ID:** 7138-9-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Echo room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/31/16	~~09:30~~ 09:33
Longitude: ___ ___ ___	**End:**	5/31/16	17:32

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Set on chair from ballroom next to light switches

Can # 7490
Reg # A0152070-3
initial: 0.0
deploy: -30.0
final: -8.00

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7138 **Sample Number:** 10 **QC Code:** __ **Matrix:** Air **Tag ID:** 7138-10-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	5/31/16	09:38
Longitude: ___ ___ ___	**End:**	5/31/16	17:38

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can # 5197
Reg # A0150601-9
initial: 0.0
deploy: -29.5
final: -6.50

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: JUN - 8 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7158

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30286026
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

U = The analyte was not detected at or above the reporting limit.

ASR Number: 7158 **Sample Information Summary** **06/08/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift Shop		06/05/2016	08:38	06/05/2016	16:05	06/06/2016
2 -	__	Air	Ballroom		06/05/2016	08:41	06/05/2016	15:58	06/06/2016
3 -	__	Air	Honeymoom		06/05/2016	08:43	06/05/2016	15:40	06/06/2016
4 -	__	Air	Theatre		06/05/2016	08:47	06/05/2016	15:50	06/06/2016
5 -	__	Air	Echo		06/05/2016	08:45	06/05/2016	15:56	06/06/2016
6 -	__	Air	Jungle		06/05/2016	08:55	06/05/2016	15:35	06/06/2016
7 -	__	Air	P3		06/05/2016	09:09	06/05/2016	16:21	06/06/2016
8 -	__	Air	P2-A3		06/05/2016	09:11	06/05/2016	16:19	06/06/2016
9 -	__	Air	P2		06/05/2016	09:10	06/05/2016	16:20	06/06/2016
10 -	__	Air	P1		06/05/2016	09:11	06/05/2016	16:19	06/06/2016

ASR Number: 7158 **RLAB Approved Analysis Comments** **06/08/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3230.4G

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__

Comments:

ASR Number: 7158 **RLAB Approved Sample Analysis Results** **06/08/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	4.6	6.4	5.4	1.1 U

ASR Number: 7158 **RLAB Approved Sample Analysis Results** **06/08/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	4.1	33	1.1 U	1.1 U

ASR Number: 7158 **RLAB Approved Sample Analysis Results** **06/08/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	9-__	10-__
1 VOCs in Air at Ambient Levels by GC/MS			
Trichloroethene	ug/m3	1.3	1.3

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Tonya Howell	7158	5 / JUN / 2016	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ canister	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	~~other~~ air	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7158 - 1	X									X	
2											
3											
4											
5											
6											
7											
8											
9											
10											

No temp check required for air VOA samples. BWC 6/6/16

Sample

DESCRIPTION OF SHIPMENT

10 PIECE(S) CONSISTING OF 2 ~~BOX(ES)~~ BOXES

1 ~~ICE CHEST(S)~~; OTHER crate

MODE OF SHIPMENT

___ COMMERCIAL CARRIER ___

___ COURIER

X SAMPLER CONVEYED

___ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Cory Pollifer ☐ SEALED ☐ UNSEALED	6/6/16	1130	R D Wiggam ☐ SEALED ☐ UNSEALED	Rec'd at lab
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7158 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7158-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/5/16	8:38
Longitude: ___ ___ ___	**End:**	6/5/16	16:05

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can#: R0495
Reg#: A0114857-3
initial: 0.0
deploy: -29
final: -1.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7158 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7158-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ballroom

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/5/16	8:41
Longitude: ___ ___ ___	**End:**	6/5/16	15:58

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can # R0499
Reg # A0104425-9
initial 0.0
deploy -29
final -2.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7158 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7158-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Honey moon

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	___ ___ ___	**Sample Collection: Start:**	6/5/16	8:43
Longitude:	___ ___ ___	**End:**	6/5/16	15:40

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can #: 3012
Reg #: A0113257-10
initial: 0.0
deploy: -29
final: -4.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7158 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7158-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Theatre

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/5/16	8:47
Longitude: ___ ___ ___	**End:**	6/5/16	15:50

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can #: 3255
Reg #: 7267070
initial: 1.0
deploy: -29
final: -2.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7158 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7158-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Echo

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	___ ___ ___	**Sample Collection: Start:**	6/5/16	8:45
Longitude:	___ ___ ___	**End:**	6/5/16	15:56

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can #: 3249
Reg #: 72643006
initial: 0.5
deploy: -29
final: -1.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7158 **Sample Number:** 6 **QC Code:** __ **Matrix:** Air **Tag ID:** 7158-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/5/16	8:55
Longitude: ___ ___ ___	**End:**	6/5/16	15:35

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can # 3025
Reg # 7273040
initial: 0.5
deploy: -29
final: -4.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7158 **Sample Number:** 7 **QC Code:** __ **Matrix:** Air **Tag ID:** 7158-7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

			Date	Time(24 hr)
Latitude:	___ ___ ___	**Sample Collection: Start:**	6/5/16	9:09
Longitude:	___ ___ ___	**End:**	6/5/16	16:21

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can #: R0490
Reg #: 7267075
Initial: -1.0
deploy: -28
final: -5.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7158 **Sample Number:** 8 **QC Code:** __ **Matrix:** Air **Tag ID:** 7158-8-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P2-A3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/5/16	9:11
Longitude: ___ ___ ___	**End:**	6/5/16	16:19

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can # R0489
Reg # 7262487
initial: -1.5
deploy: -30.0
final: -6.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7158 **Sample Number:** 9 **QC Code:** __ **Matrix:** Air **Tag ID:** 7158-9-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/5/16	9:10
Longitude: ___ ___ ___	**End:**	6/5/16	16:20

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 4554
Reg #: A0104425-1
initial: -1.0
deploy: -31.0
final: -5.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7158 **Sample Number:** 10 **QC Code:** __ **Matrix:** Air **Tag ID:** 7158-10-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/5/16	9:11
Longitude: ___ ___ ___	**End:**	6/5/16	16:19

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can # 14977
Reg # A01060062-2
initial: 0.0
deploy: -26.0
final: -1.0

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: JUN 17 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7170

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M. St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30286161
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7170 **Sample Information Summary** **06/17/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	P1		06/13/2016	09:22	06/13/2016	17:45	06/14/2016
2 -	__	Air	P2		06/13/2016	09:44	06/13/2016	17:45	06/14/2016
3 -	__	Air	P1-A5		06/13/2016	09:15	06/13/2016	17:45	06/14/2016
4 -	__	Air	Gift Shop		06/13/2016	08:44	06/13/2016	16:34	06/14/2016
5 -	__	Air	Ticket Counter		06/13/2016	08:47	06/13/2016	17:00	06/14/2016
6 -	__	Air	Ballroom		06/13/2016	08:49	06/13/2016	16:37	06/14/2016
7 -	__	Air	Honeymoon		06/13/2016	08:51	06/13/2016	16:58	06/14/2016
8 -	__	Air	Theatre		06/13/2016	08:53	06/13/2016	16:02	06/14/2016
9 -	__	Air	Echo Room		06/13/2016	08:56	06/13/2016	14:02	06/14/2016
10 -	__	Air	Jungle Room		06/13/2016	08:57	06/13/2016	16:47	06/14/2016

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__

Comments:
(N/A)

ASR Number: 7170 **RLAB Approved Sample Analysis Results** **06/17/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	2.2	4.19	1.34	1.18

ASR Number: 7170 **RLAB Approved Sample Analysis Results** **06/17/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	4.51	3.92	2.47	0.43 U

ASR Number: 7170 **RLAB Approved Sample Analysis Results** **06/17/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	9-__	10-__
1 VOCs in Air at Ambient Levels by GC/MS			
Trichloroethene	ug/m3	2.2	88.7

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Tanya Howell	7170	13 (DAY) 4/14 (MONTH) 2016 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other air	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7170 - 1	X										
2											
3											
4											
5											
6											
7											
8											
9											
10											

Sampled

DESCRIPTION OF SHIPMENT

10 PIECE(S) CONSISTING OF 2 BOX(ES) Coolers

____ ICE CHEST(S); OTHER ____

MODE OF SHIPMENT

____ COMMERCIAL CARRIER ____

____ COURIER

____ SAMPLER CONVEYED ____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED	6/14	10 20	[signature] SEALED UNSEALED	
RELINQUISHED BY SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7170 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7170-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/13/16	09:22
Longitude: ___ ___ ___	**End:**	6/13/16	17:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Bag 3 green
(shelby)

in office from 1520 to 1625

Can #: 3000
Reg #: A01060065-4
initial: 0.0
deploy: -29.5
final: -13.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7170 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7170-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/13/16	09:44
Longitude: ___ ___ ___	**End:**	6/13/16	17:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)
Bay # 4 (red)
(Jurnett)

Can # : 7115
Req # : 7273045
initial: 0.0
deploy: -30.0
final: -4.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7170 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7170-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P1-A5

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

Latitude: ___ ___ ___
Longitude: ___ ___ ___

	Date	Time(24 hr)
Sample Collection: Start:	6/13/16	09:15
End:	6/13/16	17:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)
Bag # 5
(John)

Can #: 3027
Reg #: A0152070-3
initial: 0.0
deploy: -30
final: -5.0

In office from 1520 to 1625

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7170 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7170-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/13/16	08:44
Longitude: ___ ___ ___	**End:**	6/13/16	16:34

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 8827
Reg #: A01060060-2
initial: 0.0
deploy: -27.0
final: -5.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7170 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7170-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ticket Counter

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/13/16	08:47
Longitude: ___ ___ ___	**End:**	6/13/16	17:00

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can#: 3006
Reg#: A0150602-2
initial: -1.0
deploy: -32.0
final: -8.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7170 **Sample Number:** 6 **QC Code:** __ **Matrix:** Air **Tag ID:** 7170-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ballroom

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/13/16	08:49
Longitude: ___ ___ ___	**End:**	6/13/16	16:37

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 8811
Reg #: 7276840
Initial: 0.0
deploy: -28.0
final: -4.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7170 **Sample Number:** 7 **QC Code:** __ **Matrix:** Air **Tag ID:** 7170-7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Honeymoon

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/13/16	08:51
Longitude: ___ ___ ___	**End:**	6/13/16	16:58

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 3011
Reg #: 7342963
initial: 0.0
deploy: -30.0
final: -6.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7170 **Sample Number:** 8 **QC Code:** __ **Matrix:** Air **Tag ID:** 7170-8-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Theater

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/13/16	08:53
Longitude: ___ ___ ___	**End:**	6/13/16	16:02

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 4309
Req #: A0104425-2
initial: -0.5
deploy: -27.0
final: -6.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7170 **Sample Number:** 9 **QC Code:** __ **Matrix:** Air **Tag ID:** 7170-9-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Echo Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/13/16	08:56
Longitude: ___ ___ ___	**End:**	6/13/16	14:02

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) 5 hr sample timer

Can #: 7443
Reg #: 7276842
initial: 0.0
deploy: -30.0
final: -2.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7170 **Sample Number:** 10 **QC Code:** __ **Matrix:** Air **Tag ID:** 7170-10-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/13/16	08:57
Longitude: ___ ___ ___	**End:**	6/13/16	16:47

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 3007
Reg #: A0150603-1
initial: 0.0
deploy: -30.0
final: -6.0

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: JUN 28 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7171

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M. St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30286192
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

U = The analyte was not detected at or above the reporting limit.

ASR Number: 7171 **Sample Information Summary** **06/28/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	P1		06/20/2016	09:15	06/20/2016	17:45	06/22/2016
2 -	__	Air	P2		06/20/2016	09:15	06/20/2016	17:45	06/22/2016
3 -	__	Air	P1-A5		06/20/2016	09:15	06/20/2016	17:45	06/22/2016
4 -	__	Air	Gift shop		06/20/2016	09:02	06/20/2016	17:29	06/22/2016
5 -	__	Air	Ticket Counter		06/20/2016	08:35	06/20/2016	16:47	06/22/2016
6 -	__	Air	Ballroom		06/20/2016	08:36	06/20/2016	17:25	06/22/2016
7 -	__	Air	Honeymoon		06/20/2016	08:45	06/20/2016	16:43	06/22/2016
8 -	__	Air	Theatre		06/20/2016	08:42	06/20/2016	16:49	06/22/2016
9 -	__	Air	Echo		06/20/2016	08:40	06/20/2016	13:34	06/22/2016
10 -	__	Air	Jungle		06/20/2016	08:51	06/20/2016	17:15	06/22/2016

ASR Number: 7171 **RLAB Approved Analysis Comments** **06/28/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__

Comments:
(N/A)

ASR Number: 7171 **RLAB Approved Sample Analysis Results** **06/28/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	1.24	1.07	1.29	1.72

ASR Number: 7171 **RLAB Approved Sample Analysis Results** **06/28/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	4.24	4.14	3.22	0.43 U

ASR Number: 7171 **RLAB Approved Sample Analysis Results** **06/28/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	9-__	10-__
1 VOCs in Air at Ambient Levels by GC/MS			
Trichloroethene	ug/m3	2.2	21.9

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Tonya Howell	7171	20 June 2016	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ Canister	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	~~other~~ air	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7171 - 1	1									1	
2											
3											
4											
5											
6											
7											
8											
9											
10											

Complete

Air canister - No Temp. Needed

DESCRIPTION OF SHIPMENT

10 PIECE(S) CONSISTING OF ~~X~~ 3 BOX(ES) crates

0 ICE CHEST(S); OTHER ____ 6/22/16

MODE OF SHIPMENT 6/22/16

✓ COMMERCIAL CARRIER ____

____ COURIER

____ SAMPLER CONVEYED ____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD 6/22/16

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
☐ SEALED ☐ UNSEALED			Nicole Rolly ☒ SEALED ☐ UNSEALED	Analy
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
☐ SEALED ☐ UNSEALED			☐ SEALED ☐ UNSEALED	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
☐ SEALED ☐ UNSEALED			☐ SEALED ☐ UNSEALED	

No signature @ SP @ SR. NR emailed PM/sampler re this issue 6/22/16

7-EPA-9262(Revised 5/85)

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7171 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7171-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/20/16	9:15
Longitude: ___ ___ ___	**End:**	6/20/16	17:15

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A) 4 tours

Placed in Backpack # 5

Can # 5182
Req # A0152070-3
initial: 0.0
deploy: -30.0
final: -5.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7171 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7171-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/20/16	9:15
Longitude: ___ ___ ___	**End:**	6/20/16	17:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) 4 hours

Placed in backpack #4

Can #: 4566
Req #: A0150603-1
initial: 0.0
deploy: -31.0
final: -4.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7171 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7171-3-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: P1- A5

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/20/16	9:15
Longitude: ___ ___ ___	**End:**	6/20/16	17:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) 5 tours

placed in backpack #3

Can # 10356
Req # A0150602-2
initial: -1.0
deploy: -33.0
final: -6.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7171 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7171-4-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/20/16	9:02
Longitude: ___ ___ ___	**End:**	6/20/16	17:29

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can #: 5111
Req #: 7276840
initial: 0.0
deploy: -28.0
final: -2.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7171 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7171-5-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ticket Counter

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/20/16	8:35
Longitude: ___ ___ ___	**End:**	6/20/16	16:47

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 5198
Reg #: 73429163
initial: -0.5
deploy: -30.0
final: -6.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7171 **Sample Number:** 6 **QC Code:** __ **Matrix:** Air **Tag ID:** 7171-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Ballroom

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/20/16	8:36
Longitude: ___ ___ ___	**End:**	6/20/16	17:25

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 4558
Reg #: A01060063-4
initial: 0.0
deploy: -30.0
final: -12.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7171 **Sample Number:** 7 **QC Code:** __ **Matrix:** Air **Tag ID:** 7171-7-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Honeymoon

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/20/16	8:45
Longitude: ___ ___ ___	**End:**	6/20/16	16:43

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 4305
Req #: A0104425-2
initial: -1.0
deploy: -27.5
final: -5.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7171 **Sample Number:** 8 **QC Code:** __ **Matrix:** Air **Tag ID:** 7171-8-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Theatre

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/20/16	8:42
Longitude: ___ ___ ___	**End:**	6/20/16	16:49

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 3019
Req #: 7273045
initial: 0.0
deploy: -30.0
final: -5.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7171 **Sample Number:** 9 **QC Code:** __ **Matrix:** Air **Tag ID:** 7171-9-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Echo

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	6/20/16	8:40
Longitude: ___ ___ ___	**End:**	6/20/16	13:34

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

- Regulator lasted 5 hours

Can #: 7114
Reg #: 7276842
initial: 0.0
deploy: -30.0
final: -1.0

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7171 **Sample Number:** 10 **QC Code:** __ **Matrix:** Air **Tag ID:** 7171-10-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 6/29/16 8:51
Longitude: ___ ___ ___ **End:** 6/29/16 17:15

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can #: 3020
Req #: A01060060-2
initial: 0.0
deploy: -28.0
final: -5.0

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: JUL 21 2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7189

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief M St Germain
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/MOKS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

30303335
Superfund

Project Manager: Tonya Howell **Org:** SUPR/MOKS **Phone:** 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7189 **Sample Information Summary** **07/21/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	PAM-1 (PI)		07/12/2016	08:40	07/12/2016	15:29	07/15/2016
2 -	__	Air	Gift Shop		07/12/2016	08:46	07/12/2016	15:27	07/15/2016
3 -	__	Air	Ballroom		07/12/2016	08:50	07/12/2016	15:35	07/15/2016
4 -	__	Air	Theatre		07/12/2016	08:54	07/12/2016	15:12	07/15/2016
5 -	__	Air	Loot Rock		07/12/2016	09:00	07/12/2016	15:25	07/15/2016
6 -	__	Air	Jungle Room		07/12/2016	09:04	07/12/2016	15:21	07/15/2016

ASR Number: 7189 **RLAB Approved Analysis Comments** **07/21/2016**

Project ID: TH07PZ01 **Project Desc** Oak Grove Village well - RA sampling

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3230.4G

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__

Comments:

ASR Number: 7189 **RLAB Approved Sample Analysis Results** **07/21/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	4.7	4.8	4.0	1.1 U

ASR Number: 7189 **RLAB Approved Sample Analysis Results** **07/21/2016**

Project ID: TH07PZ01 **Project Desc:** Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	5-__	6-__
1 VOCs in Air at Ambient Levels by GC/MS			
Trichloroethene	ug/m3	25	20

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
Tonya Howell	7189	12 (DAY) July (MONTH) 2016 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ Canister	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	~~other~~ air	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt other sample numbers etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
7189 - 1	X									X	
2											
3											
4											
5											
6											

Complete

No temp check required for air samples AU

DESCRIPTION OF SHIPMENT

2 PIECE(S) CONSISTING OF 1 BOX(ES) 1
1 ~~ICE CREST(S)~~ crate, OTHER 1

MODE OF SHIPMENT

___ COMMERCIAL CARRIER ___
___ COURIER
___ SAMPLER CONVEYED ___ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] ☒ SEALED ☐ UNSEALED	7/14/16	1600	Anisha Clayton ☒ SEALED ☐ UNSEALED	Rec'd @ lab
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
☐ SEALED ☐ UNSEALED			☐ SEALED ☐ UNSEALED	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
☐ SEALED ☐ UNSEALED			☐ SEALED ☐ UNSEALED	

Original COC Rec'd @ STC w/ samples not signed. Emailed assoc to PM/sampler to provide COC signed + dated. see email in ADE — 7/18/16

7-EPA-9262 (Revised 5/83)

*U.S. GPO: 2002-756-917/40053

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7189 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7189-1-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: PAM-1 (P1)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	7/12/16	08:40
Longitude: ___ ___ ___	**End:**	7/12/16	~~15:1~~ 15:39

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:
(N/A) Initial : 0.0
Deploy : 29.5
FINAL : -4.0

Can # 14973
Reg # 7267070

1st tour
2nd → 1110 vac : -20.0
1300 vac : -11.5

Full tour backpack sample (3 full tours)

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7189 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7189-2-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Gift Shop

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	7/12/16	08:46
Longitude: ___ ___ ___	**End:**	7/12/16	15:37

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) Initial Vac: 0.0
Daylay Vac: -25.0
Final Vac: -3.0

Can # 3261
Reg # A0114857-3

~~1110 VAC = -20.0~~ JTE

1305 VAC: -11.5

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7189 **Sample Number:** 6 **QC Code:** __ **Matrix:** Air **Tag ID:** 7189-6-__

Project ID: TH07PZ01 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - RA sampling
City: Oak Grove **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL **Site ID:** 07PZ **Site OU:** 01

Location Desc: Jungle Room

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 7/12/16 09:04
Longitude: ___ ___ ___ **End:** 7/12/16 15:21

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air at Ambient Levels by GC/MS

Sample Comments:

(N/A) INIT VAC: 0.0

DEPLOY: -28.0

FINAL: -5.0

CAN # 3026

REG # 727304

1315 VAC JUNGLE: -12.0

Sample Collected By: USGS

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 11/07/2016

Subject: Transmittal of Sample Analysis Results for ASR #: 7238

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/REMB/FFPC

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

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If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/REMB/FFPC Phone: 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL Site ID: 07PZ Site OU: 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.

ASR Number: 7238 Sample Information Summary 11/07/2016

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	PAM		10/26/2016	08:30	10/26/2016	17:00	11/01/2016
2 -	__	Air	Ballroom		10/26/2016	08:45	10/26/2016	16:25	11/01/2016
3 -	__	Air	Lassie		10/26/2016	08:05	10/26/2016	16:18	11/01/2016
4 -	__	Air	Jungle Room		10/26/2016	08:50	10/26/2016	16:12	11/01/2016

Analysis	Comments About Results For This Analysis

1 VOCs in Air at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4G (see comments)

Samples: 1-__ 2-__ 3-__ 4-__

Comments:
(N/A)

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air at Ambient Levels by GC/MS					
Trichloroethene	ug/m3	7.36	3.44	20.8	28.2

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 04/18/2017

Subject: Transmittal of Sample Analysis Results for ASR #: 7383

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/REMB/FFPC

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

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Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/REMB/FFPC Phone: 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL Site ID: 07PZ Site OU: 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FD = Field Duplicate

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7383 Sample Information Summary 04/18/2017

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		03/27/2017	08:17	03/27/2017	17:54	03/29/2017
2 -	__	Air	Ballroom		03/27/2017	08:57	03/27/2017	17:27	03/29/2017
3 -	__	Air	Theater		03/27/2017	08:59	03/27/2017	17:24	03/29/2017
4 -	__	Air	Loot Rock		03/27/2017	08:26	03/27/2017	17:45	03/29/2017
4 -	FD	Air	Loot Rock		03/27/2017	08:26	03/27/2017	17:45	03/29/2017
6 -	__	Air	Jungle Room		03/27/2017	08:42	03/27/2017	17:40	03/29/2017
7 -	__	Air	Atomic Shelter		03/27/2017	08:36	03/27/2017	16:38	03/29/2017
8 -	__	Air	PAM		03/27/2017	08:35	03/27/2017	17:30	03/29/2017

Analysis	Comments About Results For This Analysis

1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4H (see comments)

Samples: 1-__ 2-__ 3-__ 4-__ 4-FD 6-__ 7-__ 8-__

Comments:

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS					
Acetone	ug/m3	35.6	5.95 U	5.95 U	5.95 U
Benzene	ug/m3	0.607	0.31 U	0.31 U	0.31 U
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	4.16	1.47 U	1.47 U	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.41 U	0.44	0.44	0.44
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	2.44 U
Chloromethane	ug/m3	1.55	1.03 U	1.03 U	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	2.47 U	2.47 U	2.47 U	2.47 U
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.202	0.0486 U	0.0486 U	0.0486 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	1.76 U	1.76 U	1.76 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	8.7 U	8.7 U	8.7 U	8.7 U
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	0.949	0.41 U	0.41 U	0.41 U
Toluene	ug/m3	2.49	1.88 U	1.88 U	1.88 U
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.0927 U	0.0927 U	0.0927 U	0.0927 U
Trichloroethene	ug/m3	0.43 U	0.43 U	0.43 U	14.6
Trichlorofluoromethane	ug/m3	2.81 U	2.81 U	2.81 U	2.81 U
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	3.83 U
1,2,4-Trimethylbenzene	ug/m3	2.56	23.4	2.46 U	2.46 U

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	8.89	2.46 U	2.46 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

Analysis/ Analyte	Units	4-FD	6-__	7-__	8-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS					
Acetone	ug/m3	5.95 U	5.95 U	5.95 U	7.19
Benzene	ug/m3	0.31 U	0.31 U	0.31 U	0.31 U
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	1.47 U	1.47 U	1.47 U	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.41 U	0.44	0.44	0.44
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	2.44 U
Chloromethane	ug/m3	1.03 U	1.03 U	1.03 U	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	2.47 U	2.47 U	2.47 U	2.47 U
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.0486 U	0.0486 U	0.0486 U	0.0486 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	1.76 U	1.76 U	1.76 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	8.7 U	8.7 U	8.7 U	8.7 U
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U
Toluene	ug/m3	1.88 U	1.88 U	1.88 U	2.79
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.0927 U	0.0927 U	0.0927 U	0.0927 U
Trichloroethene	ug/m3	13.8	13.5	10.9	2.74
Trichlorofluoromethane	ug/m3	2.81 U	2.81 U	2.81 U	2.81 U
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	3.83 U
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	7.08

Analysis/ Analyte	Units	4-FD	6-__	7-__	8-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.6
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 11/06/2017

Subject: Transmittal of Sample Analysis Results for ASR #: 7564

Project ID: TH07PZ02

Project Description: Oak Grove Village well - Closed Sullivan Landfill

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/REMB/FFPC

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/REMB/FFPC Phone: 913-551-7589

Project ID: TH07PZ02

Project Desc: Oak Grove Village well - Closed Sullivan Landfill

Location: Sullivan State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL Site ID: 07PZ Site OU: 02

GPRA PRC: 000DD2

Purpose: Site Characterization

To determine if VOC concentrations in cave air are increasing or decreasing in relation to levels of health concern.

PM noted via email on 8/7/17 that this ASR is not part of a litigation hold activity at this time.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.

ASR Number: 7564 Sample Information Summary 11/06/2017

Project ID: TH07PZ02 Project Desc: Oak Grove Village well - Closed Sullivan Landfill

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		10/24/2017	07:46	10/24/2017	15:00	10/26/2017
2 -	__	Air	Ballroom		10/24/2017	07:44	10/24/2017	14:57	10/26/2017
3 -	__	Air	Theater		10/24/2017	07:41	10/24/2017	14:45	10/26/2017
4 -	__	Air	Loot Rock		10/24/2017	07:37	10/24/2017	14:21	10/26/2017
5 -	__	Air	Jungle Room		10/24/2017	07:30	10/24/2017	14:11	10/26/2017
6 -	__	Air	Personal Air Monitor (PAM)		10/24/2017	07:48	10/24/2017	14:59	10/26/2017

Analysis	Comments About Results For This Analysis

1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Lab: Region 7 EPA Laboratory - Kansas City, Ks.

Method: EPA Region 7 RLAB Method 3230.4H

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__

Comments:
Benzyl Chloride and 1,2,4-Trichlorobenzene were UJ-coded in samples 1-6. These analytes were not found in the samples at or above the reporting limits, however, the reporting limits are estimates (UJ-coded) due to the initial instrument calibration curve not meeting linearity specifications. The actual reporting limits may be higher than the reported value.

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS					
Acetone	ug/m3	10	1.7	2.3	3.9
Allyl Chloride	ug/m3	0.32 U	0.32 U	0.32 U	0.32 U
Benzene	ug/m3	0.26	0.16 U	0.16 U	0.16 U
Benzyl Chloride	ug/m3	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ
Bromodichloromethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
Bromoform	ug/m3	2.1 U	2.1 U	2.1 U	2.1 U
Bromomethane	ug/m3	0.78 U	0.78 U	0.78 U	0.78 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
2-Butanone	ug/m3	1.9 U	1.9 U	1.9 U	1.9 U
Carbon Disulfide	ug/m3	0.63 U	0.63 U	0.63 U	0.63 U
Carbon Tetrachloride	ug/m3	0.38	0.36	0.35	0.43
Chlorobenzene	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
Chloroethane	ug/m3	0.53 U	0.53 U	0.53 U	0.53 U
Chloroform	ug/m3	0.37	1.1	1.3	0.31
Chloromethane	ug/m3	0.90	0.42 U	0.42 U	0.42 U
Cyclohexane	ug/m3	0.70 U	0.70 U	0.70 U	0.70 U
Dibromochloromethane	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
1,2-Dibromoethane	ug/m3	1.6 U	1.6 U	1.6 U	1.6 U
1,2-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,3-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
Dichlorodifluoromethane	ug/m3	2.1	2.0	1.9	2.4
1,1-Dichloroethane	ug/m3	0.82 U	0.82 U	0.82 U	0.82 U
1,2-Dichloroethane	ug/m3	0.10 U	0.10 U	0.10 U	0.10 U
1,1-Dichloroethene	ug/m3	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,2-Dichloroethene	ug/m3	0.20 U	0.20 U	0.20 U	0.45
trans-1,2-Dichloroethene	ug/m3	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
cis-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U
trans-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
1,4-Dioxane	ug/m3	0.73 U	0.73 U	0.73 U	0.73 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U
4-Ethyltoluene	ug/m3	4.0 U	4.0 U	4.0 U	4.0 U
Heptane	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
Hexachlorobutadiene	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Hexane	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
2-Hexanone	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
Methyl tert-butyl ether	ug/m3	0.73 U	0.73 U	0.73 U	0.73 U
Methylene Chloride	ug/m3	0.70 U	0.70 U	0.70 U	0.70 U
4-Methyl-2-Pentanone	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
2-Propanol	ug/m3	68	0.50 U	0.50 U	0.50 U
Propene	ug/m3	0.36	0.35 U	0.35 U	0.35 U
Styrene	ug/m3	0.86 U	0.86 U	0.86 U	0.86 U

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
Tetrachloroethene	ug/m3	0.34 U	0.34 U	0.34 U	0.34 U
Tetrahydrofuran	ug/m3	0.60 U	0.60 U	0.60 U	0.60 U
Toluene	ug/m3	0.76 U	0.76 U	0.76 U	0.76 U
1,2,4-Trichlorobenzene	ug/m3	1.5 UJ	1.5 UJ	1.5 UJ	1.5 UJ
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Trichloroethene	ug/m3	0.89	0.27 U	0.27 U	38
Trichlorofluoromethane	ug/m3	1.5	1.1	1.1	4.2
1,1,2-Trichlorotrifluoroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,2,4-Trimethylbenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
1,3,5-Trimethylbenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.72 U	0.72 U	0.72 U	1.2
Vinyl Bromide	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U
Vinyl Chloride	ug/m3	0.13 U	0.13 U	0.13 U	0.13 U
m and/or p-Xylene	ug/m3	1.8 U	1.8 U	1.8 U	1.8 U
o-Xylene	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U

Analysis/ Analyte	Units	5-__	6-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS			
Acetone	ug/m3	1.8	8.1
Allyl Chloride	ug/m3	0.32 U	0.32 U
Benzene	ug/m3	0.16 U	0.16 U
Benzyl Chloride	ug/m3	4.2 UJ	4.2 UJ
Bromodichloromethane	ug/m3	1.4 U	1.4 U
Bromoform	ug/m3	2.1 U	2.1 U
Bromomethane	ug/m3	0.78 U	0.78 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U
2-Butanone	ug/m3	1.9 U	1.9 U
Carbon Disulfide	ug/m3	0.63 U	0.63 U
Carbon Tetrachloride	ug/m3	0.43	0.41
Chlorobenzene	ug/m3	0.93 U	0.93 U
Chloroethane	ug/m3	0.53 U	0.53 U
Chloroform	ug/m3	0.32	1.3
Chloromethane	ug/m3	0.42 U	0.46
Cyclohexane	ug/m3	0.70 U	0.70 U
Dibromochloromethane	ug/m3	1.7 U	1.7 U
1,2-Dibromoethane	ug/m3	1.6 U	1.6 U
1,2-Dichlorobenzene	ug/m3	1.2 U	1.2 U
1,3-Dichlorobenzene	ug/m3	1.2 U	1.2 U
1,4-Dichlorobenzene	ug/m3	1.2 U	1.2 U
Dichlorodifluoromethane	ug/m3	2.4	2.3
1,1-Dichloroethane	ug/m3	0.82 U	0.82 U
1,2-Dichloroethane	ug/m3	0.10 U	0.10 U
1,1-Dichloroethene	ug/m3	0.20 U	0.20 U
cis-1,2-Dichloroethene	ug/m3	0.28	0.20 U
trans-1,2-Dichloroethene	ug/m3	0.20 U	0.20 U
1,2-Dichloropropane	ug/m3	0.93 U	0.93 U
cis-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U
trans-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.4 U	1.4 U
1,4-Dioxane	ug/m3	0.73 U	0.73 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.88 U	0.88 U
4-Ethyltoluene	ug/m3	4.0 U	4.0 U
Heptane	ug/m3	0.83 U	0.83 U
Hexachlorobutadiene	ug/m3	2.2 U	2.2 U
Hexane	ug/m3	0.71 U	0.71 U
2-Hexanone	ug/m3	1.7 U	1.7 U
Methyl tert-butyl ether	ug/m3	0.73 U	0.73 U
Methylene Chloride	ug/m3	0.70 U	0.70 U
4-Methyl-2-Pentanone	ug/m3	1.7 U	1.7 U
2-Propanol	ug/m3	0.50 U	7.7
Propene	ug/m3	0.35 U	0.35 U
Styrene	ug/m3	0.86 U	0.86 U

Project ID: TH07PZ02 Project Desc: Oak Grove Village well - Closed Sullivan Landfill

Analysis/ Analyte	Units	5-__	6-__
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U	1.4 U
Tetrachloroethene	ug/m3	0.34 U	0.34 U
Tetrahydrofuran	ug/m3	0.60 U	0.60 U
Toluene	ug/m3	0.76 U	0.76 U
1,2,4-Trichlorobenzene	ug/m3	1.5 UJ	1.5 UJ
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.1 U	1.1 U
Trichloroethene	ug/m3	25	6.1
Trichlorofluoromethane	ug/m3	2.8	1.7
1,1,2-Trichlorotrifluoroethane	ug/m3	1.5 U	1.5 U
1,2,4-Trimethylbenzene	ug/m3	0.99 U	0.99 U
1,3,5-Trimethylbenzene	ug/m3	0.99 U	0.99 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.72 U	1.0
Vinyl Bromide	ug/m3	0.88 U	0.88 U
Vinyl Chloride	ug/m3	0.13 U	0.13 U
m and/or p-Xylene	ug/m3	1.8 U	1.8 U
o-Xylene	ug/m3	0.88 U	0.88 U

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 10/26/2018

Subject: Transmittal of Sample Analysis Results for ASR #: 7976

Project ID: TH07PZ02

Project Description: Oak Grove Village well - Closed Sullivan Landfill

From: Margaret E.W. St. Germain, Chief
FOR Laboratory Technology & Analysis Branch
Environmental Sciences & Technology Division

ROBERT NICHOLS Digitally signed by ROBERT NICHOLS Date: 2018.10.26 09:51:32 -05'00'

To: Tonya Howell
SUPR/REMB/FFPC

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please ensure that you file this electronic (.pdf only) transmittal in your records management system. The Regional Laboratory will now retain all of the original hardcopy documentation (e.g. COC[s] and the R7LIMS field sheet[s], etc.) according to our ENST records management system.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey. It is critical that we receive your response in accordance to RCRA and the laboratory accreditation.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

Project Manager: Tonya Howell **Org:** SUPR/REMB/FFPC **Phone:** 913-551-7589

Project ID: TH07PZ02

Project Desc: Oak Grove Village well - Closed Sullivan Landfill

Location: Sullivan **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

GPRA PRC: 000DD2

Purpose: Site Characterization

To determine if VOCs concentrations in cave air are increasing or decreasing in relation to levels of health concern.

PM (TH) noted on the submitted ASR sent via email on 7/27/2018 that this ASR is not part of a litigation hold activity at this time.
Above GPRA/site code (+OU) check OK per JN on 7/27/2018.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7976 **Sample Information Summary** **10/26/2018**

Project ID: TH07PZ02 **Project Desc:** Oak Grove Village well - Closed Sullivan Landfill

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Jungle Room, Meramec Caverns		10/15/2018	08:10	10/15/2018	15:26	10/17/2018
2 -	__	Air	Loot Rock, Meramec Caverns		10/15/2018	08:15	10/15/2018	15:59	10/17/2018
3 -	__	Air	Ballroom, Meramec Caverns		10/15/2018	07:59	10/15/2018	15:56	10/17/2018
4 -	__	Air	Gift shop, Meramec Caverns		10/15/2018	08:00	10/15/2018	16:12	10/17/2018
5 -	__	Air	PAM, Meramec Caverns		10/15/2018	08:30	10/15/2018	16:09	10/17/2018

Analysis	Comments About Results For This Analysis

1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Lab: Region 7 EPA Laboratory - Kansas City, Ks.

Method: EPA Region 7 RLAB Method 3230.4H

Samples: 1-__ 2-__ 3-__ 4-__ 5-__

Comments:

1,3-Butadiene (67.81%, limit is 70%) and Benzyl Chloride (61.41%, limit is 70%) were UJ-coded in samples 1-5. These analytes were not found in the samples at or above their respective reporting limits, however, the reporting limits are estimated (UJ-coded) due to the second source calibration verification not meeting accuracy specifications. The actual reporting limit for these analytes may be higher than the reported values.

Analysis / Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS					
Acetone	ug/m3	0.96 U	1.5	2.1	13
Allyl Chloride	ug/m3	0.32 U	0.32 U	0.32 U	0.32 U
Benzene	ug/m3	0.16 U	0.19	0.16 U	0.44
Benzyl Chloride	ug/m3	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ
Bromodichloromethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
Bromoform	ug/m3	2.1 U	2.1 U	2.1 U	2.1 U
Bromomethane	ug/m3	0.78 U	0.78 U	0.78 U	0.78 U
1,3-Butadiene	ug/m3	0.45 UJ	0.45 UJ	0.45 UJ	0.45 UJ
2-Butanone	ug/m3	1.9 U	1.9 U	1.9 U	1.9 U
Carbon Disulfide	ug/m3	0.63 U	0.63 U	0.63 U	0.63 U
Carbon Tetrachloride	ug/m3	0.51	0.48	0.58	0.51
Chlorobenzene	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
Chloroethane	ug/m3	0.53 U	0.53 U	0.80	0.53 U
Chloroform	ug/m3	0.23	0.23	5.5	2.2
Chloromethane	ug/m3	0.42 U	0.42 U	4.0	0.98
Cyclohexane	ug/m3	0.70 U	0.70 U	0.70 U	0.70 U
Dibromochloromethane	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
1,2-Dibromoethane	ug/m3	1.6 U	1.6 U	1.6 U	1.6 U
1,2-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,3-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
Dichlorodifluoromethane	ug/m3	2.3	2.3	2.1	2.2
1,1-Dichloroethane	ug/m3	0.82 U	0.82 U	0.82 U	0.82 U
1,2-Dichloroethane	ug/m3	0.10 U	0.10 U	0.28	0.16
1,1-Dichloroethene	ug/m3	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,2-Dichloroethene	ug/m3	0.26	0.24	0.20 U	0.20 U
trans-1,2-Dichloroethene	ug/m3	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
cis-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U
trans-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
1,4-Dioxane	ug/m3	0.73 U	0.73 U	0.73 U	0.73 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U	1.1	1.1 U
Ethyl Benzene	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U
4-Ethyltoluene	ug/m3	4.0 U	4.0 U	4.0 U	4.0 U
Heptane	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
Hexachlorobutadiene	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Hexane	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
2-Hexanone	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
Methyl tert-butyl ether	ug/m3	0.73 U	0.73 U	0.73 U	0.73 U
Methylene Chloride	ug/m3	0.70 U	0.70 U	0.70 U	0.70 U
4-Methyl-2-Pentanone	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
2-Propanol	ug/m3	0.50 U	0.50 U	0.50 U	1.6
Propene	ug/m3	0.42	0.60	5.8	1.8
Styrene	ug/m3	0.86 U	0.86 U	0.86 U	0.86 U

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
Tetrachloroethene	ug/m3	0.34 U	0.34 U	0.36	0.34 U
Tetrahydrofuran	ug/m3	0.60 U	0.60 U	0.60 U	0.60 U
Toluene	ug/m3	0.76 U	0.76 U	0.76 U	1.6
1,2,4-Trichlorobenzene	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Trichloroethene	ug/m3	24	21	0.27 U	0.27 U
Trichlorofluoromethane	ug/m3	1.8	2.5	2.0	1.6
1,1,2-Trichlorotrifluoroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,2,4-Trimethylbenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
1,3,5-Trimethylbenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.72 U	0.72 U	0.72 U	0.72 U
Vinyl Bromide	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U
Vinyl Chloride	ug/m3	0.13 U	0.13 U	0.13 U	0.13 U
m and/or p-Xylene	ug/m3	1.8 U	1.8 U	1.8 U	1.8 U
o-Xylene	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U

Analysis / Analyte	Units	5-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS		
Acetone	ug/m3	4.4
Allyl Chloride	ug/m3	0.32 U
Benzene	ug/m3	0.16 U
Benzyl Chloride	ug/m3	4.2 UJ
Bromodichloromethane	ug/m3	1.4 U
Bromoform	ug/m3	2.1 U
Bromomethane	ug/m3	0.78 U
1,3-Butadiene	ug/m3	0.45 UJ
2-Butanone	ug/m3	1.9 U
Carbon Disulfide	ug/m3	0.63 U
Carbon Tetrachloride	ug/m3	0.50
Chlorobenzene	ug/m3	0.93 U
Chloroethane	ug/m3	0.53 U
Chloroform	ug/m3	2.8
Chloromethane	ug/m3	0.42 U
Cyclohexane	ug/m3	0.70 U
Dibromochloromethane	ug/m3	1.7 U
1,2-Dibromoethane	ug/m3	1.6 U
1,2-Dichlorobenzene	ug/m3	1.2 U
1,3-Dichlorobenzene	ug/m3	1.2 U
1,4-Dichlorobenzene	ug/m3	1.2 U
Dichlorodifluoromethane	ug/m3	2.1
1,1-Dichloroethane	ug/m3	0.82 U
1,2-Dichloroethane	ug/m3	0.17
1,1-Dichloroethene	ug/m3	0.20 U
cis-1,2-Dichloroethene	ug/m3	0.20 U
trans-1,2-Dichloroethene	ug/m3	0.20 U
1,2-Dichloropropane	ug/m3	0.93 U
cis-1,3-Dichloropropene	ug/m3	0.46 U
trans-1,3-Dichloropropene	ug/m3	0.46 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.4 U
1,4-Dioxane	ug/m3	0.73 U
Ethyl Acetate	ug/m3	1.1 U
Ethyl Benzene	ug/m3	0.88 U
4-Ethyltoluene	ug/m3	4.0 U
Heptane	ug/m3	0.83 U
Hexachlorobutadiene	ug/m3	2.2 U
Hexane	ug/m3	0.71 U
2-Hexanone	ug/m3	1.7 U
Methyl tert-butyl ether	ug/m3	0.73 U
Methylene Chloride	ug/m3	0.70 U
4-Methyl-2-Pentanone	ug/m3	1.7 U
2-Propanol	ug/m3	0.50 U
Propene	ug/m3	2.9
Styrene	ug/m3	0.86 U

Analysis/ Analyte	Units	5-__
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U
Tetrachloroethene	ug/m3	0.34 U
Tetrahydrofuran	ug/m3	0.60 U
Toluene	ug/m3	0.76 U
1,2,4-Trichlorobenzene	ug/m3	1.5 U
1,1,1-Trichloroethane	ug/m3	1.1 U
1,1,2-Trichloroethane	ug/m3	1.1 U
Trichloroethene	ug/m3	5.3
Trichlorofluoromethane	ug/m3	2.1
1,1,2-Trichlorotrifluoroethane	ug/m3	1.5 U
1,2,4-Trimethylbenzene	ug/m3	0.99 U
1,3,5-Trimethylbenzene	ug/m3	0.99 U
2,2,4-Trimethylpentane	ug/m3	1.0 U
Vinyl Acetate	ug/m3	0.72 U
Vinyl Bromide	ug/m3	0.88 U
Vinyl Chloride	ug/m3	0.13 U
m and/or p-Xylene	ug/m3	1.8 U
o-Xylene	ug/m3	0.88 U

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

EPA PROJECT MANAGER (Print)	SITE OR SAMPLING EVENT	DATE OF SAMPLE COLLECTION(S)	SHEET
Tonya Howell	Meramec Caverns	10 (MONTH) 15 (DAY) 2018 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

ASR AND SAMPLE NUMBER	TYPE OF CONTAINERS: 1 L PLASTIC BOTTLE	BOTTLE	BOTTLE	5L Somm ~~BOTTLE~~	VOA SET (3 VIALS EA)	SAMPLED MEDIA: WATER	SOLID	HAZ WASTE	AIR	OTHER	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBER(S) OF CONTAINERS PER SAMPLE NUMBER										
7976-1				1					X		
-2				1					X		
-3				1					X		
-4				1					X		
-5				1					X		

Complete [illegible] USCS

Air canisters No Temp. Needed

DESCRIPTION OF SHIPMENT

5 CONTAINER(S) CONSISTING OF 1 CRATE(S)

0 ICE CHEST(S): OTHER _____

MODE OF SHIPMENT 10/17/18

✓ COMMERCIAL CARRIER Fed-X

_____ SAMPLER CONVEYED _____ (SHIPPING AIRBILL NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (PM/SAMPLER)	DATE	TIME	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED	10-16-18	1630	had delivered to Rolla SEALED Fed-X UNSEALED	10-16-18	1635	transport
SEALED UNSEALED			[signature] SEALED UNSEALED	10/17/18	1000A	Anal
SEALED UNSEALED			SEALED UNSEALED			
SEALED UNSEALED			SEALED UNSEALED			

7-EPA-9262 (REV 4/17) WHITE ORIGINAL - EPA LAB • YELLOW - EPA PROJECT MANAGER

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7976 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7976-1-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: Jungle Room, Meramec Caverns

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 10/15/18 08:10

Longitude: ___ ___ ___ **End:** 10/15/18 15:26

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Sample Comments:
(N/A)
initial dial: ~~-27.0~~ 0.0
deploy vac: -27.0 @ 0810
recov. vac: -2.8

Can # 4556
regulator: A01060062-2

on rock just past end tour route

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7976 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7976-2-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: Loot Rock, Meramec Caverns

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	10/15/18	08:15
Longitude: ___ ___ ___	**End:**	10/15/18	~~15:56~~ 15:59 ~~15:56~~

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can# R2223
regulator: 7342963

initl dial: 0.0
deplay vac: -31.0
rec vac: -4.5

on rock ledge ~15' upstream from Falls & ~4' beyond railing

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7976 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7976-3-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: Ballroom, Meramec Caverns

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 10/15/18 07:59
Longitude: ___ ___ ___ **End:** 10/15/18 15:56

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Sample Comments:
(N/A)
initial dial: 0.0
deploy vac: -28.5
rec vac: -5.0

Can # RØ491
regulator: ~~7267025~~ 7267075

on back (right) on new stage platform ~ same as old location
ANCADIS can is on chair about 35 to right. next to evap. pan

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7976 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7976-4-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: Gift Shop, meramec Caverns

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	10/15/18	08:00
Longitude: ___ ___ ___	**End:**	10/15/18	10:12

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can # 3245

regulator: A02836396

initial dial: 0.0
deploy vac: -30.0
rec vac: -3.2

on cabinet inside gift area ~ below air vent in ceiling. traditional location on north gift area. ARCADIS has 2 cans here.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7976 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7976-5-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: PAM, Meramec Caverns

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	10/15/08	08:30
Longitude: ___ ___ ___	**End:**	10/15/18	16:09

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can: 4552
regulator: A01060 63-4

initial dial: 0.0
deplog vac: -30.5
rev vac: -4.5

USGS red backpack
started 0830 on
table near ~~ice cream~~ counter / lunch counter
register. ARCADIS can set
here but started ~0800 (before) guide arrived. moved into ticket
booth area (Dustin) arrived ~0840. ARCADIS
moved their can to booth @ 0840.

Sample Collected By: USGS

Can was moved out to gift shop at end of day
for 30 minutes after sitting at ticket booth during day

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 04/18/2017

Subject: Transmittal of Sample Analysis Results for ASR #: 7383

Project ID: TH07PZ01

Project Description: Oak Grove Village well - RA sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/REMB/FFPC

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/REMB/FFPC Phone: 913-551-7589

Project ID: TH07PZ01

Project Desc: Oak Grove Village well - RA sampling

Location: Oak Grove State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - OAK GROVE VILLAGE WELL Site ID: 07PZ Site OU: 01

GPRA PRC: 303DD2

Purpose: Site Characterization

To determine the nature and extent of VOC contamination in air from an undefined TCE plume & determine if VOC concentrations in cave air are increasing or decreasing.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FD = Field Duplicate

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7383 Sample Information Summary 04/18/2017

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		03/27/2017	08:17	03/27/2017	17:54	03/29/2017
2 -	__	Air	Ballroom		03/27/2017	08:57	03/27/2017	17:27	03/29/2017
3 -	__	Air	Theater		03/27/2017	08:59	03/27/2017	17:24	03/29/2017
4 -	__	Air	Loot Rock		03/27/2017	08:26	03/27/2017	17:45	03/29/2017
4 -	FD	Air	Loot Rock		03/27/2017	08:26	03/27/2017	17:45	03/29/2017
6 -	__	Air	Jungle Room		03/27/2017	08:42	03/27/2017	17:40	03/29/2017
7 -	__	Air	Atomic Shelter		03/27/2017	08:36	03/27/2017	16:38	03/29/2017
8 -	__	Air	PAM		03/27/2017	08:35	03/27/2017	17:30	03/29/2017

Analysis	Comments About Results For This Analysis

1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Lab: RASP Contract Lab (Out-Source)

Method: Similar to EPA Region 7 RLAB Method 3230.4H (see comments)

Samples: 1-__ 2-__ 3-__ 4-__ 4-FD 6-__ 7-__ 8-__

Comments:

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS					
Acetone	ug/m3	35.6	5.95 U	5.95 U	5.95 U
Benzene	ug/m3	0.607	0.31 U	0.31 U	0.31 U
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	4.16	1.47 U	1.47 U	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.41 U	0.44	0.44	0.44
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	2.44 U
Chloromethane	ug/m3	1.55	1.03 U	1.03 U	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	2.47 U	2.47 U	2.47 U	2.47 U
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.202	0.0486 U	0.0486 U	0.0486 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	1.76 U	1.76 U	1.76 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	8.7 U	8.7 U	8.7 U	8.7 U
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	0.949	0.41 U	0.41 U	0.41 U
Toluene	ug/m3	2.49	1.88 U	1.88 U	1.88 U
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.0927 U	0.0927 U	0.0927 U	0.0927 U
Trichloroethene	ug/m3	0.43 U	0.43 U	0.43 U	14.6
Trichlorofluoromethane	ug/m3	2.81 U	2.81 U	2.81 U	2.81 U
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	3.83 U
1,2,4-Trimethylbenzene	ug/m3	2.56	23.4	2.46 U	2.46 U

Project ID: TH07PZ01 Project Desc: Oak Grove Village well - RA sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	8.89	2.46 U	2.46 U
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

Analysis/ Analyte	Units	4-FD	6-__	7-__	8-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS					
Acetone	ug/m3	5.95 U	5.95 U	5.95 U	7.19
Benzene	ug/m3	0.31 U	0.31 U	0.31 U	0.31 U
Bromodichloromethane	ug/m3	3.35 U	3.35 U	3.35 U	3.35 U
Bromoform	ug/m3	5.17 U	5.17 U	5.17 U	5.17 U
Bromomethane	ug/m3	1.94 U	1.94 U	1.94 U	1.94 U
2-Butanone	ug/m3	1.47 U	1.47 U	1.47 U	1.47 U
Carbon Disulfide	ug/m3	1.56 U	1.56 U	1.56 U	1.56 U
Carbon Tetrachloride	ug/m3	0.41 U	0.44	0.44	0.44
Chlorobenzene	ug/m3	2.3 U	2.3 U	2.3 U	2.3 U
Chloroethane	ug/m3	1.32 U	1.32 U	1.32 U	1.32 U
Chloroform	ug/m3	2.44 U	2.44 U	2.44 U	2.44 U
Chloromethane	ug/m3	1.03 U	1.03 U	1.03 U	1.03 U
Dibromochloromethane	ug/m3	4.26 U	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane	ug/m3	3.84 U	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
1,3-Dichlorobenzene	ug/m3	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	ug/m3	2.47 U	2.47 U	2.47 U	2.47 U
1,1-Dichloroethane	ug/m3	2.02 U	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	ug/m3	0.0486 U	0.0486 U	0.0486 U	0.0486 U
1,1-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
trans-1,2-Dichloroethene	ug/m3	1.98 U	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	ug/m3	2.31 U	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	ug/m3	2.27 U	2.27 U	2.27 U	2.27 U
Ethyl Benzene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U
Heptane	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Hexachlorobutadiene	ug/m3	5.33 U	5.33 U	5.33 U	5.33 U
Hexane	ug/m3	1.76 U	1.76 U	1.76 U	1.76 U
2-Hexanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Isopropylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.46 U
Methylene Chloride	ug/m3	8.7 U	8.7 U	8.7 U	8.7 U
4-Methyl-2-Pentanone	ug/m3	2.05 U	2.05 U	2.05 U	2.05 U
Naphthalene	ug/m3	2.62 U	2.62 U	2.62 U	2.62 U
Styrene	ug/m3	2.13 U	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	ug/m3	3.43 U	3.43 U	3.43 U	3.43 U
Tetrachloroethene	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U
Toluene	ug/m3	1.88 U	1.88 U	1.88 U	2.79
1,2,4-Trichlorobenzene	ug/m3	3.71 U	3.71 U	3.71 U	3.71 U
1,1,1-Trichloroethane	ug/m3	2.73 U	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	ug/m3	0.0927 U	0.0927 U	0.0927 U	0.0927 U
Trichloroethene	ug/m3	13.8	13.5	10.9	2.74
Trichlorofluoromethane	ug/m3	2.81 U	2.81 U	2.81 U	2.81 U
1,1,2-Trichlorotrifluoroethane	ug/m3	3.83 U	3.83 U	3.83 U	3.83 U
1,2,4-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	7.08

Analysis/ Analyte	Units	4-FD	6-__	7-__	8-__
1,3,5-Trimethylbenzene	ug/m3	2.46 U	2.46 U	2.46 U	2.6
Vinyl Chloride	ug/m3	0.16 U	0.16 U	0.16 U	0.16 U
m and/or p-Xylene	ug/m3	4.34 U	4.34 U	4.34 U	4.34 U
o-Xylene	ug/m3	2.17 U	2.17 U	2.17 U	2.17 U

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 11/06/2017

Subject: Transmittal of Sample Analysis Results for ASR #: 7564

Project ID: TH07PZ02

Project Description: Oak Grove Village well - Closed Sullivan Landfill

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Tonya Howell
SUPR/REMB/FFPC

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: Tonya Howell Org: SUPR/REMB/FFPC Phone: 913-551-7589

Project ID: TH07PZ02

Project Desc: Oak Grove Village well - Closed Sullivan Landfill

Location: Sullivan State: Missouri Program: Superfund

Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL Site ID: 07PZ Site OU: 02

GPRA PRC: 000DD2

Purpose: Site Characterization

To determine if VOC concentrations in cave air are increasing or decreasing in relation to levels of health concern.

PM noted via email on 8/7/17 that this ASR is not part of a litigation hold activity at this time.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.

ASR Number: 7564 Sample Information Summary 11/06/2017

Project ID: TH07PZ02 Project Desc: Oak Grove Village well - Closed Sullivan Landfill

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Gift shop		10/24/2017	07:46	10/24/2017	15:00	10/26/2017
2 -	__	Air	Ballroom		10/24/2017	07:44	10/24/2017	14:57	10/26/2017
3 -	__	Air	Theater		10/24/2017	07:41	10/24/2017	14:45	10/26/2017
4 -	__	Air	Loot Rock		10/24/2017	07:37	10/24/2017	14:21	10/26/2017
5 -	__	Air	Jungle Room		10/24/2017	07:30	10/24/2017	14:11	10/26/2017
6 -	__	Air	Personal Air Monitor (PAM)		10/24/2017	07:48	10/24/2017	14:59	10/26/2017

Analysis	Comments About Results For This Analysis

1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Lab: Region 7 EPA Laboratory - Kansas City, Ks.

Method: EPA Region 7 RLAB Method 3230.4H

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__

Comments:
Benzyl Chloride and 1,2,4-Trichlorobenzene were UJ-coded in samples 1-6. These analytes were not found in the samples at or above the reporting limits, however, the reporting limits are estimates (UJ-coded) due to the initial instrument calibration curve not meeting linearity specifications. The actual reporting limits may be higher than the reported value.

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS					
Acetone	ug/m3	10	1.7	2.3	3.9
Allyl Chloride	ug/m3	0.32 U	0.32 U	0.32 U	0.32 U
Benzene	ug/m3	0.26	0.16 U	0.16 U	0.16 U
Benzyl Chloride	ug/m3	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ
Bromodichloromethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
Bromoform	ug/m3	2.1 U	2.1 U	2.1 U	2.1 U
Bromomethane	ug/m3	0.78 U	0.78 U	0.78 U	0.78 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
2-Butanone	ug/m3	1.9 U	1.9 U	1.9 U	1.9 U
Carbon Disulfide	ug/m3	0.63 U	0.63 U	0.63 U	0.63 U
Carbon Tetrachloride	ug/m3	0.38	0.36	0.35	0.43
Chlorobenzene	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
Chloroethane	ug/m3	0.53 U	0.53 U	0.53 U	0.53 U
Chloroform	ug/m3	0.37	1.1	1.3	0.31
Chloromethane	ug/m3	0.90	0.42 U	0.42 U	0.42 U
Cyclohexane	ug/m3	0.70 U	0.70 U	0.70 U	0.70 U
Dibromochloromethane	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
1,2-Dibromoethane	ug/m3	1.6 U	1.6 U	1.6 U	1.6 U
1,2-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,3-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
Dichlorodifluoromethane	ug/m3	2.1	2.0	1.9	2.4
1,1-Dichloroethane	ug/m3	0.82 U	0.82 U	0.82 U	0.82 U
1,2-Dichloroethane	ug/m3	0.10 U	0.10 U	0.10 U	0.10 U
1,1-Dichloroethene	ug/m3	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,2-Dichloroethene	ug/m3	0.20 U	0.20 U	0.20 U	0.45
trans-1,2-Dichloroethene	ug/m3	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
cis-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U
trans-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
1,4-Dioxane	ug/m3	0.73 U	0.73 U	0.73 U	0.73 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U
4-Ethyltoluene	ug/m3	4.0 U	4.0 U	4.0 U	4.0 U
Heptane	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
Hexachlorobutadiene	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Hexane	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
2-Hexanone	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
Methyl tert-butyl ether	ug/m3	0.73 U	0.73 U	0.73 U	0.73 U
Methylene Chloride	ug/m3	0.70 U	0.70 U	0.70 U	0.70 U
4-Methyl-2-Pentanone	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
2-Propanol	ug/m3	68	0.50 U	0.50 U	0.50 U
Propene	ug/m3	0.36	0.35 U	0.35 U	0.35 U
Styrene	ug/m3	0.86 U	0.86 U	0.86 U	0.86 U

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
Tetrachloroethene	ug/m3	0.34 U	0.34 U	0.34 U	0.34 U
Tetrahydrofuran	ug/m3	0.60 U	0.60 U	0.60 U	0.60 U
Toluene	ug/m3	0.76 U	0.76 U	0.76 U	0.76 U
1,2,4-Trichlorobenzene	ug/m3	1.5 UJ	1.5 UJ	1.5 UJ	1.5 UJ
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Trichloroethene	ug/m3	0.89	0.27 U	0.27 U	38
Trichlorofluoromethane	ug/m3	1.5	1.1	1.1	4.2
1,1,2-Trichlorotrifluoroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,2,4-Trimethylbenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
1,3,5-Trimethylbenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.72 U	0.72 U	0.72 U	1.2
Vinyl Bromide	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U
Vinyl Chloride	ug/m3	0.13 U	0.13 U	0.13 U	0.13 U
m and/or p-Xylene	ug/m3	1.8 U	1.8 U	1.8 U	1.8 U
o-Xylene	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U

Analysis/ Analyte	Units	5-__	6-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS			
Acetone	ug/m3	1.8	8.1
Allyl Chloride	ug/m3	0.32 U	0.32 U
Benzene	ug/m3	0.16 U	0.16 U
Benzyl Chloride	ug/m3	4.2 UJ	4.2 UJ
Bromodichloromethane	ug/m3	1.4 U	1.4 U
Bromoform	ug/m3	2.1 U	2.1 U
Bromomethane	ug/m3	0.78 U	0.78 U
1,3-Butadiene	ug/m3	0.45 U	0.45 U
2-Butanone	ug/m3	1.9 U	1.9 U
Carbon Disulfide	ug/m3	0.63 U	0.63 U
Carbon Tetrachloride	ug/m3	0.43	0.41
Chlorobenzene	ug/m3	0.93 U	0.93 U
Chloroethane	ug/m3	0.53 U	0.53 U
Chloroform	ug/m3	0.32	1.3
Chloromethane	ug/m3	0.42 U	0.46
Cyclohexane	ug/m3	0.70 U	0.70 U
Dibromochloromethane	ug/m3	1.7 U	1.7 U
1,2-Dibromoethane	ug/m3	1.6 U	1.6 U
1,2-Dichlorobenzene	ug/m3	1.2 U	1.2 U
1,3-Dichlorobenzene	ug/m3	1.2 U	1.2 U
1,4-Dichlorobenzene	ug/m3	1.2 U	1.2 U
Dichlorodifluoromethane	ug/m3	2.4	2.3
1,1-Dichloroethane	ug/m3	0.82 U	0.82 U
1,2-Dichloroethane	ug/m3	0.10 U	0.10 U
1,1-Dichloroethene	ug/m3	0.20 U	0.20 U
cis-1,2-Dichloroethene	ug/m3	0.28	0.20 U
trans-1,2-Dichloroethene	ug/m3	0.20 U	0.20 U
1,2-Dichloropropane	ug/m3	0.93 U	0.93 U
cis-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U
trans-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.4 U	1.4 U
1,4-Dioxane	ug/m3	0.73 U	0.73 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U
Ethyl Benzene	ug/m3	0.88 U	0.88 U
4-Ethyltoluene	ug/m3	4.0 U	4.0 U
Heptane	ug/m3	0.83 U	0.83 U
Hexachlorobutadiene	ug/m3	2.2 U	2.2 U
Hexane	ug/m3	0.71 U	0.71 U
2-Hexanone	ug/m3	1.7 U	1.7 U
Methyl tert-butyl ether	ug/m3	0.73 U	0.73 U
Methylene Chloride	ug/m3	0.70 U	0.70 U
4-Methyl-2-Pentanone	ug/m3	1.7 U	1.7 U
2-Propanol	ug/m3	0.50 U	7.7
Propene	ug/m3	0.35 U	0.35 U
Styrene	ug/m3	0.86 U	0.86 U

Project ID: TH07PZ02 Project Desc: Oak Grove Village well - Closed Sullivan Landfill

Analysis/ Analyte	Units	5-__	6-__
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U	1.4 U
Tetrachloroethene	ug/m3	0.34 U	0.34 U
Tetrahydrofuran	ug/m3	0.60 U	0.60 U
Toluene	ug/m3	0.76 U	0.76 U
1,2,4-Trichlorobenzene	ug/m3	1.5 UJ	1.5 UJ
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.1 U	1.1 U
Trichloroethene	ug/m3	25	6.1
Trichlorofluoromethane	ug/m3	2.8	1.7
1,1,2-Trichlorotrifluoroethane	ug/m3	1.5 U	1.5 U
1,2,4-Trimethylbenzene	ug/m3	0.99 U	0.99 U
1,3,5-Trimethylbenzene	ug/m3	0.99 U	0.99 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.72 U	1.0
Vinyl Bromide	ug/m3	0.88 U	0.88 U
Vinyl Chloride	ug/m3	0.13 U	0.13 U
m and/or p-Xylene	ug/m3	1.8 U	1.8 U
o-Xylene	ug/m3	0.88 U	0.88 U

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 10/26/2018

Subject: Transmittal of Sample Analysis Results for ASR #: 7976

Project ID: TH07PZ02

Project Description: Oak Grove Village well - Closed Sullivan Landfill

From: Margaret E.W. St. Germain, Chief
FOR Laboratory Technology & Analysis Branch
Environmental Sciences & Technology Division

ROBERT NICHOLS Digitally signed by ROBERT NICHOLS Date: 2018.10.26 09:51:32 -05'00'

To: Tonya Howell
SUPR/REMB/FFPC

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please ensure that you file this electronic (.pdf only) transmittal in your records management system. The Regional Laboratory will now retain all of the original hardcopy documentation (e.g. COC[s] and the R7LIMS field sheet[s], etc.) according to our ENST records management system.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey. It is critical that we receive your response in accordance to RCRA and the laboratory accreditation.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

Project Manager: Tonya Howell **Org:** SUPR/REMB/FFPC **Phone:** 913-551-7589

Project ID: TH07PZ02

Project Desc: Oak Grove Village well - Closed Sullivan Landfill

Location: Sullivan **State:** Missouri **Program:** Superfund

Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

GPRA PRC: 000DD2

Purpose: Site Characterization

To determine if VOCs concentrations in cave air are increasing or decreasing in relation to levels of health concern.

PM (TH) noted on the submitted ASR sent via email on 7/27/2018 that this ASR is not part of a litigation hold activity at this time.
Above GPRA/site code (+OU) check OK per JN on 7/27/2018.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

ug/m3 = Micrograms per Cubic Meter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank) = Values have been reviewed and found acceptable for use.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 7976 **Sample Information Summary** **10/26/2018**

Project ID: TH07PZ02 **Project Desc:** Oak Grove Village well - Closed Sullivan Landfill

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Air	Jungle Room, Meramec Caverns		10/15/2018	08:10	10/15/2018	15:26	10/17/2018
2 -	__	Air	Loot Rock, Meramec Caverns		10/15/2018	08:15	10/15/2018	15:59	10/17/2018
3 -	__	Air	Ballroom, Meramec Caverns		10/15/2018	07:59	10/15/2018	15:56	10/17/2018
4 -	__	Air	Gift shop, Meramec Caverns		10/15/2018	08:00	10/15/2018	16:12	10/17/2018
5 -	__	Air	PAM, Meramec Caverns		10/15/2018	08:30	10/15/2018	16:09	10/17/2018

Analysis	Comments About Results For This Analysis

1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Lab: Region 7 EPA Laboratory - Kansas City, Ks.

Method: EPA Region 7 RLAB Method 3230.4H

Samples: 1-__ 2-__ 3-__ 4-__ 5-__

Comments:

1,3-Butadiene (67.81%, limit is 70%) and Benzyl Chloride (61.41%, limit is 70%) were UJ-coded in samples 1-5. These analytes were not found in the samples at or above their respective reporting limits, however, the reporting limits are estimated (UJ-coded) due to the second source calibration verification not meeting accuracy specifications. The actual reporting limit for these analytes may be higher than the reported values.

Analysis / Analyte	Units	1-__	2-__	3-__	4-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS					
Acetone	ug/m3	0.96 U	1.5	2.1	13
Allyl Chloride	ug/m3	0.32 U	0.32 U	0.32 U	0.32 U
Benzene	ug/m3	0.16 U	0.19	0.16 U	0.44
Benzyl Chloride	ug/m3	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ
Bromodichloromethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
Bromoform	ug/m3	2.1 U	2.1 U	2.1 U	2.1 U
Bromomethane	ug/m3	0.78 U	0.78 U	0.78 U	0.78 U
1,3-Butadiene	ug/m3	0.45 UJ	0.45 UJ	0.45 UJ	0.45 UJ
2-Butanone	ug/m3	1.9 U	1.9 U	1.9 U	1.9 U
Carbon Disulfide	ug/m3	0.63 U	0.63 U	0.63 U	0.63 U
Carbon Tetrachloride	ug/m3	0.51	0.48	0.58	0.51
Chlorobenzene	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
Chloroethane	ug/m3	0.53 U	0.53 U	0.80	0.53 U
Chloroform	ug/m3	0.23	0.23	5.5	2.2
Chloromethane	ug/m3	0.42 U	0.42 U	4.0	0.98
Cyclohexane	ug/m3	0.70 U	0.70 U	0.70 U	0.70 U
Dibromochloromethane	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
1,2-Dibromoethane	ug/m3	1.6 U	1.6 U	1.6 U	1.6 U
1,2-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,3-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
Dichlorodifluoromethane	ug/m3	2.3	2.3	2.1	2.2
1,1-Dichloroethane	ug/m3	0.82 U	0.82 U	0.82 U	0.82 U
1,2-Dichloroethane	ug/m3	0.10 U	0.10 U	0.28	0.16
1,1-Dichloroethene	ug/m3	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,2-Dichloroethene	ug/m3	0.26	0.24	0.20 U	0.20 U
trans-1,2-Dichloroethene	ug/m3	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	ug/m3	0.93 U	0.93 U	0.93 U	0.93 U
cis-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U
trans-1,3-Dichloropropene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
1,4-Dioxane	ug/m3	0.73 U	0.73 U	0.73 U	0.73 U
Ethyl Acetate	ug/m3	1.1 U	1.1 U	1.1	1.1 U
Ethyl Benzene	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U
4-Ethyltoluene	ug/m3	4.0 U	4.0 U	4.0 U	4.0 U
Heptane	ug/m3	0.83 U	0.83 U	0.83 U	0.83 U
Hexachlorobutadiene	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U
Hexane	ug/m3	0.71 U	0.71 U	0.71 U	0.71 U
2-Hexanone	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
Methyl tert-butyl ether	ug/m3	0.73 U	0.73 U	0.73 U	0.73 U
Methylene Chloride	ug/m3	0.70 U	0.70 U	0.70 U	0.70 U
4-Methyl-2-Pentanone	ug/m3	1.7 U	1.7 U	1.7 U	1.7 U
2-Propanol	ug/m3	0.50 U	0.50 U	0.50 U	1.6
Propene	ug/m3	0.42	0.60	5.8	1.8
Styrene	ug/m3	0.86 U	0.86 U	0.86 U	0.86 U

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U	1.4 U	1.4 U	1.4 U
Tetrachloroethene	ug/m3	0.34 U	0.34 U	0.36	0.34 U
Tetrahydrofuran	ug/m3	0.60 U	0.60 U	0.60 U	0.60 U
Toluene	ug/m3	0.76 U	0.76 U	0.76 U	1.6
1,2,4-Trichlorobenzene	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,1,1-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
1,1,2-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Trichloroethene	ug/m3	24	21	0.27 U	0.27 U
Trichlorofluoromethane	ug/m3	1.8	2.5	2.0	1.6
1,1,2-Trichlorotrifluoroethane	ug/m3	1.5 U	1.5 U	1.5 U	1.5 U
1,2,4-Trimethylbenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
1,3,5-Trimethylbenzene	ug/m3	0.99 U	0.99 U	0.99 U	0.99 U
2,2,4-Trimethylpentane	ug/m3	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Acetate	ug/m3	0.72 U	0.72 U	0.72 U	0.72 U
Vinyl Bromide	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U
Vinyl Chloride	ug/m3	0.13 U	0.13 U	0.13 U	0.13 U
m and/or p-Xylene	ug/m3	1.8 U	1.8 U	1.8 U	1.8 U
o-Xylene	ug/m3	0.88 U	0.88 U	0.88 U	0.88 U

Analysis / Analyte	Units	5-__
1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS		
Acetone	ug/m3	4.4
Allyl Chloride	ug/m3	0.32 U
Benzene	ug/m3	0.16 U
Benzyl Chloride	ug/m3	4.2 UJ
Bromodichloromethane	ug/m3	1.4 U
Bromoform	ug/m3	2.1 U
Bromomethane	ug/m3	0.78 U
1,3-Butadiene	ug/m3	0.45 UJ
2-Butanone	ug/m3	1.9 U
Carbon Disulfide	ug/m3	0.63 U
Carbon Tetrachloride	ug/m3	0.50
Chlorobenzene	ug/m3	0.93 U
Chloroethane	ug/m3	0.53 U
Chloroform	ug/m3	2.8
Chloromethane	ug/m3	0.42 U
Cyclohexane	ug/m3	0.70 U
Dibromochloromethane	ug/m3	1.7 U
1,2-Dibromoethane	ug/m3	1.6 U
1,2-Dichlorobenzene	ug/m3	1.2 U
1,3-Dichlorobenzene	ug/m3	1.2 U
1,4-Dichlorobenzene	ug/m3	1.2 U
Dichlorodifluoromethane	ug/m3	2.1
1,1-Dichloroethane	ug/m3	0.82 U
1,2-Dichloroethane	ug/m3	0.17
1,1-Dichloroethene	ug/m3	0.20 U
cis-1,2-Dichloroethene	ug/m3	0.20 U
trans-1,2-Dichloroethene	ug/m3	0.20 U
1,2-Dichloropropane	ug/m3	0.93 U
cis-1,3-Dichloropropene	ug/m3	0.46 U
trans-1,3-Dichloropropene	ug/m3	0.46 U
1,2-Dichlorotetrafluoroethane	ug/m3	1.4 U
1,4-Dioxane	ug/m3	0.73 U
Ethyl Acetate	ug/m3	1.1 U
Ethyl Benzene	ug/m3	0.88 U
4-Ethyltoluene	ug/m3	4.0 U
Heptane	ug/m3	0.83 U
Hexachlorobutadiene	ug/m3	2.2 U
Hexane	ug/m3	0.71 U
2-Hexanone	ug/m3	1.7 U
Methyl tert-butyl ether	ug/m3	0.73 U
Methylene Chloride	ug/m3	0.70 U
4-Methyl-2-Pentanone	ug/m3	1.7 U
2-Propanol	ug/m3	0.50 U
Propene	ug/m3	2.9
Styrene	ug/m3	0.86 U

Analysis/ Analyte	Units	5-__
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U
Tetrachloroethene	ug/m3	0.34 U
Tetrahydrofuran	ug/m3	0.60 U
Toluene	ug/m3	0.76 U
1,2,4-Trichlorobenzene	ug/m3	1.5 U
1,1,1-Trichloroethane	ug/m3	1.1 U
1,1,2-Trichloroethane	ug/m3	1.1 U
Trichloroethene	ug/m3	5.3
Trichlorofluoromethane	ug/m3	2.1
1,1,2-Trichlorotrifluoroethane	ug/m3	1.5 U
1,2,4-Trimethylbenzene	ug/m3	0.99 U
1,3,5-Trimethylbenzene	ug/m3	0.99 U
2,2,4-Trimethylpentane	ug/m3	1.0 U
Vinyl Acetate	ug/m3	0.72 U
Vinyl Bromide	ug/m3	0.88 U
Vinyl Chloride	ug/m3	0.13 U
m and/or p-Xylene	ug/m3	1.8 U
o-Xylene	ug/m3	0.88 U

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

EPA PROJECT MANAGER (Print)	SITE OR SAMPLING EVENT	DATE OF SAMPLE COLLECTION(S)	SHEET
Tonya Howell	Meramec Caverns	10 (MONTH) 15 (DAY) 2018 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

ASR AND SAMPLE NUMBER	TYPE OF CONTAINERS: 1 L PLASTIC BOTTLE	BOTTLE	BOTTLE	5L Somm ~~BOTTLE~~	VOA SET (3 VIALS EA)	SAMPLED MEDIA: WATER	SOLID	HAZ WASTE	AIR	OTHER	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBER(S) OF CONTAINERS PER SAMPLE NUMBER										
7976-1				1					X		
-2				1					X		
-3				1					X		
-4				1					X		
-5				1					X		

Complete [illegible] USCS

Air canisters No Temp. Needed

DESCRIPTION OF SHIPMENT

5 CONTAINER(S) CONSISTING OF 1 CRATE(S)

0 ICE CHEST(S): OTHER _____

MODE OF SHIPMENT 10/17/18

✓ COMMERCIAL CARRIER Fed-X

_____ SAMPLER CONVEYED _____ (SHIPPING AIRBILL NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (PM/SAMPLER)	DATE	TIME	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
[signature] SEALED UNSEALED	10-16-18	1630	had delivered to Rolla SEALED Fed-X UNSEALED	10-16-18	1635	transport
SEALED UNSEALED			[signature] SEALED UNSEALED	10/17/18	1000A	Anal
SEALED UNSEALED			SEALED UNSEALED			
SEALED UNSEALED			SEALED UNSEALED			

7-EPA-9262 (REV 4/17) WHITE ORIGINAL - EPA LAB • YELLOW - EPA PROJECT MANAGER

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7976 **Sample Number:** 1 **QC Code:** __ **Matrix:** Air **Tag ID:** 7976-1-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: Jungle Room, Meramec Caverns

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 10/15/18 08:10

Longitude: ___ ___ ___ **End:** 10/15/18 15:26

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Sample Comments:
(N/A)
initial dial: ~~-27.0~~ 0.0
deploy vac: -27.0 @ 0810
recov. vac: -2.8

Can # 4556
regulator: A01060062-2

on rock just past end tour route

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7976 **Sample Number:** 2 **QC Code:** __ **Matrix:** Air **Tag ID:** 7976-2-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: Loot Rock, Meramec Caverns

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	10/15/18	08:15
Longitude: ___ ___ ___	**End:**	10/15/18	~~15:56~~ 15:59 ~~15:56~~

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Sample Comments:

(N/A)

Can# R2223
regulator: 7342963

initl dial: 0.0
deplay vac: -31.0
rec vac: -4.5

on rock ledge ~15' upstream from Falls & ~4' beyond railing

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7976 **Sample Number:** 3 **QC Code:** __ **Matrix:** Air **Tag ID:** 7976-3-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: Ballroom, Meramec Caverns

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 10/15/18 07:59
Longitude: ___ ___ ___ **End:** 10/15/18 15:56

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Sample Comments:
(N/A)
initial dial: 0.0
deploy vac: -28.5
rec vac: -5.0

Can # RØ491
regulator: ~~7267025~~ 7267075

on back (right) on new stage platform ~ same as old location
ANCADIS can is on chair about 35 to right. next to evap. pan

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7976 **Sample Number:** 4 **QC Code:** __ **Matrix:** Air **Tag ID:** 7976-4-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: Gift Shop, meramec Caverns

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	10/15/18	08:00
Longitude: ___ ___ ___	**End:**	10/15/18	10:12

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can # 3245

regulator: A02836396

initial dial: 0.0
deploy vac: -30.0
rec vac: -3.2

on cabinet inside gift area ~ below air vent in ceiling. traditional location on north gift area. ARCADIS has 2 cans here.

Sample Collected By: USGS

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 7976 **Sample Number:** 5 **QC Code:** __ **Matrix:** Air **Tag ID:** 7976-5-__

Project ID: TH07PZ02 **Project Manager:** Tonya Howell
Project Desc: Oak Grove Village well - Closed Sullivan Landfill
City: Sullivan **State:** Missouri
Program: Superfund
Site Name: OAK GROVE VILLAGE WELL - CLOSED SULLIVAN LANDFILL **Site ID:** 07PZ **Site OU:** 02

Location Desc: PAM, Meramec Caverns

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)

		Date	Time(24 hr)
Latitude: ___ ___ ___	**Sample Collection: Start:**	10/15/08	08:30
Longitude: ___ ___ ___	**End:**	10/15/18	16:09

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 6 Liter Canister	None	60 Days	1 VOCs in Air Samples in Canisters at Ambient Levels by GC/MS

Sample Comments:
(N/A)

Can: 4552
regulator: A01060 63-4

initial dial: 0.0
deplog vac: -30.5
rev vac: -4.5

USGS red backpack
started 0830 on
table near ~~ice cream~~ counter / lunch counter
register. ARCADIS can set
here but started ~0800 (before) guide arrived. moved into ticket
booth area (Dustin) arrived ~0840. ARCADIS
moved their can to booth @ 0840.

Sample Collected By: USGS

Can was moved out to gift shop at end of day
for 30 minutes after sitting at ticket booth during day

APPENDIX L

SELECT TABLES AND FIGURES FROM THE FORMER TRW/RAMSEY FACILITY INVESTIGATIONS

Figure 1	Well Location Map
Figure 2-1	SWMU's and Areas of Concern
Figure 3-1	Approximate Soil Boring Location Map (1983-1983)
Figure 3-2	Approximate Composite Soil Sample Location Map /1985-1986)
Figure 3-3	Soil Boring Location Map (1991-1993)
Figure 3-4	Monitoring Well Location Map
Figure 3-5	Surface Water/Sediment Sample Location Map
Table 3-1	Monitoring Well Specifications and Elevation Data
Table 5-4	Summary of Soil Boring Analyses, Volatile Organics
Table 5-5	Summary of Soil Boring Analyses, Inorganics and Volatile Organics
Table 5-6	Summary of Soil Boring Analyses, Deep Soil Boring, Trichloroethene
Table 8	Results of Phase I Boring Sample Analysis - VOC
Table 5	Summary of 150 Feet Zone Groundwater Monitoring Analytical Results *(Provided on CD)*
Table 6	Summary of 325 Feet Zone Groundwater Monitoring Analytical Results *(Provided on CD)*
Table 7	Summary of 550 Feet Zone Groundwater Monitoring Analytical Results *(Provided on CD)*
Table 8	Summary of Municipal Well Water Groundwater Analytical Results *(Provided on CD)*
Table 9	Summary of Private Groundwater Well Analytical Results *(Provided on CD)*

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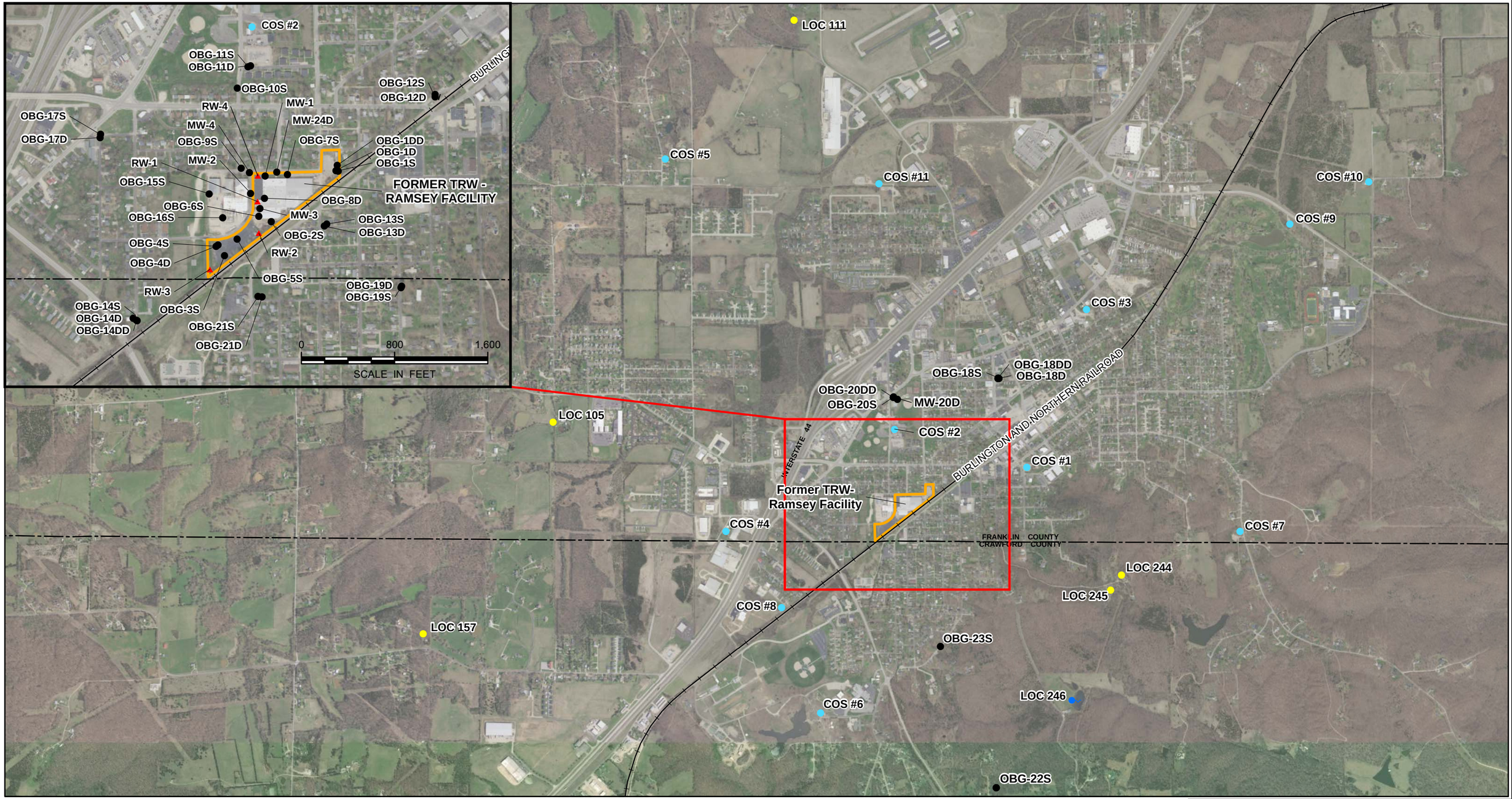


PROJECTION: NAD 1983 StatePlane Missouri East FIPS 2401 Feet
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Spring
- Monitoring Well
- Municipal Water Supply Well
- Private Water Supply Well
- Recovery Well
- Railroad
- Site Boundary. Area Subject to Restriction
- County Boundary

0 1,800 3,600
SCALE IN FEET
1 INCH = 1,800 FEET

FORMER TRW RAMSEY FACILITY
SULLIVAN, MISSOURI

FIRST QUARTER 2019
GROUNDWATER MONITORING REPORT

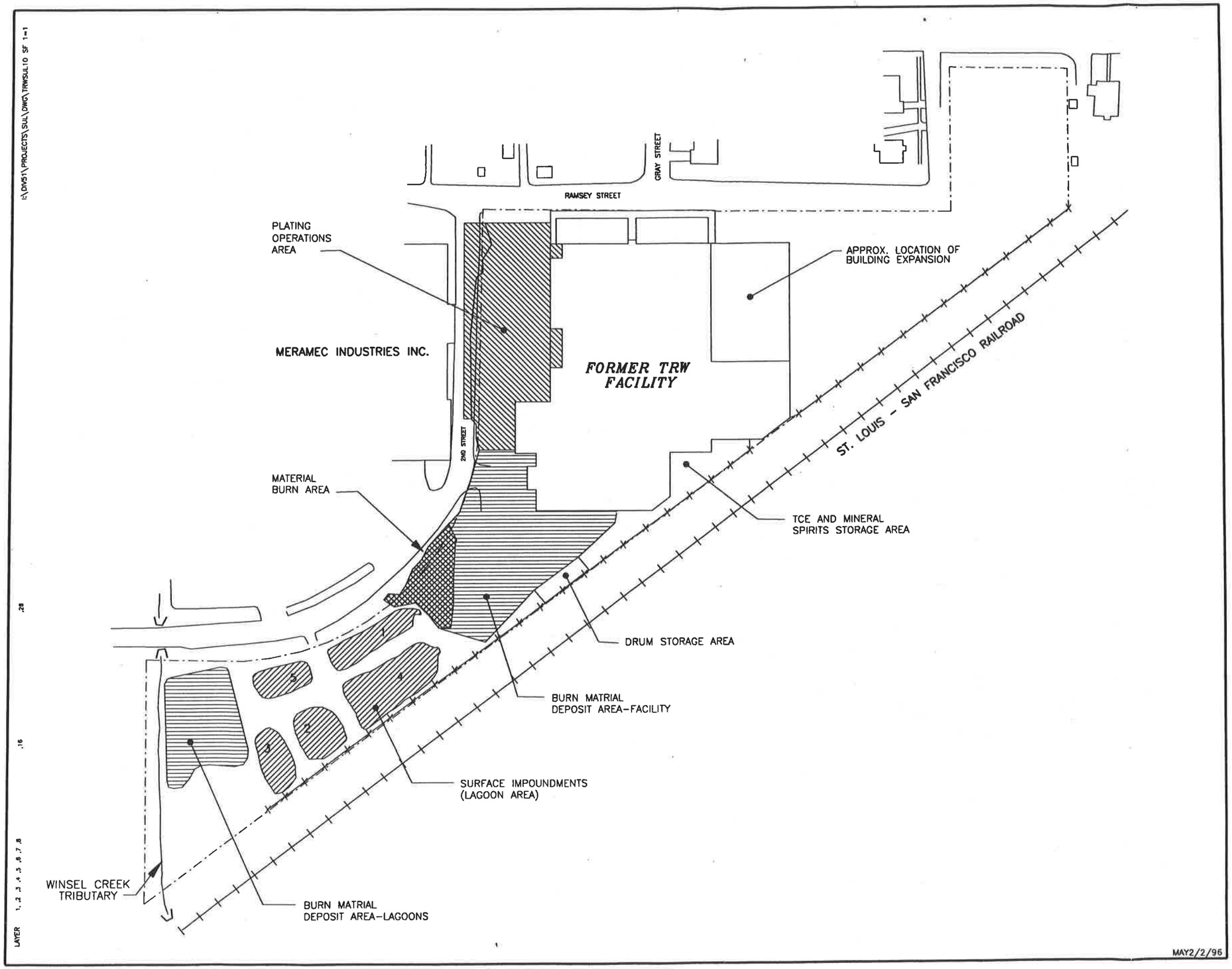
Well Location Map

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) PIC: (J. BARRETT) PM: (J. SHONFELT) APM: (M.JOHNSTON) TM: (M. JOHNSTON) LD: (B. ALTOM)
PROJECT: KC001689.0001 PATH: Z:\GISPROJECTS_ENV\TRW\MO_SULLIVAN\MAPDOCS\791\2019\1Q2019.GMR\P1 IN791 2019 WELL LOCATION MAP.MXD DATE SAVED: 5/20/2019 BY: ACARLONE

FIGURE 2-1



LEGEND

RAILROAD

FENCE

PROPERTY LINE

NOTE: IDENTIFIED AREAS ARE SWMU'S UNLESS OTHERWISE NOTED

FORMER TRW FACILI
SULLIVAN, MISSOUR

SWMU'S AND AREAS OF CONCE (AOC)

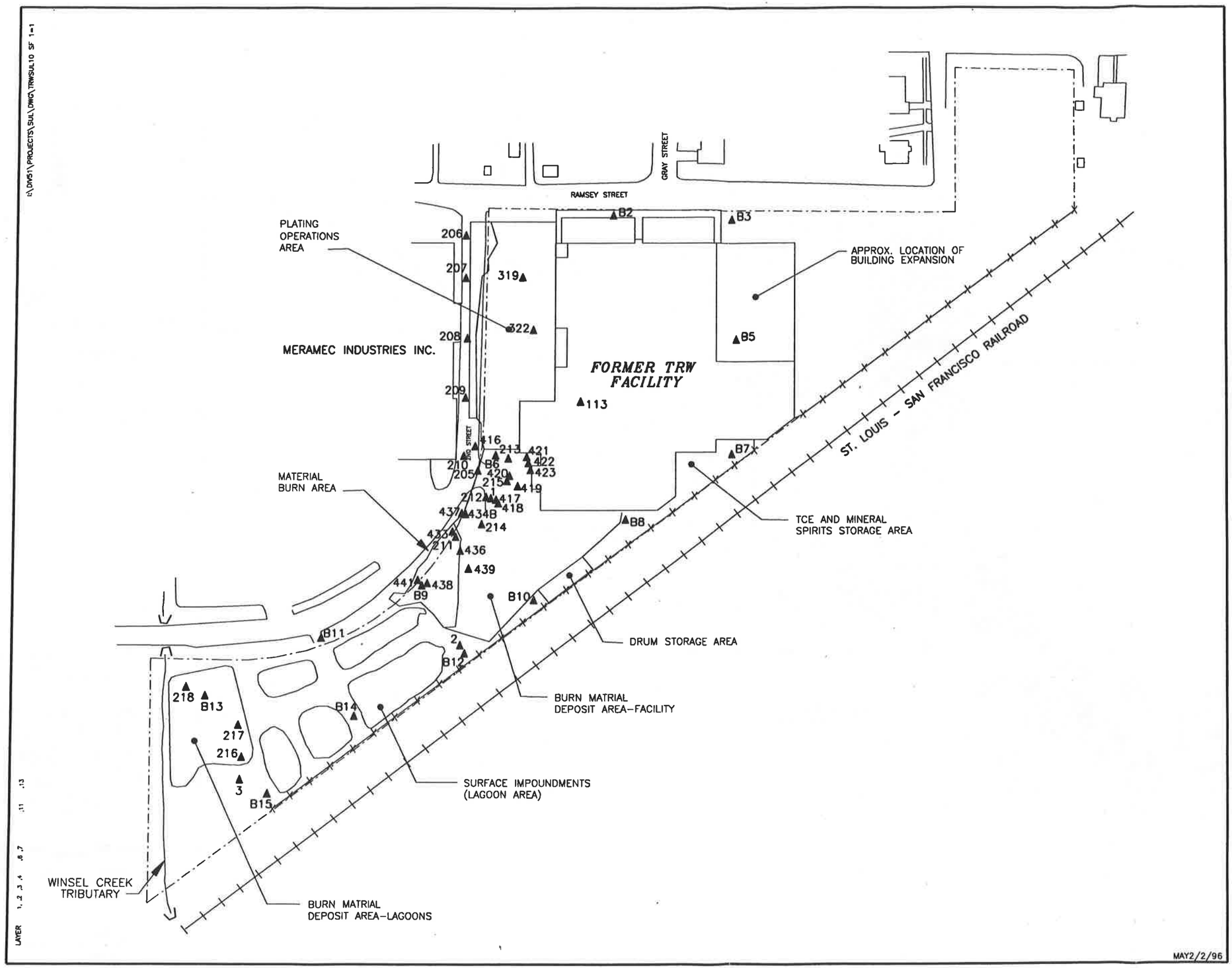
120 0 1

APPROXIMATE SCALE IN FEET

2795.292-02F

O'BRIEN & GERE

FIGURE 3-1



LEGEND

- RAILROAD
- FENCE
- PROPERTY LINE

FORMER TRW FACILITY
SULLIVAN, MISSOURI

APPROXIMATE SOIL BORING LOCATION MAP (1983-1986)

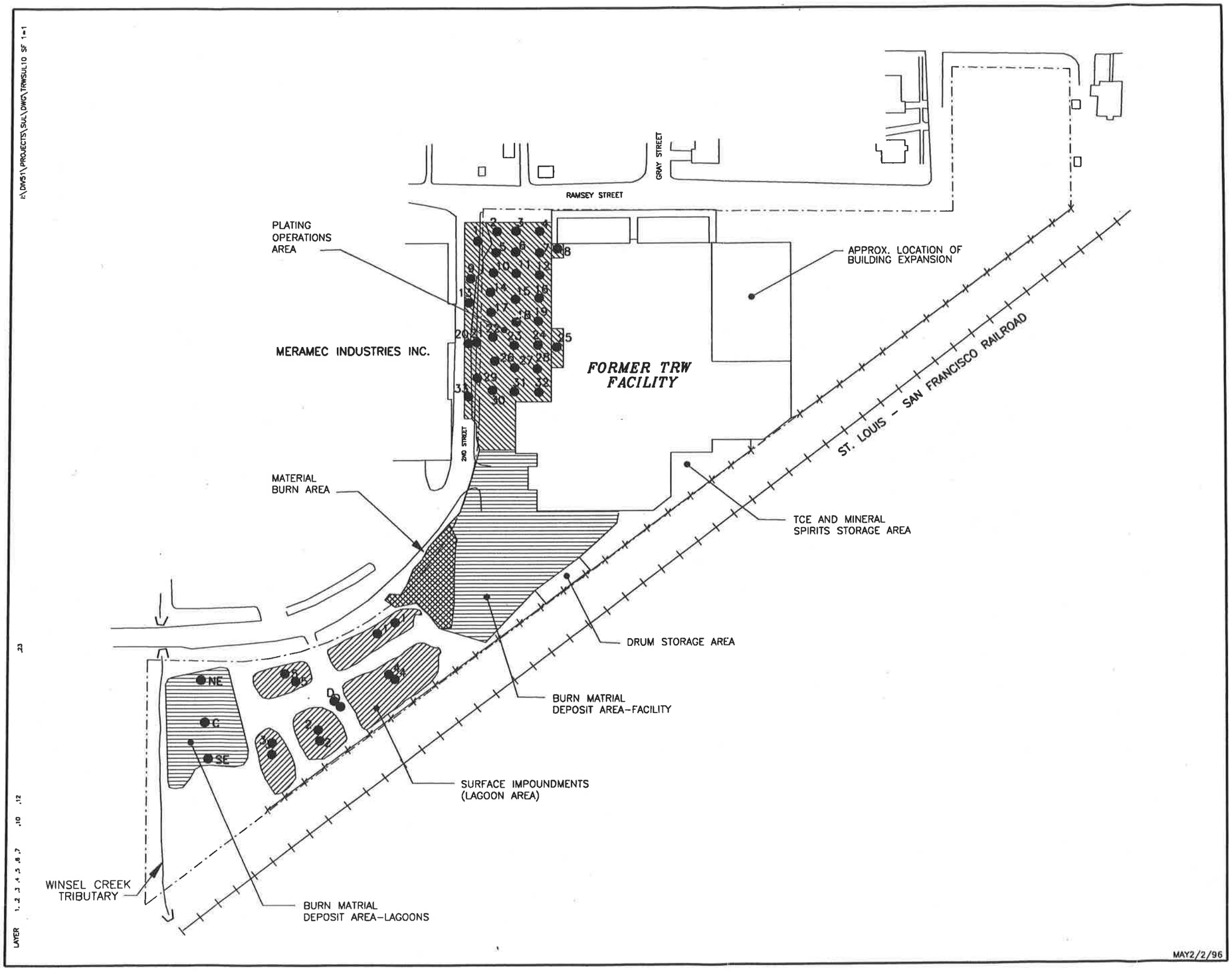
120 0 120

APPROXIMATE SCALE IN FEET

2795.292-03F

O'BRIEN & GERE

FIGURE 3-2



LEGEND

- RAILROAD
- FENCE
- PROPERTY LINE
- SOIL SAMPLE

FORMER TRW FACILIT
SULLIVAN, MISSOUR

APPROXIMATE COMPOSITE SOIL SAMPLE LOCATION MAP (1985-1986)

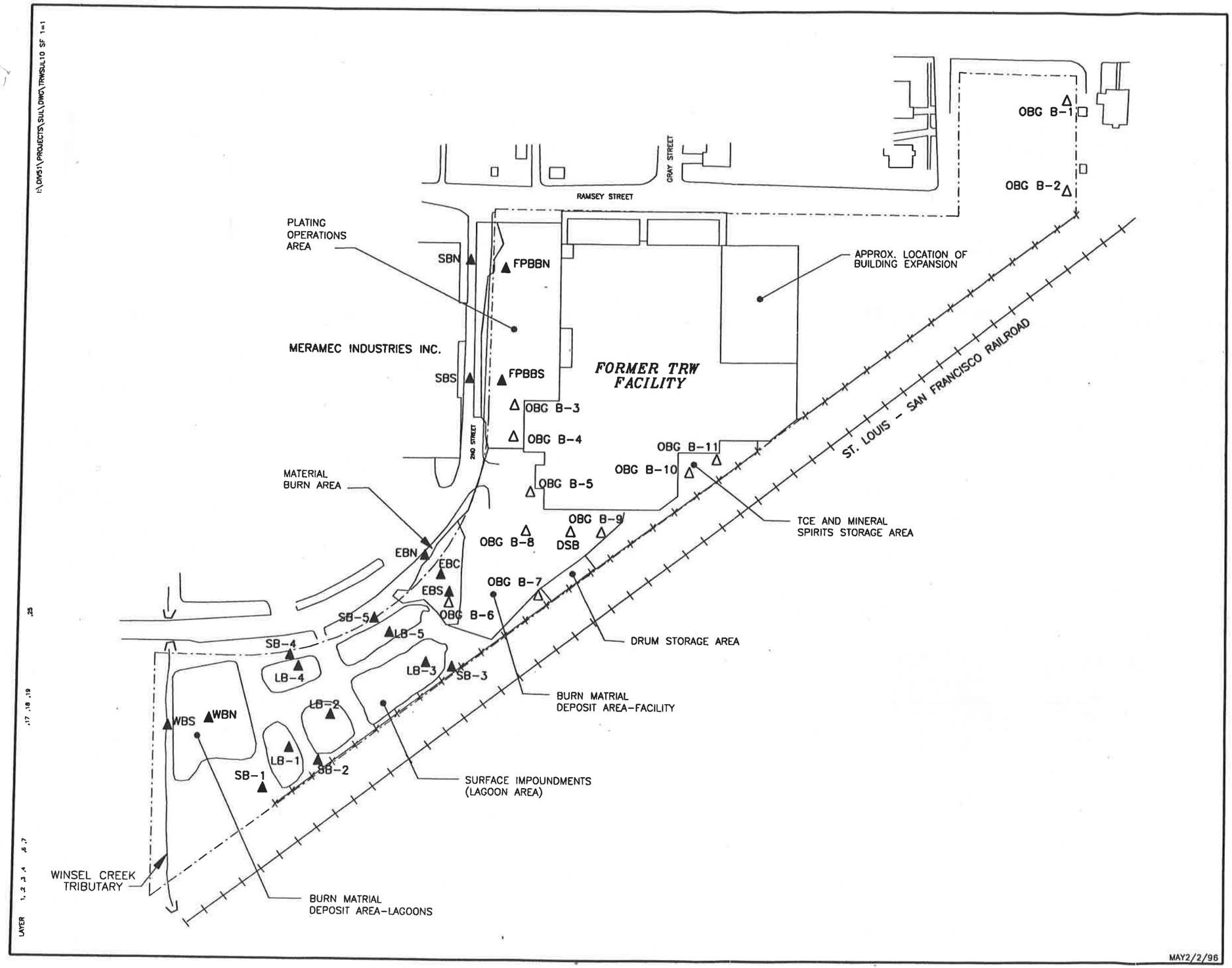
120 0 12

APPROXIMATE SCALE IN FEET

2795.292- 04F

O'BRIEN & GERE

FIGURE 3-3



LEGEND

- RAILROAD
- FENCE
- PROPERTY LINE
- OBG B-6 — SOIL BORING COMPLETED IN 1991
- EBN — SOIL BORING COMPLETED IN 1993
- DSB — DEEP SOIL BORING

FORMER TRW FACILITY
SULLIVAN, MISSOURI

SOIL BORING LOCATION MAP (1991-1993)

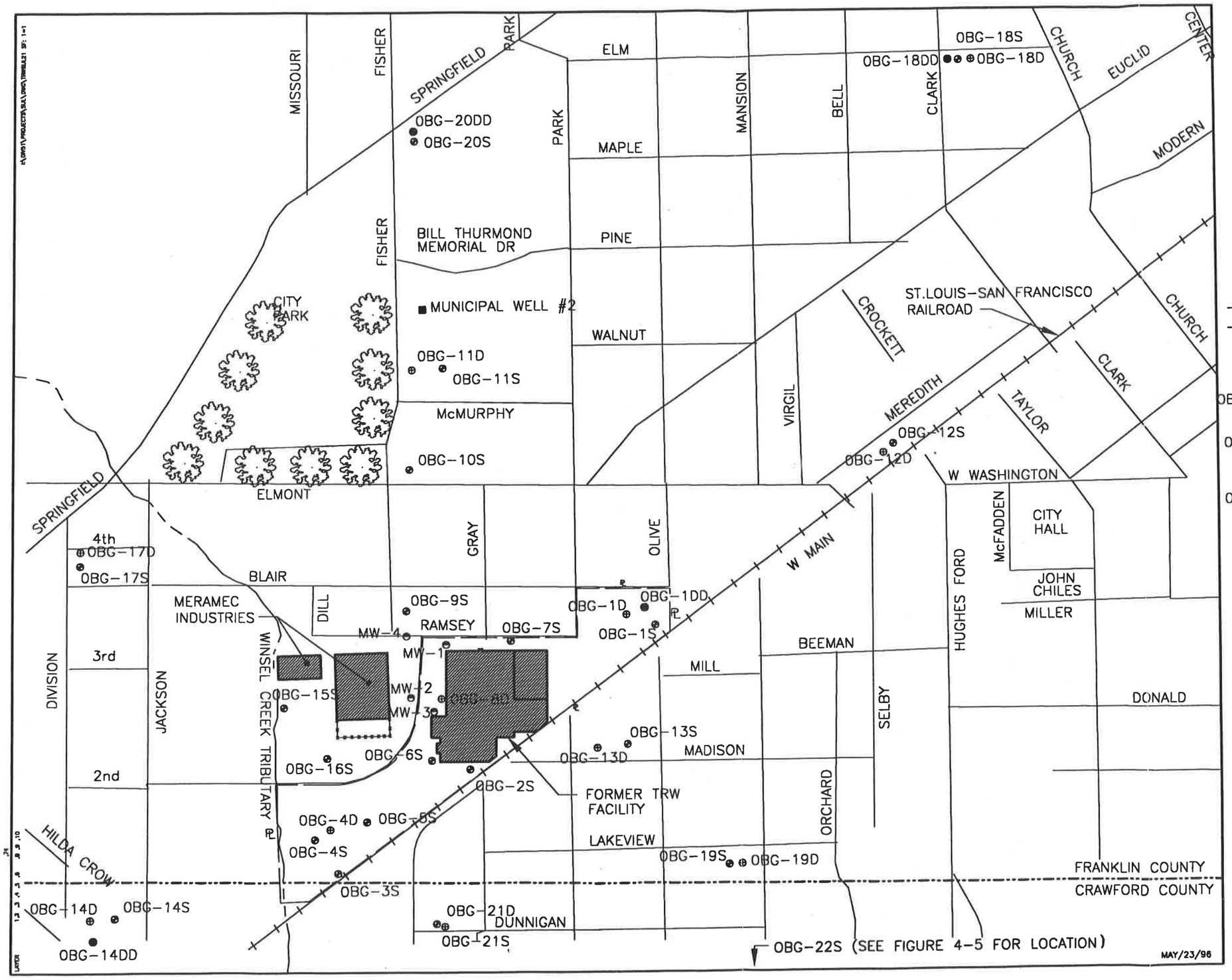
120 0 120

APPROXIMATE SCALE IN FEET

2795.292-05F

O'BRIEN & GERE

FIGURE 3-4



LEGEND

- RAILROAD
- FENCE
- PROPERTY LINE
- ● DEEP MONITORING WELL (APPROX. 550' BELOW GR — OBG-14DD
- ⊕ INTERMEDIATE DEPTH MONITORING WELL (APPROX. 325' BELOW GR — OBG-14D
- ⊕ SHALLOW MONITORING WEL (APPROX. 150' BELOW GR — OBG-11S
- ● SHALLOW MONITORING WEL (APPROX. 150' BELOW GR INSTALLED BY MOORE & ASSOCIATES) — MW-3

FORMER TRW FACILIT
SULLIVAN, MISSOURI

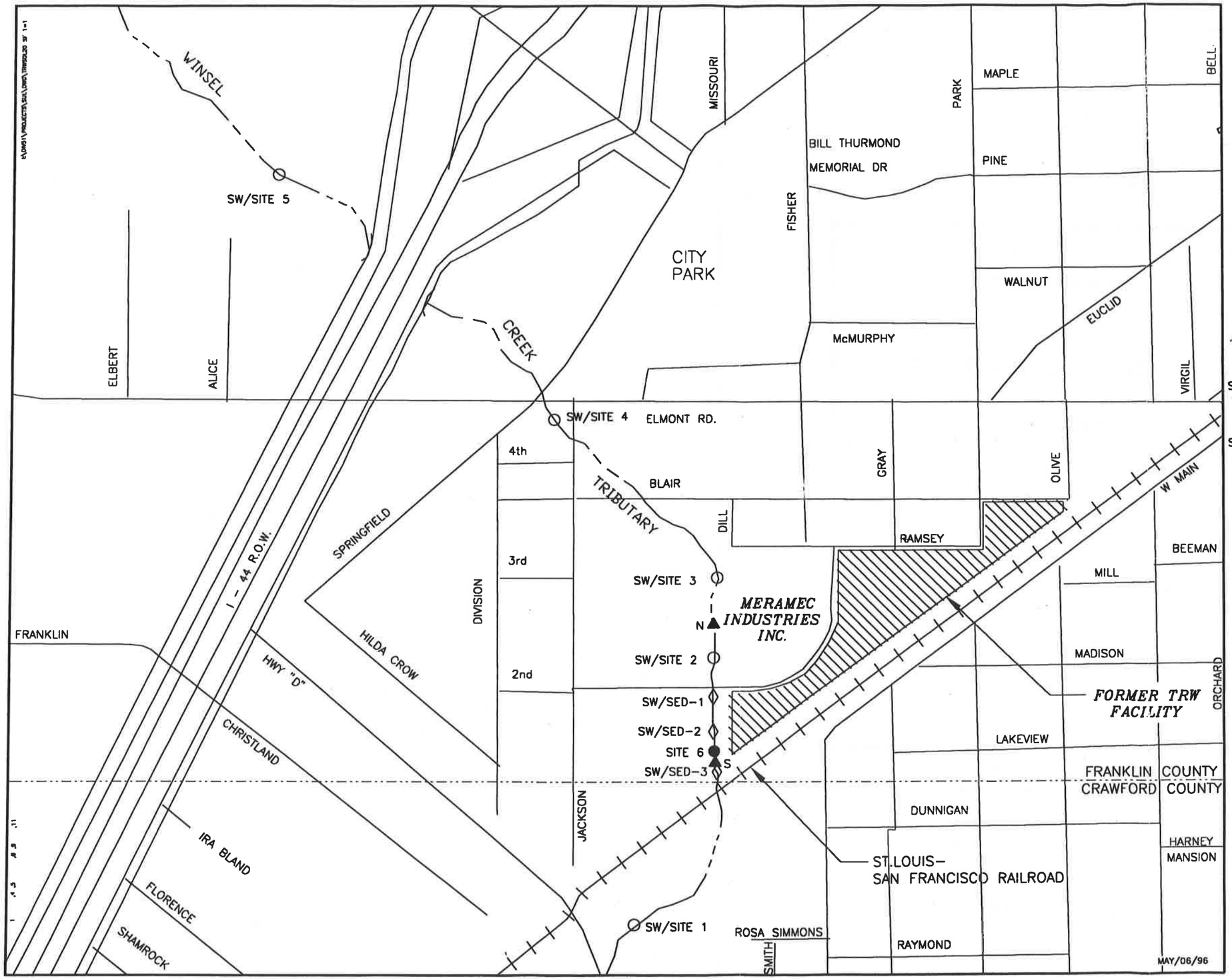
MONITORING WEL
LOCATION MAP

300 0 30
APPROX. SCALE IN FEET

FILE NO. 2795.292-06F

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 3-5



LEGEND

- RAILROAD
- SW/SITE 2 — SURFACE WATER/SEDIMENT SAMPLE LOCATION (JUNE 1993)
- SW/SED-2 — SURFACE WATER/SEDIMENT SAMPLE LOCATION (MARCH 1992)
- SITE 6 — SEDIMENT SAMPLE LOCATION (AUGUST 1993)
- SOIL BORING LOCATION

FORMER TRW FACILITY
SULLIVAN, MISSOURI

SURFACE WATER/ SEDIMENT SAMPLE LOCATION MAP

300 0 300

APPROX. SCALE IN FEET

2795.292-07F

O'BRIEN & GERE

TABLE 3-1

FORMER TRW FACILITY
SULLIVAN, MISSOURI

MONITORING WELL SPECIFICATION AND ELEVATION DATA

WELL NO.	WELL COMPLETION DATE	WELL DIAMETER	GROUND ELEVATION (ft)	TOP OF WELL ELEVATION (ft)	WELL DEPTH(6) (ft)	SCREENED INTERVAL	K - VALUE (2)	
OBG-1S	12/91	2"	949.80	949.64	140.10	809.54 - 829.54	2.1E-02	**
OBG-1D	9/92	2"	949.76	949.43	325.19	624.24 - 644.24	2.8E+01	(5)
OBG-1DD	6/93	4"	950.18	949.83	541.43	408.40 - 428.40	1.4E+01	(5)
OBG-2S	2/92	2"	954.40	954.25	140.31	813.94 - 833.94	4.5E-01	(4)
OBG-3S	1/92	2"	941.30	940.86	132.29	808.57 - 828.57	NA	
OBG-4S	1/92	2"	939.40	939.14	136.83	800.31 - 820.31	5.6E-04	**
OBG-4D	8/92	2"	940.01	939.67	324.00	615.67 - 635.67	2.9E+01	(5)
OBG-5S	12/91	2"	942.40	942.15	139.79	802.36 - 822.36	NA	
OBG-6S	2/92	2"	950.50	950.38	140.97	809.41 - 829.41	9.4E-03	**
OBG-7S	2/92	2"	952.40	952.31	140.63	811.68 - 831.68	3.3E-03	**
OBG-8D	1/92	2"	952.60	952.40	322.58	629.82 - 649.82	2.8E+01	(5)
OBG-9S	11/92	2"	944.05	943.87	139.24	804.63 - 824.63	NA	
OBG-10S	10/92	2"	942.99	942.77	148.00	794.77 - 814.77	2.2E+01	(4)
OBG-11S	9/92	2"	948.18	947.88	147.13	800.75 - 820.75	1.0E+01	(4)
OBG-11D	10/92	2"	947.87	947.58	315.92	631.66 - 651.66	2.5E+01	(5)
OBG-12S	8/92	2"	970.55	970.26	124.95	845.31 ** 865.31	NA	
OBG-12D	4/93	2"	970.58	970.06	321.75	648.31 - 668.31	3.9E+01	(5)
OBG-13S	12/92	2"	956.37	956.10	134.54	821.56 - 841.56	3.0E+01	(4)
OBG-13D	12/92	2"	956.25	955.98	321.21	634.77 - 654.77	2.4E+01	(5)
OBG-14S	9/92	2"	948.60	948.34	121.58	826.76 - 846.76	2.2E+00	(4)
OBG-14D	9/92	2"	948.30	948.16	323.20	624.96 - 644.96	4.8E+01	(5)
OBG-14DD	7/93	4"	948.56	948.33	546.37	401.96 - 421.96	1.3E+01	(5)
OBG-15S	8/92	2"	937.36	936.96	131.24	805.72 - 825.72	1.9E+00	(4)
OBG-16S	8/92	2"	940.37	940.06	139.33	800.73 - 820.73	NA	
OBG-17S	5/92	2"	949.51	949.15	118.35	830.80 - 850.80	6.1E+00	(4)
OBG-17D	5/93	2"	950.13	949.74	321.89	627.85 - 647.85	3.1E+01	(5)
OBG-18S	4/93	2"	971.93	971.60	134.29	837.31 - 857.31	NA	
OBG-18D	5/93	2"	971.98	971.61	321.55	650.06 - 670.06	2.1E+01	(5)
OBG-18DD	8/93	4"	972.06	971.88	549.76	422.12 - 442.12	8.1E+00	(5)
OBG-19S	3/93	2"	969.02	968.76	159.05	809.71 - 829.71	NA	
OBG-19D	3/93	2"	968.75	968.42	324.41	644.01 - 664.01	3.9E+01	(5)
OBG-20S	4/95	2"	962.51	962.15	152.49	809.66 - 829.66	NA	
OBG-20DD	4/95	4"	962.27	962.02	549.99	412.03 - 432.03	NA	
OBG-21S	6/95	2"	955.19	954.68	161.15	793.53 - 813.53	NA	
OBG-21D	6/95	2"	954.96	954.46	325.31	629.15 - 649.15	NA	
OBG-22S	12/95	2"	891.98	891.62	65.26	826.36 - 846.36	NA	
MW-1	1/90	2"	952.90	953.55	152.71	800.84 - 820.84	1.3E+00	(4)
MW-2	1/90	2"	947.50	947.02	146.35	800.67 - 820.67	NA	
MW-3	2/90	2"	952.50	952.06	151.80	800.26 - 820.26	7.8E+00	(4)
MW-4	3/90	2"	948.00	947.40	147.01	800.39 - 820.39	1.5E+01	(4)

NOTES: Depths to water: Elevations = Top of PVC - Depth to Water.
(1) - Data obtained from Moore & Associates.
(2) - K values in gpd/sq ft.
(3) - OBG-17S & OBG-17D elevations from 6/10/93.
(4) - Based on Slug Test (Rising and/or Falling Head Test).
(5) - Based on Aqifer Performance Drawdown Data (8/93).
(6) - Well depth measured with graduated steel tape in September 1994.
(*) - Well not installed.
(**) - Presented in 1991 Phase 1 Report.
(NA) - Not available.

TABLE 3-1

FORMER TRW FACILITY
SULLIVAN, MISSOURI

MONITORING WELL SPECIFICATION AND ELEVATION DATA

WELL NO.	Ground Water Elevation 5/10/93	8/25/93	12/93	3/2/94	5/16/94	9/14/94	12/2/94	3/9/95	6/6/95	9/13/95	12/7/95
OBG-1S	825.07	825.04	827.30	827.91	827.45	826.81	826.60	826.59	827.40	825.56	825.12
OBG-1D	800.49	796.31	795.97	794.36	790.94	790.62	795.43	795.68	797.94	788.66	789.27
OBG-1DD	NA	779.03	786.69	785.18	NA	779.98	786.39	786.97	791.34	778.61	779.37
OBG-2S	829.84	NA	832.06	832.58	832.69	831.24	830.85	830.84	831.14	829.96	828.38
OBG-3S	844.09	844.78	846.27	845.38	844.81	842.62	841.95	841.92	842.10	840.26	838.68
OBG-4S	851.47	853.10	854.54	853.68	853.53	850.98	849.73	849.62	851.11	848.80	846.60
OBG-4D	820.19	817.14	818.19	817.82	813.52	813.47	817.62	817.65	817.95	812.05	811.89
OBG-5S	833.74	NA	835.47	835.74	835.61	833.43	833.87	833.54	834.06	832.41	828.97
OBG-6S	830.49	NA	832.32	832.54	832.52	830.50	830.72	830.28	830.91	829.27	826.51
OBG-7S	824.77	NA	825.77	826.07	826.23	825.90	825.58	825.45	826.15	824.66	824.28
OBG-8D	801.04	795.74	NA	793.91	789.96	789.58	794.94	795.32	797.52	788.11	788.55
OBG-9S	821.48	NA	822.45	822.05	823.02	821.17	821.39	821.66	823.10	820.05	819.48
OBG-10S	816.16	816.63	818.56	818.62	820.23	817.68	817.59	818.37	819.63	816.89	815.71
OBG-11S	816.55	817.03	818.99	819.03	820.65	818.11	818.00	818.84	820.10	817.30	816.14
OBG-11D	799.05	797.22	800.40	794.30	791.00	791.06	795.44	794.34	797.89	789.46	789.30
OBG-12S	865.58	867.36	868.63	868.46	869.42	868.27	868.20	845.24	847.85	868.65	867.35
OBG-12D	792.32	792.33	791.23	787.02	788.78	785.15	789.59	790.34	796.09	784.88	787.39
OBG-13S	837.54	828.87	829.76	830.56	831.19	829.90	829.08	828.96	829.99	828.60	827.68
OBG-13D	806.79	804.09	806.37	802.96	801.08	800.21	803.86	803.65	806.37	798.50	799.10
OBG-14S	875.96	877.10	876.17	873.62	874.65	868.85	867.47	867.87	871.69	866.33	861.93
OBG-14D	827.78	825.40	827.06	827.12	820.06	821.79	826.14	824.21	824.74	820.26	819.08
OBG-14DD	NA	784.67	789.80	787.27	777.66	780.14	787.81	786.23	790.82	778.43	777.39
OBG-15S	852.33	NA	854.99	854.04	853.85	850.30	849.96	850.28	851.95	848.14	846.01
OBG-16S	853.52	NA	855.72	854.74	854.19	851.16	850.06	849.86	851.27	848.26	846.26
OBG-17S	864.53	860.67	862.69	861.68	867.71	859.84	861.02	861.45	867.84	856.75	854.60
OBG-17D	827.83	814.94	815.95	816.60	806.19	810.29	816.96	815.39	815.75	810.16	809.23
OBG-18S	872.37	873.22	875.37	876.18	877.10	876.58	876.00	875.62	877.82	876.46	876.06
OBG-18D	791.10	792.02	791.73	787.51	789.89	785.04	788.83	789.98	796.15	784.96	785.34
OBG-18DD	NA	772.78	779.86	773.28	775.38	769.96	776.56	777.47	788.85	770.47	769.64
OBG-19S	827.59	830.32	831.34	832.70	833.13	843.08	832.66	832.59	833.56	832.37	831.98
OBG-19D	799.81	809.11	810.47	807.57	807.35	806.23	808.71	808.82	811.39	804.56	805.54
OBG-20S	NA	NA	NA	NA	NA	NA	NA	824.37	825.41	817.69	817.25
OBG-20DD	NA	NA	NA	NA	NA	NA	NA	826.53	827.55	786.33	786.04
OBG-21S	NA	NA	NA	NA	NA	NA	NA	828.31	829.19	830.50	829.44
OBG-21D	NA	NA	NA	NA	NA	NA	NA	823.85	825.28	798.72	799.63
OBG-22S	NA	NA	NA	NA	NA	NA	NA	—	—	—	851.02
MW-1	824.34	NA	825.39	825.17	825.49	833.12	824.49	824.37	825.41	823.25	821.82
MW-2	826.50	NA	827.52	827.55	827.62	841.56	826.69	826.53	827.55	825.45	820.13
MW-3	828.62	NA	830.10	830.13	830.14	826.39	828.55	828.31	829.19	827.42	820.92
MW-4	823.99	NA	825.09	824.67	825.29	830.76	823.86	823.85	825.28	822.51	820.33

NOTES: Depths to water: Elevations = Top of PVC - Depth to Water.
(1) - Data obtained from Moore & Associates.
(2) - K values in gpd/sq ft.
(3) - OBG-17S & OBG-17D elevations from 6/10/93.
(4) - Based on Slug Test (Rising and/or Falling Head Test).
(5) - Based on Aqifer Performance Drawdown Data (8/93).
(6) - Well depth measured with graduated steel tape in September 1994.
(*) - Well not installed.
(**) - Presented in 1991 Phase 1 Report.
(NA) - Not available.

Table 5-4

Former TRW Facility
Sullivan, Missouri

(5/93 - 6/93)

Summary of Soil Boring Analyses
Volatile Organics

Soil Boring No.	Depth	Trichloroethene
LB-1	5' - 7'	12U
	11' - 13'	27
LB-2	5' - 9'	12U
	12' - 14'	12U
LB-3	5' - 6'	12U
LB-4	5' - 7'	13U
	11' - 13'	12U
LB-5	7' - 9'	38
SB-2	5' - 7'	12U
	12' - 14'	12U
SB-3	7' - 8.5'	13U
SB-4	5' - 7'	280
	7' - 9'	12J
SB-5	5' - 7'	1J
	9' - 10'	11U
EBN	3' - 5'	13
	5' - 7'	23J
EBC	6.2' - 7.7'	7J
EBS	5' - 7'	220
WBN	1' - 3'	8J
WBS	1' - 3'	5J
SBN	7' - 7.7'	11U
SBS	5' - 7'	11U
FPBBN	27' - 28.5'	11U
FPBBS	21' - 23'	11U
	23' - 25'	4J

Notes: (1) U - The analyte was analyzed for but not detected.
(2) J - Indicates that the concentration should be considered approximate. Refer to Appendix O.
(3) Data was analyzed using Contract Laboratory Procedure
(4) All concentratons are expressed in parts per billion (ug/L) unless otherwise noted.

Table 5-5

Former TRW Facility
Sullivan, Missouri

(12/91)

Summary of Soil Boring Analyses
Inorganics and Volatile Organics (8010/8020)

Soil Boring No.	Depth	Hexavalent Chrome (1)	Trichloroethene (2)
OBG B-1	7' - 9'	<1.1	<1
	19' - 21'	<1.1	<1
OBG B-2	11' - 13'	<1.1	<1
	19' - 21'	<1.1	<1
OBG B-3	11' - 15'	<1.2	<1
	17' - 21'	<1.3	<1
OBG B-4	13' - 15'	<1.0	<1
	15' - 17'	<1.0	<1
OBG B-5	3' - 5'	2.4	<1
	5' - 7'	3	<1
OBG B-6	7' - 9'	4.2	<1
	11' - 15'	<1.0	<1
OBG B-7	3' - 5'	<1.0	<1
	7' - 9'	<1.0	<1
OBG B-8	9' - 11'	<1.0	<1
	11' - 13'	<1.0	<1
OBG B-9	9' - 11'	<1.1	<1
	11' - 13'	<1.1	<1
OBG B-10	1' - 3'	<1.1	1800
	3' - 5'	<1.1	14
OBG B-11	7' - 9'	<1.1	2
	11' - 13'	<1.1	<1

Notes: (1) Concentrations are expressed in parts per million (mg/kg).
(2) Concentrations are expressed in parts per billion (ug/kg).

Table 5-6
(continued)

Former TRW Facility
Sullivan, Missouri

Summary of Soil Boring Analyses
Deep Soil Boring
Trichloroethene

Sample Number	Sample Depth	Trichloroethene (TCE)
1	4-6	5.0U
2	6-8	5.0U
3	14-16	5.0U
4	18-20	5.0U
5	32-34	5.0U
6	34-36	14
7	44-46	15
8	54-56	25
9	60-62	162
10	70-72	132
11	78-80	48
12	88-90	59
13	94-96	11
14	100-102	31J
15	102-104	317
16	110-112	20

Notes: (1) All analytical values reported in ug/kg (ppb).
(2) Soil Action Levels for TCE is 60,000 ppb.
(3) U - The analyte was analyzed for but not detected.
(4) J - Indicates that the concentration should be considered approximate. Refer to Appendix O.

TABLE 8

Results of Phase I Boring Sample Analysis - VOC

PARAMETER	B-1 12/04/91		B-2 12/04/91		B-3 12/04/91	
	7'-9'	19'-21'	11'-13'	19'-21'	11'-15'	17'-21'
Benzene	<1	<1	<1	<1	<1	<1
Benzyl chloride	<11	<11	<11	<11	<12	<13
Bis (2-chloroethoxy) methane	<5700	<5500	<5400	<5400	<5900	<6700
Bromobenzene	<6	<5	<5	<5	<6	<7
Bromodichloromethane	<1	<1	<1	<1	<1	<1
Bromoform	<11	<11	<11	<11	<12	<13
Bromomethane	<11	<11	<11	<11	<12	<13
Carbon Tetrachloride	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1	<1
2-Chloroethyvinyl ether	<11	<11	<11	<11	<12	<13
Chloroform	<1	<1	<1	<1	<1	<1
1-Chlorohexane	<11	<11	<11	<11	<12	<13
Chloromethane	<11	<11	<11	<11	<12	<13
Chloromethylmethyl ether	<110	<110	<110	<110	<120	<130
2-Chlorotoluene	<6	<5	<5	<5	<6	<7
4-Chlorotoluene	<6	<5	<5	<5	<6	<7
Dibromochloromethane	<1	<1	<1	<1	<1	<1
Dibromomethane	<11	<11	<11	<11	<12	<13
1,2-Dichlorobenzene	<6	<5	<5	<5	<6	<7
1,3-Dichlorobenzene	<6	<5	<5	<5	<6	<7
1,4-Dichlorobenzene	<6	<5	<5	<5	<6	<7
Dichlorodifluoromethane	<11	<11	<11	<11	<12	<13
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1
1,1-Dichloroethylene	<1	<1	<1	<1	<1	<1
1,2-Dichloroethylene (total)	<1	<1	<1	<1	<1	<1
Dichloromethane	3 (2)	3 (2)	4 (2)	4 (2)	13 (2)	9 (2)
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropylene	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropylene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<1	<1
Trichloroethylene	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1
Vinyl chloride	<1	<1	<1	<1	<1	<1
Xylene (total)	<3	<3	<3	<3	<4	<4

Notes: (1) Units are in μg/kg (ppb).
(2) Concentrations identified as laboratory contaminant.

Source: Phase I Site Investigations [15]

TABLE 8
(continued)

PARAMETER	B-4 12/05/91		B-5 12/05/91		B-6 12/05/91	
	13'-15'	15'-17'	3'-5'	5'-7'	7'-9'	11'-15'
Benzene	<1	<1	<1	<1	<1	<1
Benzyl chloride	<12	<11	<12	<12	<11	<11
Bis (2-chloroethoxy) methane	<5900	<5500	<5800	<6000	<5700	<5500
Bromobenzene	<6	<5	<6	<6	<6	<5
Bromodichloromethane	<1	<1	<1	<1	<1	<1
Bromoform	<12	<11	<12	<12	<11	<11
Bromomethane	<12	<11	<12	<12	<11	<11
Carbon Tetrachloride	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1	<1
2-Chloroethyvinyl ether	<12	<11	<12	<12	<11	<11
Chloroform	<1	<1	<1	<1	<1	<1
1-Chlorohexane	<12	<11	<12	<12	<11	<11
Chloromethane	<12	<11	<12	<12	<11	<11
Chloromethylmethyl ether	<120	<110	<120	<120	<110	<110
2-Chlorotoluene	<6	<5	<6	<6	<6	<5
4-Chlorotoluene	<6	<5	<6	<6	<6	<5
Dibromochloromethane	<1	<1	<1	<1	<1	<1
Dibromomethane	<12	<11	<12	<12	<11	<11
1,2-Dichlorobenzene	<6	<5	<6	<6	<6	<5
1,3-Dichlorobenzene	<6	<5	<6	<6	<6	<5
1,4-Dichlorobenzene	<6	<5	<6	<6	<6	<5
Dichlorodifluoromethane	<12	<11	<12	<12	<11	<11
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1
1,1-Dichloroethylene	<1	<1	<1	<1	<1	<1
1,2-Dichloroethylene (total)	<1	<1	<1	<1	<1	<1
Dichloromethane	11 (2)	1 (2)	<1	2 (2)	1 (2)	1 (2)
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropylene	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropylene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<1	<1
Trichloroethylene	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1
Vinyl chloride	<1	<1	<1	<1	<1	<1
Xylene (total)	<4	<3	<3	<4	23	<3

Notes: (1) Units are in μg/kg (ppb).
(2) Concentrations identified as laboratory contaminant.

TABLE 8
(continued)

PARAMETER	B-7 12/05/91		B-8 12/05/91		B-9 12/06/91	
	3'-5'	7'-9'	9'-11'	11'-13'	5'-7'	7'-9'
Benzene	<1	<1	<1	<1	<1	<1
Benzyl chloride	<11	<11	<12	<12	<11	<11
Bis (2-chloroethoxy) methane	<5700	<5500	<6000	<6200	<570	<550
Bromobenzene	<6	<5	<6	<6	<6	<5
Bromodichloromethane	<1	<1	<1	<1	<1	<1
Bromoform	<11	<11	<12	<12	<11	<11
Bromomethane	<11	<11	<12	<12	<1	<1
Carbon Tetrachloride	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1	<1
2-Chloroethyvinyl ether	<11	<11	<12	<12	<11	<11
Chloroform	<1	<1	<1	<1	<1	<1
1-Chlorohexane	<11	<11	<12	<12	<11	<11
Chloromethane	<11	<11	<12	<12	<1	<1
Chloromethylmethyl ether	<110	<110	<120	<120	<110	<110
2-Chlorotoluene	<6	<5	<6	<6	<6	<5
4-Chlorotoluene	<6	<5	<6	<6	<6	<5
Dibromochloromethane	<1	<1	<1	<1	<1	<1
Dibromomethane	<11	<11	<12	<12	<11	<11
1,2-Dichlorobenzene	<6	<5	<6	<6	<6	<5
1,3-Dichlorobenzene	<6	<5	<6	<6	<6	<5
1,4-Dichlorobenzene	<6	<5	<6	<6	<6	<5
Dichlorodifluoromethane	<11	<11	<12	<12	<11	<11
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1
1,1-Dichloroethylene	<1	<1	<1	<1	<1	<1
1,2-Dichloroethylene (total)	<1	<1	<1	<1	<1	<1
Dichloromethane	1 (2)	<1	<1	4 (2)	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropylene	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropylene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<1	<1
Trichloroethylene	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1
Vinyl chloride	<1	<1	<1	<1	<1	<1
Xylene (total)	<3	<3	<4	<3	<3	<3

Notes: (1) Units are in μg/kg (ppb).

(2) Concentrations identified as laboratory contaminant.

TABLE 8
(continued)

PARAMETER	B-10 12/06/91		B-11 12/06/91	
	1'-3'	3'-5'	7'-9'	11'-13'
Benzene	<110	<1	<1	<1
Benzyl chloride	<1100	<11	<11	<11
Bis (2-chloroethoxy) methane	<57,000	<550	<570	<540
Bromobenzene	<570	<5	<6	<5
Bromodichloromethane	<110	<1	<1	<1
Bromoform	<1100	<11	<11	<11
Bromomethane	<110	<1	<1	<1
Carbon Tetrachloride	<110	<1	<1	<1
Chlorobenzene	<110	<1	<1	<1
Chloroethane	<110	<1	<1	<1
2-Chloroethyvinyl ether	<1100	<11	<11	<11
Chloroform	<110	<1	<1	<1
1-Chlorohexane	<1100	<11	<11	<11
Chloromethane	<110	<1	<1	<1
Chloromethylmethyl ether	<11,000	<110	<110	<110
2-Chlorotoluene	<570	<5	<6	<5
4-Chlorotoluene	<570	<5	<6	<5
Dibromochloromethane	<110	<1	<1	<1
Dibromomethane	<1100	<11	<11	<11
1,2-Dichlorobenzene	<570	<5	<6	<5
1,3-Dichlorobenzene	<570	<5	<6	<5
1,4-Dichlorobenzene	<570	<5	<6	<5
Dichlorodifluoromethane	<1100	<11	<11	<11
1,1-Dichloroethane	<110	<1	<1	<1
1,2-Dichloroethane	<110	<1	<1	<1
1,1-Dichloroethylene	<110	<1	<1	<1
1,2-Dichloroethylene (total)	<110	1	<1	<1
Dichloromethane	<110	<1	<1	<1
1,2-Dichloropropane	<110	<1	<1	<1
cis-1,3-Dichloropropylene	<110	<1	<1	<1
trans-1,3-Dichloropropylene	<110	<1	<1	<1
Ethylbenzene	<110	<1	<1	<1
1,1,2,2-Tetrachloroethane	<110	<1	<1	<1
1,1,1,2-Tetrachloroethane	<110	<1	<1	<1
Tetrachloroethylene	<110	<1	<1	<1
Toluene	<110	<1	<1	<1
1,1,1-Trichloroethane	130	<1	<1	<1
1,1,2-Trichloroethane	<110	<1	<1	<1
Trichloroethylene	1800	14	2	<1
Trichlorofluoromethane	<110	<1	<1	<1
1,2,3-Trichloropropane	<110	<1	<1	<1
Vinyl chloride	<110	<1	<1	<1
Xylene (total)	<340	<3	<3	<3

Note: (1) Units are in $\mu g/kg$ (ppb).

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: Date Collected: mg/L = miligrams per liter Sampling Area:	CAS Number	FEDERAL MCLs	Units	MW-1 05/01/93 Shallow Wells	MW-1 12/01/93 Shallow Wells	MW-1 03/01/94 Shallow Wells	MW-1 05/01/94 Shallow Wells	MW-1 09/01/94 Shallow Wells	MW-1 12/01/94 Shallow Wells	MW-1 03/01/95 Shallow Wells	MW-1 06/01/95 Shallow Wells	MW-1 09/01/95 Shallow Wells	MW-1 12/01/95 Shallow Wells	MW-1 03/01/96 Shallow Wells	MW-1 06/01/96 Shallow Wells	MW-1 09/01/96 Shallow Wells	MW-1 12/14/96 Shallow Wells	MW-1 03/26/97 Shallow Wells	MW-1 06/30/97 Shallow Wells	MW-1 09/30/97 Shallow Wells	MW-1 12/09/97 Shallow Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U	500 U
1,2-Dichloroethane	107-06-2	5	ug/L	120 U	25 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	250 U	50 U	100 U	100	100 U	100 U	100 U	180	230	100 U	100 U	100 U	100 U	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U	500 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U	500 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	**150**	100 U	100 U	100 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Trichloroethene	79-01-6	5	ug/L	**2,000**	**2,900**	**2,700**	**3,700**	**3,100**	**4,400**	**4,600**	**7,200**	**4,800**	**3,600**	**3,500**	**3,900**	**3,800**	**3,500**	**3,400**	**3,100**	**2,800**	**3,300**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U	300 U	300 U	300 U	300 U
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	**12**	**13.8**	**13**	**8.8**	**11**	**9.3**	**6.4**	**2.6**	**9**	**11**	**9.6**	**5.7**	**5.4**	**6.1**	**6.1**	**6.9**	**6.4**	**7.5**
Lead	7439-92-1	0.015	mg/L	**0.137**	**0.117**	**0.067**	**0.038**	**0.048**	**0.024**	**0.06**	0.013	**0.054**	**0.046**	**0.036**	0.009	0.008	**0.024**	0.014	0.007	0.005	0.005 U
Inorganics-Filtered																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.9**	**7.2**	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: Date Collected: mg/L = miligrams per liter Sampling Area:	CAS Number	FEDERAL MCLs	Units	MW-1 06/28/98 Shallow Wells	MW-1 06/23/99 Shallow Wells	MW-1 06/17/00 Shallow Wells	MW-1 06/01/01 Shallow Wells	MW-1 06/16/02 Shallow Wells	MW-1 06/24/03 Shallow Wells	MW-1 06/09/04 Shallow Wells	MW-1 06/24/05 Shallow Wells	MW-1 06/25/06 Shallow Wells	MW-1 06/24/07 Shallow Wells	MW-1 06/18/08 Shallow Wells	MW-1 06/23/17 Shallow Wells	MW-1 10/04/18 Shallow Wells	MW-1 02/26/19 Shallow Wells	MW-1 06/03/19 Shallow Wells	MW-1 09/27/19 Shallow Wells	MW-2 05/01/93 Shallow Wells	MW-2 12/01/93 Shallow Wells	MW-2 03/01/94 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	1.5 J	67 U	100 U	67 U	67 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.9	67 U	100 U	67 U	67 U	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	**21**	**39 J**	**35 J**	67 U	67 U	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	500 U	500 U	500 U	250 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	4.6 J	67 U	100 U	67 U	67 U	50 U	50 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	88	88	120
1,2-Dichloropropane	78-87-5	5	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	500 U	500 U	500 U	250 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	500 U	500 U	500 U	250 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	1,000 U	1,000 U	1,000 U	500 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1,000 U	1,000 U	1,000 U	500 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1,000 U	1,000 U	1,000 U	500 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	31	67 U	100 U	67 U	67 U	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1,000 U	1,000 U	1,000 U	500 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1,000 U	1,000 U	1,000 U	500 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	60	NA	45	59 J	60 J	43 J	44 J	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	100 U	100 U	100 U	50 U	250 U	250 U	NA	250 U	NA	250 U	NA	6.7 U	330 U	500 U	330 U	330 U	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	**21 J**	67 U	67 U	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	1.9 J	67 U	100 U	67 U	67 U	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**2,400**	**2,000**	**1,500**	**2,000**	**1,900**	**1,700**	NA	**1,700**	NA	**2,100**	NA	**990 D**	**1,400**	**1,600**	**1,300**	**1,500**	**4,900**	**4,200**	**4,400**
Vinyl chloride	75-01-4	2	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Benzene	71-43-2	5	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Toluene	108-88-3	100	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	100 U	100 U	100 U	50 U	50 U	50 U	NA	50 U	NA	50 U	NA	6.7 U	67 U	100 U	67 U	67 U	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	300 U	300 U	300 U	150 U	50 U	50 U	NA	50 U	NA	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	**8.5**	**8.7**	**8.1**	**7.7**	**8.1**	**7.7**	**10.8**	**28.8**	**25.2**	**27.4**	**43.0**	NA	**4.2**	**16**	**25**	**75**	**0.573**	**4.35**	**0.43**
Lead	7439-92-1	0.015	mg/L	0.005 U	0.007	**0.025**	0.005 U	**0.024**	0.013	**0.033**	**0.036**	**0.046**	**0.050**	**0.054**	NA	0.005 U	**0.068**	**0.12**	**0.26**	0.0032	**0.157**	0.003 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	**7.5**	**7.4**	NA	NA	NA	**8.1**	**7.7**	**7.9**	NA	NA	**3.7**	**3.2 J**	**3.3**	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	0.005 U	0.0030 U	NA	NA	NA	0.0030 U	0.0030 U	0.0019 U	NA	NA	0.005 U	0.005 U	0.005 U	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	MW-2 05/01/94 Shallow Wells	MW-2 09/01/94 Shallow Wells	MW-2 12/01/94 Shallow Wells	MW-2 03/01/95 Shallow Wells	MW-2 06/01/95 Shallow Wells	MW-2 09/01/95 Shallow Wells	MW-2 12/01/95 Shallow Wells	MW-2 03/01/96 Shallow Wells	MW-2 06/01/96 Shallow Wells	MW-2 09/01/96 Shallow Wells	MW-2 12/15/96 Shallow Wells	MW-2 03/24/97 Shallow Wells	MW-2 06/30/97 Shallow Wells	MW-2 09/30/97 Shallow Wells	MW-2 12/09/97 Shallow Wells	MW-2 06/27/98 Shallow Wells	MW-2 06/24/99 Shallow Wells	MW-2 06/18/00 Shallow Wells	MW-2 06/01/01 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	500 U
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	100 U	150	110	110	100 U	210	320	100	110	140	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	500 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	500 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	1,000 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	1,000 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	1,000 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	1,000 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	1,000 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**120**	**320**	200 U	200 U	200 U	200 U	200 U	200 U	**88 J**
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Trichloroethene	79-01-6	5	ug/L	**3,800**	**4,900**	**4,100**	**4,400**	**3,900**	**3,400**	**8,400**	**3,900**	**7,400**	**6,900**	**6,200**	**5,500**	**6,500**	**5,200**	**7,100**	**5,900**	**4,600**	**5,600**	**5,900**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	100 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U	600 U	600 U	600 U	600 U	600 U	600 U	600 U	300 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	**0.4**	**0.41**	**0.37**	**0.41**	**0.37**	**0.39**	**0.4**	**0.47**	**0.32**	**0.31**	**0.35**	**0.29**	**0.29**	**0.29**	**0.26**	**0.24**	**0.25**	**0.24**	**0.24**
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.007	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.01	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.29**	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	MW-2 06/15/02 Shallow Wells	MW-2 06/21/03 Shallow Wells	MW-2 06/23/05 Shallow Wells	MW-2 06/23/07 Shallow Wells	MW-2 06/22/17 Shallow Wells	MW-2 02/27/19 Shallow Wells	MW-3 05/01/93 Shallow Wells	MW-3 12/01/93 Shallow Wells	MW-3 03/01/94 Shallow Wells	MW-3 05/01/94 Shallow Wells	MW-3 09/01/94 Shallow Wells	MW-3 12/01/94 Shallow Wells	MW-3 03/01/95 Shallow Wells	MW-3 06/01/95 Shallow Wells	MW-3 09/01/95 Shallow Wells	MW-3 12/01/95 Shallow Wells	MW-3 03/01/96 Shallow Wells	MW-3 06/01/96 Shallow Wells	MW-3 09/01/96 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	16 J	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	170 U	50 U	50 U	25 U [20 U]	**64**	**54 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	250 U	100 U	**100**	**120**	**140**	**130**	**140**	**120**	**110**	**120**	**130**	100 U	500 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	170	150	160	150	160	150	120	110	250	170	140	100 U	500 U
1,2-Dichloropropane	78-87-5	5	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	170 U	50 U	50 U	170 [130]	4,200 D	2,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	**83**	50 U	50 U	33 [30]	**87**	**81 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	170 U	250 U	250 U	120 U [100 U]	20 U	830 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	83 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	170 U	NA	NA	NA	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	83 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**4,400**	**2,600**	**1,300**	**1,300 [1,200]**	**1,800 D**	**1,700**	**7,300**	**6,900**	**7,300**	**6,000**	**7,800**	**7,000**	**6,500**	**6,900**	**7,100**	**8,200**	**8,400**	**8,500**	**8,100**
Vinyl chloride	75-01-4	2	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	170 U	50 U	50 U	25 U [20 U]	20 U	170 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	50 U	50 U	25 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	**0.50**	**0.63**	**0.59**	**0.50 [0.47]**	NA	0.021	**4.51**	**18.2**	**3.3**	**2.8**	**3.1**	**3.5**	**2.9**	**3.7**	**4**	**3**	**3.5**	**6.4**	**3.9**
Lead	7439-92-1	0.015	mg/L	0.0030 U	0.0030 U	0.0044	**0.029 [0.026]**	NA	0.0074 UB	0.0028	**0.119**	0.004	0.005 U	0.007	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	**0.18**	**0.02**
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	MW-3 12/15/96 Shallow Wells	MW-3 03/26/97 Shallow Wells	MW-3 06/30/97 Shallow Wells	MW-3 09/30/97 Shallow Wells	MW-3 12/09/97 Shallow Wells	MW-3 06/27/98 Shallow Wells	MW-3 06/21/99 Shallow Wells	MW-3 06/19/00 Shallow Wells	MW-3 06/01/01 Shallow Wells	MW-3 06/15/02 Shallow Wells	MW-3 06/21/03 Shallow Wells	MW-3 06/12/04 Shallow Wells	MW-3 06/23/05 Shallow Wells	MW-3 06/24/06 Shallow Wells	MW-3 06/23/07 Shallow Wells	MW-3 06/19/08 Shallow Wells	MW-3 06/19/17 Shallow Wells	MW-3 02/25/19 Shallow Wells	MW-4 05/01/93 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
1,1-Dichloroethene	75-35-4	7	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	**38 J**	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	1,000 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
1,2-Dichloroethane	107-06-2	5	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	50 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	110
1,2-Dichloropropane	78-87-5	5	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	1,000 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500 U	1,000 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	2,000 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
Bromodichloromethane	75-27-4	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Bromoform	75-25-2	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	2,000 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Bromomethane	74-83-9	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	2,000 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Carbon Tetrachloride	56-23-5	5	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
CFC-11	75-69-4	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
CFC-12	75-71-8	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	2,000 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Chlorobenzene	108-90-7	100	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Chlorodibromomethane	124-48-1	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Chloroethane	75-00-3	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Chloroform	67-66-3	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Chloromethane	74-87-3	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	2,000 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	500 U	**660**	500 U	500 U	500 U	500 U	500 U	500 U	200 U	100 U	**130**	NA	200 U	NA	**140**	NA	**150 J**	**160 J**	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
Dichloromethane	75-09-2	5	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	500 U	NA	1,000 U	NA	500 U	NA	200 U	830 U	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA	NA	NA	200 U	170 U	NA
Tetrachloroethene	127-18-4	5	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	100 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Trichloroethene	79-01-6	5	ug/L	**8,400**	**7,500**	**8,600**	**11,000**	**9,500**	**9,500**	**7,900**	**5,800**	**7,300**	**6,300**	**7,800**	NA	**5,600**	NA	**6,000**	NA	**3,300**	**2,800**	**3,200**
Vinyl chloride	75-01-4	2	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Benzene	71-43-2	5	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Toluene	108-88-3	100	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Ethylbenzene	100-41-4	700	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	100 U	NA	200 U	NA	100 U	NA	200 U	170 U	NA
Total Xylenes	1330-20-7	10,000	ug/L	1,500 U	1,500 U	1,500 U	1,500 U	1,500 U	1,500 U	1,500 U	1,500 U	600 U	NA	100 U	NA	200 U	NA	100 U	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	**1.7**	**2.2**	**4.9**	**2.1**	**2.4**	**2.3**	**1.2**	**1.8**	**4.7**	**11.4**	**2.9**	**2.8**	**5.9**	**3.9**	**6.4**	**1.5**	NA	**1.2**	**0.187**
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	**0.052**	0.007	0.005	0.005 U	0.005 U	0.015	0.009	**0.026**	0.0031	0.0030 U	0.011	0.0059	**0.021**	0.0030 U	NA	0.006	0.0012
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	**1**	**1.1**	NA	NA	NA	NA	NA	**0.85**	**1.0**	NA	NA	NA	NA	**1.4**	**1.5**	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	0.005 U	0.005 U	NA	NA	NA	NA	NA	0.005 U	0.0030 U	NA	NA	NA	NA	0.0030 U	0.0030 U	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	MW-4 12/01/93 Shallow Wells	MW-4 03/01/94 Shallow Wells	MW-4 05/01/94 Shallow Wells	MW-4 09/01/94 Shallow Wells	MW-4 12/01/94 Shallow Wells	MW-4 03/01/95 Shallow Wells	MW-4 06/01/95 Shallow Wells	MW-4 09/01/95 Shallow Wells	MW-4 12/01/95 Shallow Wells	MW-4 03/01/96 Shallow Wells	MW-4 06/01/96 Shallow Wells	MW-4 09/01/96 Shallow Wells	MW-4 12/15/96 Shallow Wells	MW-4 03/24/97 Shallow Wells	MW-4 06/30/97 Shallow Wells	MW-4 09/30/97 Shallow Wells	MW-4 12/09/97 Shallow Wells	MW-4 06/27/98 Shallow Wells	MW-4 12/09/98 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U
1,2-Dichloroethane	107-06-2	5	ug/L	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	110	240	240	310	320	220	240	370	230	290	100 U	100 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	**140**	100 U	100 U	100 U	100 U	100 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	**280**	100 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Trichloroethene	79-01-6	5	ug/L	**3,400**	**5,200**	**4,400**	**6,300**	**6,900**	**5,700**	**6,400**	**7,300**	**5,700**	**7,000**	**3,300**	**2,900**	**2,700**	**2,400**	**2,500**	**2,600**	**3,000**	**2,600**	**2,400**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U	300 U	300 U	300 U	300 U	300 U	300 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	**0.12**	**0.16**	**0.16**	**0.19**	**0.21**	**0.24**	**0.28**	**0.31**	**0.26**	**0.34**	**0.16**	**0.15**	**0.46**	**0.29**	**0.11**	0.08	0.06	0.04	0.03
Lead	7439-92-1	0.015	mg/L	0.0075	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	MW-4 06/21/99 Shallow Wells	MW-4 12/11/99 Shallow Wells	MW-4 06/18/00 Shallow Wells	MW-4 12/02/00 Shallow Wells	MW-4 06/01/01 Shallow Wells	MW-4 12/08/01 Shallow Wells	MW-4 06/15/02 Shallow Wells	MW-4 11/20/02 Shallow Wells	MW-4 06/21/03 Shallow Wells	MW-4 06/23/05 Shallow Wells	MW-4 06/23/07 Shallow Wells	MW-4 06/22/17 Shallow Wells	MW-4 02/27/19 Shallow Wells	OBG-01S 05/01/93 Shallow Wells	OBG-01S 12/01/93 Shallow Wells	OBG-01S 03/01/94 Shallow Wells	OBG-01S 05/01/94 Shallow Wells	OBG-01S 09/01/94 Shallow Wells	OBG-01S 12/01/94 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	100 U	100 U	100 U	100 U	100 U	**100**	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	21	15 J	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	100 U	100 U	100 U	100 U	100 U	**100**	100 U	50 U	50 U	50 U	50 U	**38**	**48 J**	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	100 U	100 U	100 U	100 U	**100**	100 U	50 U	50 U	50 U	50 U	3.2 J	67 U	5 U	0.5 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	2.1	5	3	3	2
1,2-Dichloropropane	78-87-5	5	ug/L	100 U	100 U	100 U	100 U	100 U	**100**	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	100 U	100 U	100 U	100 U	100 U	**100**	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	430 D	400	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	100 U	100 U	100 U	100 U	100 U	**100**	50 U	**81**	50 U	62	59	63	68	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	100 U	100 U	100 U	100 U	100 U	**100**	100 U	250 U	250 U	250 U	250 U	6.7 U	330 U	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	100 U	100 U	100 U	100 U	100 U	**100**	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	100 U	100 U	100 U	100 U	100 U	100	50 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**2,200**	**2,400**	**2,000**	**3,000**	**2,200**	**4,000**	**2,400**	**2,800**	**2,600**	**2,600**	**2,600**	**780 D**	**1,600**	**20**	**51**	**84**	**56**	**57**	**51**
Vinyl chloride	75-01-4	2	ug/L	100 U	100 U	100 U	100 U	100 U	**100**	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	100 U	100 U	100 U	100 U	100 U	**100**	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	100 U	100 U	100 U	100 U	100 U	100	100 U	50 U	50 U	50 U	50 U	6.7 U	67 U	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	300 U	300 U	300 U	300 U	300 U	300	NA	50 U	50 U	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.05	0.04	0.06	**0.27**	0.02	**1.5**	0.042	**0.77**	**0.32**	0.025	0.098	NA	**0.27**	0.007	0.015	0.01 U	0.005 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	0.0071 UB	0.0058	0.011	0.015 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.037	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: Date Collected: mg/L = miligrams per liter Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-01S 03/01/95 Shallow Wells	OBG-01S 06/01/95 Shallow Wells	OBG-01S 09/01/95 Shallow Wells	OBG-01S 12/01/95 Shallow Wells	OBG-01S 03/01/96 Shallow Wells	OBG-01S 06/01/96 Shallow Wells	OBG-01S 09/01/96 Shallow Wells	OBG-01S 12/14/96 Shallow Wells	OBG-01S 03/20/97 Shallow Wells	OBG-01S 06/29/97 Shallow Wells	OBG-01S 09/28/97 Shallow Wells	OBG-01S 12/10/97 Shallow Wells	OBG-01S 06/26/98 Shallow Wells	OBG-01S 12/07/98 Shallow Wells	OBG-01S 06/23/99 Shallow Wells	OBG-01S 12/14/99 Shallow Wells	OBG-01S 06/19/00 Shallow Wells	OBG-01S 12/01/00 Shallow Wells	OBG-01S 06/01/01 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	4	6	8	6	7	8	10	6	10	6	7	5
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	3	2	2	5 U	3	3	2 U	3	2 U	3	3
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	5 U	10 U	10 U	5 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	2	1 U	3	2	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	5 U	10 U	10 U	5 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	5 U	10 U	10 U	5 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	20 U	10 U	50 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	20 U	10 U	50 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	20 U	10 U	50 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	3	2 U	1	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	53	38	66	55	77	80	83	45	81	48	63	56
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	20 U	10 U	50 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	20 U	10 U	50 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Trichloroethene	79-01-6	5	ug/L	**54**	**20**	**43**	**37**	**16**	**21**	**12**	**28**	**20**	5	**19**	**12**	**20**	**40**	**12**	**12**	**16**	4	**22**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	2 U	2 U	1 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	3 U	6 U	6 U	3 U	15 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.01 U	0.01	0.01 U	0.01	0.01	0.02	0.01 U	0.01	0.01	0.01 U	0.04	0.06	0.03	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.008	0.005	0.005 U	0.005	0.005 U	0.009	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.056**	0.014	0.011
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	0.01 U	NA	NA	NA	NA	NA	NA	NA	NA	0.01 U	NA	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	0.005 U

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-01S 12/07/01 Shallow Wells	OBG-01S 06/18/02 Shallow Wells	OBG-01S 11/22/02 Shallow Wells	OBG-01S 06/19/03 Shallow Wells	OBG-01S 11/21/03 Shallow Wells	OBG-01S 06/15/04 Shallow Wells	OBG-01S 11/18/04 Shallow Wells	OBG-01S 06/23/05 Shallow Wells	OBG-01S 11/16/05 Shallow Wells	OBG-01S 06/22/06 Shallow Wells	OBG-01S 11/28/06 Shallow Wells	OBG-01S 06/25/07 Shallow Wells	OBG-01S 11/12/07 Shallow Wells	OBG-01S 06/19/08 Shallow Wells	OBG-01S 11/19/08 Shallow Wells	OBG-01S 06/20/17 Shallow Wells	OBG-01S 10/04/18 Shallow Wells	OBG-01S 02/18/19 Shallow Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
1,1,1-Trichloroethane	71-55-6	200	ug/L	5	4.0	2.6	1.3	2.0 U	2.0 U	2.0 U	3.2	3.3	5.8	6.8	5.9	4.8	5.1	4.0	3.8 J	2.0 J	2.6 [50 U]
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
1,1,2-Trichloroethane	79-00-5	5	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
1,1-Dichloroethane	75-34-3	- -	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	0.60 J	1.1 J [50 U]
1,1-Dichloroethene	75-35-4	7	ug/L	2	2.7	1.6	1.0 U	2.0 U	2.0 U	2.0 U	1.7	2.5	5.5	4.4	4.0	4.2	1.4	4.2	**12**	5.5	**10 [13 J]**
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
1,2-Dichloroethane	107-06-2	5	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
Bromodichloromethane	75-27-4	- -	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Bromoform	75-25-2	- -	ug/L	10	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Bromomethane	74-83-9	- -	ug/L	10	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Carbon Tetrachloride	56-23-5	5	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
CFC-11	75-69-4	- -	ug/L	50	37	27	10	24	20	21	33	35	47	48	38	1.0 U	41	40	100	24	53 [50 U]
CFC-12	75-71-8	- -	ug/L	10	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Chlorobenzene	108-90-7	100	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Chlorodibromomethane	124-48-1	- -	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Chloroethane	75-00-3	- -	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Chloroform	67-66-3	- -	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Chloromethane	74-87-3	- -	ug/L	10	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1	1.0 U	1.5	2.0	3.5	3.8	3.4	2.1	1.5	1.0 U	1.0 U	1.0 U	1.5	1.4	1.9	6.7 U	1.6 J	1.5 J [49 J]
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
Dichloromethane	75-09-2	5	ug/L	1	5.0 U	5.0 U	5.0 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	6.7 U	13 U	13 U [250 U]
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
o,p-Xylene	36777-61-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	2.5 U	2.5 U [50 U]
Tetrachloroethene	127-18-4	5	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	0.42 J	0.39 J [50 U]
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Trichloroethene	79-01-6	5	ug/L	**20**	**26**	**44**	**67**	**86**	**76**	**95**	**45**	**48**	**30**	**40**	**27**	**41**	**45**	**56**	**11**	**19**	**13 [1,100]**
Vinyl chloride	75-01-4	2	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Benzene	71-43-2	5	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Toluene	108-88-3	100	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Ethylbenzene	100-41-4	700	ug/L	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 U	2.5 U	2.5 U [50 U]
Total Xylenes	1330-20-7	10,000	ug/L	3	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.02	0.0055	0.0050 U	0.0051	0.0073	0.0072	0.012	0.0050 U	0.051	0.0050 U	0.015	0.048	0.068	0.0050 U	0.069	NA	0.0083	0.0037 J [0.077]
Lead	7439-92-1	0.015	mg/L	0.005	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0033	0.0079	0.0052	**0.063**	0.0030 U	0.0066	**0.053**	**0.077**	0.0030 U	**0.046**	NA	**0.032**	0.013 [0.005 U]
Inorganics-Filtered																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	0.0050 U	NA	0.0050 U	NA	NA	0.0050 U	0.0050 U	0.0050 U	0.0050 U	NA	0.005 U	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	0.0030 U	NA	0.0030 U	NA	NA	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	0.005 U	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-01S 06/06/19 Shallow Wells	OBG-01S 09/25/19 Shallow Wells	OBG-02S 05/01/93 Shallow Wells	OBG-02S 12/01/93 Shallow Wells	OBG-02S 03/01/94 Shallow Wells	OBG-02S 05/01/94 Shallow Wells	OBG-02S 09/01/94 Shallow Wells	OBG-02S 12/01/94 Shallow Wells	OBG-02S 03/01/95 Shallow Wells	OBG-02S 06/01/95 Shallow Wells	OBG-02S 09/01/95 Shallow Wells	OBG-02S 12/01/95 Shallow Wells	OBG-02S 03/01/96 Shallow Wells	OBG-02S 06/01/96 Shallow Wells	OBG-02S 09/01/96 Shallow Wells	OBG-02S 12/13/96 Shallow Wells	OBG-02S 03/26/97 Shallow Wells	OBG-02S 06/30/97 Shallow Wells	OBG-02S 09/30/97 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	2.5 U	3.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
1,1-Dichloroethane	75-34-3	- -	ug/L	0.54 J	0.95 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
1,1-Dichloroethene	75-35-4	7	ug/L	2.2 J	**12**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
1,1-Dichloropropene	563-58-6	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,000 U	10,000 U	5,000 U	5,000 U
1,2-Dichloroethane	107-06-2	5	ug/L	2.5 U	1.0 U	2,500 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	2,000 U	1,000 U	1,000 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	1,700	1,900	2,300	2,900	2,300	2,400	2,600	3,100	4,500	4,100	3,700	2,000	2,900	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,000 U	10,000 U	5,000 U	5,000 U
1,3-Dichloropropane	142-28-9	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,000 U	10,000 U	5,000 U	5,000 U
2,2-Dichloropropane	594-20-7	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	20,000 U	10,000 U	10,000 U
2-Chlorotoluene	95-49-8	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Bromoform	75-25-2	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	20,000 U	10,000 U	10,000 U
Bromomethane	74-83-9	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	20,000 U	10,000 U	10,000 U
Carbon Tetrachloride	56-23-5	5	ug/L	2.5 U	0.33 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
CFC-11	75-69-4	- -	ug/L	27	61	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
CFC-12	75-71-8	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	20,000 U	10,000 U	10,000 U
Chlorobenzene	108-90-7	100	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Chlorodibromomethane	124-48-1	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Chloroethane	75-00-3	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Chloroform	67-66-3	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Chloromethane	74-87-3	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	20,000 U	10,000 U	10,000 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.66 J	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3,300**	**4,900**	**4,200**	**4,300**
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	13 U	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	2.5 U	0.74 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Trichloroethene	79-01-6	5	ug/L	**5.9**	**13**	**40,000**	**36,000**	**35,000**	**33,000**	**33,000**	**34,000**	**38,000**	**43,000**	**42,000**	**41,000**	**41,000**	**45,000**	**48,000**	**48,000**	**47,000**	**44,000**	**50,000**
Vinyl chloride	75-01-4	2	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Benzene	71-43-2	5	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Toluene	108-88-3	100	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Ethylbenzene	100-41-4	700	ug/L	2.5 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,000 U	6,000 U	3,000 U	3,000 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.0027 J	0.005 UB	0.0185	0.038	0.01	0.005 U	0.01	0.01	0.01 U	0.02	0.01 U	0.01	0.01	0.01 U	0.01	0.01	0.01 U	0.01	0.01
Lead	7439-92-1	0.015	mg/L	0.012	**0.019**	0.005	**0.0207**	0.012	0.008	0.006	0.01	0.005	**0.062**	0.007	0.005 U	0.005 U	0.007	0.009	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-02S 12/09/97 Shallow Wells	OBG-02S 03/27/98 Shallow Wells	OBG-02S 06/29/98 Shallow Wells	OBG-02S 10/02/98 Shallow Wells	OBG-02S 12/10/98 Shallow Wells	OBG-02S 03/18/99 Shallow Wells	OBG-02S 06/24/99 Shallow Wells	OBG-02S 09/16/99 Shallow Wells	OBG-02S 12/14/99 Shallow Wells	OBG-02S 03/24/00 Shallow Wells	OBG-02S 06/19/00 Shallow Wells	OBG-02S 09/19/00 Shallow Wells	OBG-02S 12/03/00 Shallow Wells	OBG-02S 03/28/01 Shallow Wells	OBG-02S 06/01/01 Shallow Wells	OBG-02S 12/12/01 Shallow Wells	OBG-02S 03/19/02 Shallow Wells	OBG-02S 06/15/02 Shallow Wells	OBG-02S 09/19/02 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	830 U	500 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	830 U	500 U
1,1-Dichloroethene	75-35-4	7	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	500 U	830 U	500 U
1,2-Dichloroethane	107-06-2	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	500 U	830 U	500 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	500 U	830 U	500 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10,000 U	NA	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
Bromodichloromethane	75-27-4	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	830 U	500 U
Bromoform	75-25-2	- -	ug/L	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000	500 U	830 U	500 U
Bromomethane	74-83-9	- -	ug/L	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000	500 U	830 U	500 U
Carbon Tetrachloride	56-23-5	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
CFC-11	75-69-4	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	830 U	500 U
CFC-12	75-71-8	- -	ug/L	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000	500 U	830 U	500 U
Chlorobenzene	108-90-7	100	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
Chlorodibromomethane	124-48-1	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	830 U	500 U
Chloroethane	75-00-3	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	830 U	500 U
Chloroform	67-66-3	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	830 U	500 U
Chloromethane	74-87-3	- -	ug/L	10,000 U	NA	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000	500 U	830 U	500 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	**5,000**	**4,100**	**3,300**	**3,600**	**4,300**	**4,500**	**5,000**	**4,200**	**3,900**	**3,300**	**2,100**	**2,800**	**1,900**	**3,100**	**2,400**	**1,500**	**1,600**	**1,300**	**1,200**
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	830 U	500 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
Dichloromethane	75-09-2	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	2,500 U	830 U	2,500 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420 U	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	830 U	NA
Tetrachloroethene	127-18-4	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	420 U	500 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	830 U	500 U
Trichloroethene	79-01-6	5	ug/L	**51,000**	**44,000**	**38,000**	**43,000**	**43,000**	**46,000**	**44,000**	**46,000**	**42,000**	**41,000**	**29,000**	**43,000**	**25,000**	**38,000**	**38,000**	**25,000**	**24,000**	**17,000**	**14,000**
Vinyl chloride	75-01-4	2	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
Benzene	71-43-2	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
Toluene	108-88-3	100	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
Ethylbenzene	100-41-4	700	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	830 U	500 U
Total Xylenes	1330-20-7	10,000	ug/L	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000	500 U	NA	500 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.03	0.03	0.05	0.06	0.04	0.04	0.03	0.03	**0.3**	NA	**0.14**	**0.15**
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006	0.005 U	0.005 U	0.005 U	**0.022**	**0.044**	0.006	0.005 U	0.005 U	0.005 U	**0.05**	NA	**0.023**	**0.043**
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03	0.03	NA	NA	NA	NA	0.005	NA	0.095	**0.11**
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U	NA	NA	NA	NA	**0.085**	NA	0.0030 U	0.0030 U

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-02S 11/22/02 Shallow Wells	OBG-02S 03/19/03 Shallow Wells	OBG-02S 06/24/03 Shallow Wells	OBG-02S 06/10/04 Shallow Wells	OBG-02S 06/27/05 Shallow Wells	OBG-02S 06/26/06 Shallow Wells	OBG-02S 06/22/07 Shallow Wells	OBG-02S 06/19/08 Shallow Wells	OBG-02S 06/23/17 Shallow Wells	OBG-02S 10/03/18 Shallow Wells	OBG-02S 02/27/19 Shallow Wells	OBG-02S 06/06/19 Shallow Wells	OBG-02S 09/26/19 Shallow Wells	OBG-03S 05/01/93 Shallow Wells	OBG-03S 12/01/93 Shallow Wells	OBG-03S 03/01/94 Shallow Wells	OBG-03S 05/01/94 Shallow Wells	OBG-03S 09/01/94 Shallow Wells	OBG-03S 12/01/94 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	**30 J**	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	**47 J**	170 U	500 U	330 U	1,000 U	50 U	25 U	100 U	100 U	100 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93	170	180	170	150	140
1,2-Dichloropropane	78-87-5	5	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	54 J	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	**1,100**	**1,200**	**750**	**1,300**	**1,600**	**1,300**	**1,600**	**1,600**	**2,800**	**950**	**1,200**	**1,000**	**1,300**	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	2,500 U	2,500 U	2,500 U	5,000 U	5,000 U	1,000 U	1,200 U	1,200 U	100 U	830 U	2,500 U	1,700 U	5,000 U	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	170 U	500 U	330 U	1,000 UJ	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**15,000**	**15,000**	**8,200**	**9,100**	**12,000**	**14,000 J**	**16,000**	**18,000**	**12,000 D**	**6,900**	**11,000**	**9,500**	**13,000**	**1,400**	**2,600**	**2,200**	**2,000**	**2,300**	**2,400**
Vinyl chloride	75-01-4	2	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	100 U	170 U	500 U	330 U	1,000 U	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	500 U	500 U	500 U	1,000 U	1,000 U	200 U	250 U	250 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	**0.33**	**0.17**	**0.19**	0.085	**0.20**	**0.11**	0.10	0.085	NA	0.0085	0.0045 J	0.0042 J	0.0033 J	0.0592	0.059	0.06	0.05	0.05	0.05
Lead	7439-92-1	0.015	mg/L	**0.34**	0.0051	**0.12**	0.0046	**0.42**	**0.15**	**0.13**	**0.098**	NA	0.015	0.01 UB	0.0091	0.009	0.0053	0.004	0.01	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	**0.12**	NA	**0.13**	NA	0.016	0.047	0.023	0.027	NA	0.0015 J	0.00073 J	0.00096 J	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.0030 U	NA	0.0030 U	NA	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	0.005 U	0.005 U	0.005 U	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: Date Collected: mg/L = miligrams per liter Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-03S 03/01/95 Shallow Wells	OBG-03S 06/01/95 Shallow Wells	OBG-03S 09/01/95 Shallow Wells	OBG-03S 12/01/95 Shallow Wells	OBG-03S 03/01/96 Shallow Wells	OBG-03S 06/01/96 Shallow Wells	OBG-03S 09/01/96 Shallow Wells	OBG-03S 12/13/96 Shallow Wells	OBG-03S 03/23/97 Shallow Wells	OBG-03S 06/30/97 Shallow Wells	OBG-03S 09/30/97 Shallow Wells	OBG-03S 12/07/97 Shallow Wells	OBG-03S 06/27/98 Shallow Wells	OBG-03S 12/12/98 Shallow Wells	OBG-03S 06/24/99 Shallow Wells	OBG-03S 12/12/99 Shallow Wells	OBG-03S 06/21/00 Shallow Wells	OBG-03S 12/04/00 Shallow Wells	OBG-03S 06/01/01 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	500 U	250 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	100 U	110	270	130	130	100 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	500 U	250 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	500 U	250 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	**85**	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	45 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Trichloroethene	79-01-6	5	ug/L	**1,800**	**2,200**	**2,300**	**2,500**	**2,400**	**1,800**	**1,900**	**1,800**	**1,600**	**1,600**	**1,400**	**1,900**	**1,800**	**1,800**	**1,700**	**1,900**	**1,100**	**1,800**	**2,100**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	300 U	150 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.06	0.05	0.04
Lead	7439-92-1	0.015	mg/L	0.005 U	0.006	0.007	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-03S 12/11/01 Shallow Wells	OBG-03S 06/18/02 Shallow Wells	OBG-03S 11/21/02 Shallow Wells	OBG-03S 06/21/03 Shallow Wells	OBG-03S 06/12/04 Shallow Wells	OBG-03S 06/25/05 Shallow Wells	OBG-03S 06/20/06 Shallow Wells	OBG-03S 06/22/07 Shallow Wells	OBG-03S 06/20/08 Shallow Wells	OBG-03S 06/23/17 Shallow Wells	OBG-03S 10/04/18 Shallow Wells	OBG-03S 02/27/19 Shallow Wells	OBG-03S 06/04/19 Shallow Wells	OBG-03S 09/27/19 Shallow Wells	OBG-04S 05/01/93 Shallow Wells	OBG-04S 12/01/93 Shallow Wells	OBG-04S 03/01/94 Shallow Wells	OBG-04S 05/01/94 Shallow Wells	OBG-04S 09/01/94 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	**100**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	**100**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	500	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	**100**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	25 U	10 U	100 U	100 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	72	61	160	140	110
1,2-Dichloropropane	78-87-5	5	ug/L	**100**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	500	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	500	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1,000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1,000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	**100**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	5.6 J	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1,000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	9.8 J	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1,000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	**100**	**130**	**130**	**130**	**120**	**110**	**140**	**130**	**130**	**120**	**120**	**110**	**74**	**95**	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	**100**	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	10 U	170 U	380 U	130 U	330 U	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	**100**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**2,300**	**1,900**	**2,200**	**2,100**	**2,000**	**2,400**	**2,100**	**2,200**	**2,200**	**2,000 D**	**2,000**	**1,700**	**1,000**	**1,400**	**960**	**530**	**1,700**	**1,400**	**1,600**
Vinyl chloride	75-01-4	2	ug/L	**100**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	**100**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	100	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U	33 U	77 U	25 U	67 U	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	300	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.04	0.039	0.044	0.033	0.042	0.031	0.048	0.046	0.055	NA	0.04	0.04	0.035	0.037	**0.125**	**0.12**	**0.12**	**0.12**	**0.12**
Lead	7439-92-1	0.015	mg/L	0.005	0.0043	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	0.005 U	0.005 U	0.005 U	0.0037 J	0.0081	0.0059	0.004	0.008	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-04S 12/01/94 Shallow Wells	OBG-04S 03/01/95 Shallow Wells	OBG-04S 06/01/95 Shallow Wells	OBG-04S 09/01/95 Shallow Wells	OBG-04S 12/01/95 Shallow Wells	OBG-04S 03/01/96 Shallow Wells	OBG-04S 06/01/96 Shallow Wells	OBG-04S 09/01/96 Shallow Wells	OBG-04S 12/13/96 Shallow Wells	OBG-04S 03/23/97 Shallow Wells	OBG-04S 06/30/97 Shallow Wells	OBG-04S 09/30/97 Shallow Wells	OBG-04S 12/07/97 Shallow Wells	OBG-04S 06/27/98 Shallow Wells	OBG-04S 12/12/98 Shallow Wells	OBG-04S 06/24/99 Shallow Wells	OBG-04S 12/12/99 Shallow Wells	OBG-04S 06/21/00 Shallow Wells	OBG-04S 12/04/00 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	500 U	250 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	100	100 U	100 U	240	120	100 U	100 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	500 U	250 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	500 U	250 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	63	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	**150**	100 U	100 U	100 U	100 U	100 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Trichloroethene	79-01-6	5	ug/L	**1,400**	**1,300**	**1,300**	**1,400**	**1,600**	**1,400**	**1,100**	**1,200**	**1,300**	**1,100**	**1,100**	**1,400**	**1,300**	**1,400**	**1,400**	**1,200**	**1,200**	**780**	**1,100**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	300 U	150 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	**0.13**	**0.12**	**0.13**	**0.13**	**0.13**	**0.13**	**0.14**	**0.14**	**0.13**	**0.14**	**0.14**	**0.15**	**0.14**	**0.15**	**0.14**	**0.15**	**0.15**	**0.15**	**0.15**
Lead	7439-92-1	0.015	mg/L	0.006	0.005 U	0.01	0.005 U	0.005	0.008	0.008	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-04S 06/01/01 Shallow Wells	OBG-04S 12/11/01 Shallow Wells	OBG-04S 06/18/02 Shallow Wells	OBG-04S 11/21/02 Shallow Wells	OBG-04S 06/21/03 Shallow Wells	OBG-04S 11/20/03 Shallow Wells	OBG-04S 06/12/04 Shallow Wells	OBG-04S 11/17/04 Shallow Wells	OBG-04S 06/25/05 Shallow Wells	OBG-04S 11/18/05 Shallow Wells	OBG-04S 06/20/06 Shallow Wells	OBG-04S 11/29/06 Shallow Wells	OBG-04S 06/22/07 Shallow Wells	OBG-04S 11/13/07 Shallow Wells	OBG-04S 06/20/08 Shallow Wells	OBG-04S 11/18/08 Shallow Wells	OBG-04S 06/22/17 Shallow Wells	OBG-04S 10/04/18 Shallow Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	100 U	**100**	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
1,1-Dichloroethane	75-34-3	- -	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	1.3 J	10 U
1,1-Dichloroethene	75-35-4	7	ug/L	100 U	**100**	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	3.6 J	10 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	500 U	500	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	**100**	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	100 U	**100**	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	500 U	500	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	500 U	500	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	1,000 U	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
Bromodichloromethane	75-27-4	- -	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Bromoform	75-25-2	- -	ug/L	1,000 U	1,000	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Bromomethane	74-83-9	- -	ug/L	1,000 U	1,000	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	100 U	**100**	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
CFC-11	75-69-4	- -	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	6.1	10 U
CFC-12	75-71-8	- -	ug/L	1,000 U	1,000	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Chlorobenzene	108-90-7	100	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Chlorodibromomethane	124-48-1	- -	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Chloroethane	75-00-3	- -	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Chloroform	67-66-3	- -	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Chloromethane	74-87-3	- -	ug/L	1,000 U	1,000	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	41 J	**100**	**140**	**160**	**150**	**110**	**160 [3,800]**	**120**	**120**	**120**	**110**	**110**	**100**	**99 [91]**	**110**	**89**	65	46
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
Dichloromethane	75-09-2	5	ug/L	100 U	**100**	250 U	500 U	500 U	500 U	500 U [5,000 U]	500 U	500 U	250 U	250 U	250 U	250 U	250 U [120 U]	250 U	250 U	5.0 U	50 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
o,p-Xylene	36777-61-	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.0 U	10 U
Tetrachloroethene	127-18-4	5	ug/L	100 U	**100**	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Trichloroethene	79-01-6	5	ug/L	**2,000**	**2,600**	**2,500**	**2,700**	**2,700**	**2,600**	**2,300 [27,000]**	**2,300**	**2,100**	**1,800**	**1,600**	**1,600**	**1,500**	**1,400 [1,300]**	**1,700**	**1,400**	**800 D**	**480**
Vinyl chloride	75-01-4	2	ug/L	100 U	**100**	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Benzene	71-43-2	5	ug/L	100 U	**100**	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Toluene	108-88-3	100	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Ethylbenzene	100-41-4	700	ug/L	100 U	100	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	5.0 U	10 U
Total Xylenes	1330-20-7	10,000	ug/L	300 U	300	50 U	100 U	100 U	100 U	100 U [1,000 U]	100 U	100 U	50 U	50 U	50 U	50 U	50 U [25 U]	50 U	50 U	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	**0.14**	**0.14**	**0.14**	**0.12**	**0.13**	NA	**0.13 [0.0052]**	NA	**0.13**	NA	**0.14**	NA	**0.14**	NA	**0.14**	NA	NA	0.1
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005	0.0030 U	0.0030 U	0.0030 U	NA	0.0030 U [0.003 U]	NA	0.0030 U	NA	0.0030 U	NA	0.0030 U	NA	0.0030 U	NA	NA	0.005 U
Inorganics-Filtered																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: Date Collected: mg/L = miligrams per liter Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-04S 02/27/19 Shallow Wells	OBG-04S 06/04/19 Shallow Wells	OBG-04S 09/24/19 Shallow Wells	OBG-05S 05/01/93 Shallow Wells	OBG-05S 12/01/93 Shallow Wells	OBG-05S 03/01/94 Shallow Wells	OBG-05S 05/01/94 Shallow Wells	OBG-05S 09/01/94 Shallow Wells	OBG-05S 12/01/94 Shallow Wells	OBG-05S 03/01/95 Shallow Wells	OBG-05S 06/01/95 Shallow Wells	OBG-05S 09/01/95 Shallow Wells	OBG-05S 12/01/95 Shallow Wells	OBG-05S 03/01/96 Shallow Wells	OBG-05S 06/01/96 Shallow Wells	OBG-05S 09/01/96 Shallow Wells	OBG-05S 12/13/96 Shallow Wells	OBG-05S 03/23/97 Shallow Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
1,1-Dichloroethane	75-34-3	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
1,1-Dichloroethene	75-35-4	7	ug/L	25 U	20 U	33 U [4.9 J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
1,1-Dichloropropene	563-58-6	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,000 U	5,000 U
1,2-Dichloroethane	107-06-2	5	ug/L	25 U	20 U	33 U [20 U]	1,000 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	2,100	2,500	2,200	2,600	2,200	2,500	1,600	1,900	3,300	2,200	2,300	1,000	1,200	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,000 U	5,000 U
1,3-Dichloropropane	142-28-9	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,000 U	5,000 U
2,2-Dichloropropane	594-20-7	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	10,000 U
2-Chlorotoluene	95-49-8	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Bromoform	75-25-2	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	10,000 U
Bromomethane	74-83-9	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	10,000 U
Carbon Tetrachloride	56-23-5	5	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
CFC-11	75-69-4	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
CFC-12	75-71-8	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	10,000 U
Chlorobenzene	108-90-7	100	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Chlorodibromomethane	124-48-1	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Chloroethane	75-00-3	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Chloroform	67-66-3	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Chloromethane	74-87-3	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000 U	10,000 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	49	47	63 [63]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1,500**	**2,000**
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	130 U	100 U	170 U [100 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Trichloroethene	79-01-6	5	ug/L	**540**	**560**	**670 [710]**	**36,000**	**35,000**	**28,000**	**25,000**	**31,000**	**31,000**	**25,000**	**27,000**	**31,000**	**31,000**	**29,000**	**25,000**	**22,000**	**28,000**	**25,000**
Vinyl chloride	75-01-4	2	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Benzene	71-43-2	5	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Toluene	108-88-3	100	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Ethylbenzene	100-41-4	700	ug/L	25 U	20 U	33 U [20 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,000 U	3,000 U
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	**0.12**	**0.11**	0.1 [0.1]	**0.326**	**0.347**	**0.29**	**0.3**	**0.28**	**0.33**	**0.28**	**0.3**	**0.29**	**0.31**	**0.32**	**0.35**	**0.35**	**0.33**	**0.34**
Lead	7439-92-1	0.015	mg/L	0.005 U	**0.031**	0.005 U [0.005 U]	0.0076	0.0024	0.005	0.005 U	0.005	0.01	0.005 U	0.005 U	0.005 U	0.005	0.005 U	0.009	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																					
Chromium	7440-47-3	0.1	mg/L	NA	0.082 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-05S 06/30/97 Shallow Wells	OBG-05S 09/30/97 Shallow Wells	OBG-05S 12/07/97 Shallow Wells	OBG-05S 06/27/98 Shallow Wells	OBG-05S 12/11/98 Shallow Wells	OBG-05S 06/24/99 Shallow Wells	OBG-05S 12/12/99 Shallow Wells	OBG-05S 06/21/00 Shallow Wells	OBG-05S 12/04/00 Shallow Wells	OBG-05S 06/01/01 Shallow Wells	OBG-05S 12/11/01 Shallow Wells	OBG-05S 06/18/02 Shallow Wells	OBG-05S 11/21/02 Shallow Wells	OBG-05S 06/21/03 Shallow Wells	OBG-05S 06/12/04 Shallow Wells	OBG-05S 06/25/05 Shallow Wells	OBG-05S 06/20/06 Shallow Wells	OBG-05S 06/22/07 Shallow Wells	OBG-05S 06/20/08 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
1,1-Dichloroethene	75-35-4	7	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
1,2-Dichloroethane	107-06-2	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Bromoform	75-25-2	- -	ug/L	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Bromomethane	74-83-9	- -	ug/L	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Carbon Tetrachloride	56-23-5	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
CFC-11	75-69-4	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
CFC-12	75-71-8	- -	ug/L	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Chlorobenzene	108-90-7	100	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Chlorodibromomethane	124-48-1	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Chloroethane	75-00-3	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Chloroform	67-66-3	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Chloromethane	74-87-3	- -	ug/L	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000 U	10,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	**1,900**	**2,100**	**2,500**	**2,300**	**2,500**	**2,800**	**2,500**	**1,800**	**2,000**	**2,000**	**2,400**	**3,800**	**3,200**	**2,900**	**3,200**	**3,700**	**3,100**	**2,300**	**2,400**
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	2,500 U	5,000 U	5,000 U	5,000 U	2,500 U	5,000 U	1,200 U	1,200 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Trichloroethene	79-01-6	5	ug/L	**22,000**	**31,000**	**29,000**	**27,000**	**27,000**	**24,000**	**24,000**	**19,000**	**18,000**	**24,000**	**29,000**	**32,000**	**24,000**	**25,000**	**26,000**	**26,000**	**16,000**	**16,000**	**14,000**
Vinyl chloride	75-01-4	2	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Benzene	71-43-2	5	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Toluene	108-88-3	100	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Ethylbenzene	100-41-4	700	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1,000**	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Total Xylenes	1330-20-7	10,000	ug/L	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000 U	3,000	500 U	1,000 U	1,000 U	1,000 U	500 U	1,000 U	250 U	250 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	**0.33**	**0.28**	**0.31**	**0.31**	**0.29**	**0.3**	**0.31**	**0.31**	**0.31**	**0.29**	**0.25**	**0.21**	**0.28**	**0.21**	0.0080	0.098	**0.12**	**0.18**	**0.15**
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005	0.010	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	**0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-05S 06/22/17 Shallow Wells	OBG-05S 10/04/18 Shallow Wells	OBG-05S 02/28/19 Shallow Wells	OBG-05S 06/04/19 Shallow Wells	OBG-05S 09/26/19 Shallow Wells	OBG-06S 05/01/93 Shallow Wells	OBG-06S 12/01/93 Shallow Wells	OBG-06S 03/01/94 Shallow Wells	OBG-06S 05/01/94 Shallow Wells	OBG-06S 09/01/94 Shallow Wells	OBG-06S 12/01/94 Shallow Wells	OBG-06S 03/01/95 Shallow Wells	OBG-06S 06/01/95 Shallow Wells	OBG-06S 09/01/95 Shallow Wells	OBG-06S 12/01/95 Shallow Wells	OBG-06S 03/01/96 Shallow Wells	OBG-06S 06/01/96 Shallow Wells	OBG-06S 09/01/96 Shallow Wells	OBG-06S 12/13/96 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
1,1-Dichloroethane	75-34-3	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
1,1-Dichloroethene	75-35-4	7	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
1,1-Dichloropropene	563-58-6	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U
1,2-Dichloroethane	107-06-2	5	ug/L	10 U	20 U	33 U	14 U	29 U	500 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	200 U	200 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	310	360	430	320	370	300	290	320	500	470	320	200 U	200 U	NA
1,2-Dichloropropane	78-87-5	5	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U
1,3-Dichloropropane	142-28-9	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U
2,2-Dichloropropane	594-20-7	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000 U
2-Chlorotoluene	95-49-8	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Bromoform	75-25-2	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000 U
Bromomethane	74-83-9	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000 U
Carbon Tetrachloride	56-23-5	5	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
CFC-11	75-69-4	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
CFC-12	75-71-8	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000 U
Chlorobenzene	108-90-7	100	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Chlorodibromomethane	124-48-1	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Chloroethane	75-00-3	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Chloroform	67-66-3	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Chloromethane	74-87-3	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	**270**	**170**	**100**	**170**	**110**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**220**
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	10 U	100 U	170 U	71 U	140 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Trichloroethene	79-01-6	5	ug/L	**1,500 D**	**960**	**650**	**840**	**840**	**7,100**	**8,700**	**7,300**	**5,800**	**8,300**	**7,100**	**7,000**	**8,200**	**9,900**	**9,800**	**7,500**	**7,900**	**7,300**	**8,600**
Vinyl chloride	75-01-4	2	ug/L	**20**	20 U	33 U	**9.7 J**	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Benzene	71-43-2	5	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Toluene	108-88-3	100	ug/L	10 U	20 U	33 U	2.8 J	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Ethylbenzene	100-41-4	700	ug/L	10 U	20 U	33 U	14 U	29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	600 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	NA	**0.39**	**0.21**	**0.19 J**	0.1	0.0281	0.022	0.02	0.02	0.02	0.02	0.02	0.04	0.02	0.03	0.03	0.03	0.03	0.03
Lead	7439-92-1	0.015	mg/L	NA	**0.021**	0.011 UB	0.0079	0.0059	0.0094	0.0029	0.015 U	0.009	0.005 U	0.009	0.005 U	**0.018**	0.005 U	**0.017**	0.014	**0.024**	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-06S 03/26/97 Shallow Wells	OBG-06S 06/30/97 Shallow Wells	OBG-06S 09/30/97 Shallow Wells	OBG-06S 12/09/97 Shallow Wells	OBG-06S 06/29/98 Shallow Wells	OBG-06S 12/09/98 Shallow Wells	OBG-06S 06/24/99 Shallow Wells	OBG-06S 12/14/99 Shallow Wells	OBG-06S 06/19/00 Shallow Wells	OBG-06S 12/03/00 Shallow Wells	OBG-06S 06/01/01 Shallow Wells	OBG-06S 12/12/01 Shallow Wells	OBG-06S 06/15/02 Shallow Wells	OBG-06S 11/22/02 Shallow Wells	OBG-06S 06/23/03 Shallow Wells	OBG-06S 06/15/04 Shallow Wells	OBG-06S 06/27/05 Shallow Wells	OBG-06S 06/26/06 Shallow Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500	330 U [500 U]	200 U	200 U	NA	200 U	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500	330 U [500 U]	200 U	200 U	NA	200 U	NA
1,1-Dichloroethene	75-35-4	7	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500	330 U [500 U]	200 U	200 U	NA	200 U	NA
1,2-Dichloroethane	107-06-2	5	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500	330 U [500 U]	200 U	200 U	NA	200 U	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	2,500 U	2,500 U	2,500 U	2,500 U	2,500	330 U [500 U]	200 U	200 U	NA	200 U	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500	330 U [500 U]	200 U	200 U	NA	200 U	NA
Bromoform	75-25-2	- -	ug/L	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	330 U [500 U]	200 U	200 U	NA	200 U	NA
Bromomethane	74-83-9	- -	ug/L	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	330 U [500 U]	200 U	200 U	NA	200 U	NA
Carbon Tetrachloride	56-23-5	5	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
CFC-11	75-69-4	- -	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500	330 U [500 U]	200 U	200 U	NA	200 U	NA
CFC-12	75-71-8	- -	ug/L	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	330 U [500 U]	200 U	200 U	NA	200 U	NA
Chlorobenzene	108-90-7	100	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
Chlorodibromomethane	124-48-1	- -	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500	330 U [500 U]	200 U	200 U	NA	200 U	NA
Chloroethane	75-00-3	- -	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500	330 U [500 U]	200 U	200 U	NA	200 U	NA
Chloroform	67-66-3	- -	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500	330 U [500 U]	200 U	200 U	NA	200 U	NA
Chloromethane	74-87-3	- -	ug/L	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000	330 U [500 U]	200 U	200 U	NA	200 U	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	**440**	**340**	**390**	**390**	**370**	**490**	**550**	500 U	500 U	500 U	**370 J**	**500**	**550 [560]**	**460**	**510**	NA	**580**	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500	330 U [500 U]	200 U	200 U	NA	200 U	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	1,000 U	1,000 U	NA	1,000 U	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	170 U [250 U]	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	330 U [500 U]	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	170 U [250 U]	200 U	200 U	NA	200 U	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500	330 U [500 U]	200 U	200 U	NA	200 U	NA
Trichloroethene	79-01-6	5	ug/L	**8,900**	**8,300**	**9,500**	**12,000**	**10,000**	**11,000**	**10,000**	**12,000**	**8,500**	**8,700**	**13,000**	**10,000**	**11,000 [11,000]**	**8,500**	**8,200**	NA	**7,000**	NA
Vinyl chloride	75-01-4	2	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
Benzene	71-43-2	5	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
Toluene	108-88-3	100	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	**500**	330 U [500 U]	200 U	200 U	NA	200 U	NA
Ethylbenzene	100-41-4	700	ug/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500	330 U [500 U]	200 U	200 U	NA	200 U	NA
Total Xylenes	1330-20-7	10,000	ug/L	600 U	600 U	600 U	600 U	600 U	600 U	600 U	1,500 U	1,500 U	1,500 U	1,500 U	1,500	NA	200 U	200 U	NA	200 U	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.04	0.04	0.03	0.028 [0.028]	0.033	0.036	0.026	0.097	0.021
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.013	0.005 U	**0.031**	0.005 U	0.005 U	0.007	0.01	0.005 U	0.005 U	0.01	0.0030 U [0.003 U]	**0.036**	**0.024**	0.0046	**0.18**	0.015
Inorganics-Filtered																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.020	NA	NA	0.018	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0030 U	NA	NA	0.0030 U	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-06S 06/21/07 Shallow Wells	OBG-06S 06/19/08 Shallow Wells	OBG-06S 06/23/17 Shallow Wells	OBG-06S 10/03/18 Shallow Wells	OBG-06S 02/27/19 Shallow Wells	OBG-06S 06/06/19 Shallow Wells	OBG-06S 09/26/19 Shallow Wells	OBG-07S 05/01/93 Shallow Wells	OBG-07S 12/01/93 Shallow Wells	OBG-07S 03/01/94 Shallow Wells	OBG-07S 05/01/94 Shallow Wells	OBG-07S 09/01/94 Shallow Wells	OBG-07S 12/01/94 Shallow Wells	OBG-07S 03/01/95 Shallow Wells	OBG-07S 06/01/95 Shallow Wells	OBG-07S 09/01/95 Shallow Wells	OBG-07S 12/01/95 Shallow Wells	OBG-07S 03/01/96 Shallow Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	NA	**15 J**	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	5 U	3 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	24	31	11	10	15	31	29	21	61	73	68
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	2.8	NA	**1,600**	**1,600**	**1,400**	**770**	**960 J [930 J]**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	NA	56 U	1,300 U	2,500 U	1,300 U	2,500 UJ [2,500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**38**	NA	**8,900 D**	**10,000**	**9,500**	**4,600**	**6,600 J [6,300 J]**	**220**	**250**	**150**	**160**	**230**	**250**	**240**	**270**	**320**	**410**	**380**
Vinyl chloride	75-01-4	2	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	NA	56 U	250 U	500 U	250 U	500 UJ [500 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.026	**0.23**	NA	0.023	0.033	0.021	0.028 J [0.024 J]	0.0292	0.018	0.01	0.01	0.02	0.02	0.01	0.01	0.02	0.02	0.02
Lead	7439-92-1	0.015	mg/L	0.0030 U	0.0019 U	NA	0.005 U	0.0082 UB	0.0039 J	0.005 UJ [0.005 UJ]	0.0057	0.0047	0.003 U	0.005 U	0.012	0.008	0.007	0.007	**0.017**	0.011	0.012
Inorganics-Filtered																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-07S 06/01/96 Shallow Wells	OBG-07S 09/01/96 Shallow Wells	OBG-07S 12/14/96 Shallow Wells	OBG-07S 03/26/97 Shallow Wells	OBG-07S 06/30/97 Shallow Wells	OBG-07S 09/30/97 Shallow Wells	OBG-07S 12/09/97 Shallow Wells	OBG-07S 06/28/98 Shallow Wells	OBG-07S 12/08/98 Shallow Wells	OBG-07S 06/22/99 Shallow Wells	OBG-07S 12/12/99 Shallow Wells	OBG-07S 06/17/00 Shallow Wells	OBG-07S 12/02/00 Shallow Wells	OBG-07S 06/01/01 Shallow Wells	OBG-07S 12/07/01 Shallow Wells	OBG-07S 06/16/02 Shallow Wells	OBG-07S 11/23/02 Shallow Wells	OBG-07S 06/24/03 Shallow Wells	OBG-07S 11/19/03 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**10**	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**10**	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**10**	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	42	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**10**	5.0 U	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50	5.0 U	5.0 U	5.0 U	5.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50	5.0 U	5.0 U	5.0 U	5.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	75-25-2	- -	ug/L	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**10**	5.0 U	5.0 U	5.0 U	5.0 U
CFC-11	75-69-4	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
CFC-12	75-71-8	- -	ug/L	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform	67-66-3	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	31	41	26	27	36	29	32	30	29	21	25	19	21	25	22	14	26
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**10**	25 U	25 U	25 U	25 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**10**	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	79-01-6	5	ug/L	**360**	**410**	**320**	**360**	**280**	**350**	**440**	**380**	**350**	**300**	**340**	**230**	**300**	**310**	**280**	**250**	**260**	**140**	**230**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**10**	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	71-43-2	5	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**10**	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	108-88-3	100	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	5.0 U	5.0 U	5.0 U	5.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30	5.0 U	5.0 U	5.0 U	5.0 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.03	0.01	0.01	0.01 U	0.01 U	0.01	0.01 U	0.02	0.01	0.01	0.01 U	0.06	0.02	0.01 U	0.02	0.039	0.0050 U	0.011	0.0050 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	**0.02**	0.007	0.005 U	0.008	0.006	**0.028**	0.005	**0.052**	**0.016**	**0.018**	0.005	0.0044	0.0038	**0.016**	0.0030 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-07S 06/09/04 Shallow Wells	OBG-07S 11/17/04 Shallow Wells	OBG-07S 06/24/05 Shallow Wells	OBG-07S 11/16/05 Shallow Wells	OBG-07S 06/25/06 Shallow Wells	OBG-07S 11/29/06 Shallow Wells	OBG-07S 06/25/07 Shallow Wells	OBG-07S 11/13/07 Shallow Wells	OBG-07S 06/18/08 Shallow Wells	OBG-07S 11/18/08 Shallow Wells	OBG-07S 06/23/17 Shallow Wells	OBG-07S 10/04/18 Shallow Wells	OBG-07S 02/26/19 Shallow Wells	OBG-07S 06/04/19 Shallow Wells	OBG-07S 09/27/19 Shallow Wells	OBG-09S 05/01/93 Shallow Wells	OBG-09S 12/01/93 Shallow Wells	OBG-09S 03/01/94 Shallow Wells	OBG-09S 05/01/94 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.3 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.2 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.8 U	5.0 U	1.2	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	25 U	25 U	100 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	79	75	120	100
1,2-Dichloropropane	78-87-5	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.4 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.2 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.7 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.5 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.2 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.8 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.8 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.6 U	5.0 U	2.3	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.1 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.8 U	5.0 U	1.0 U	4.8 J	17 U	4.0 U	17 U	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.6 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.2 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.2 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	17	13	20	25	23	25	20	27	23	27	12	26	30	12	24	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.2 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	1.8 U	25 U	1.0 U	100 U	83 U	20 U	83 U	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.2 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.7 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**160**	**140**	**280**	**330**	**250 J**	**300**	**190**	**310**	**270**	**330**	**140 D**	**360**	**370**	**92**	**490**	**2,500**	**2,000**	**1,600**	**1,600**
Vinyl chloride	75-01-4	2	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.4 U	5.0 U	1.0 U	20 U	17 U	4.4	17 U	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U	5.0 U	1.0 U	20 U	17 U	7.8	17 U	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.8 U	5.0 U	1.0 U	20 U	17 U	4.0 U	17 U	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	3.4 U	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.0050 U	0.0056	0.0050 U	0.0079	0.027	0.029	0.032	0.016	0.021	0.033	NA	0.0025 J	0.012	0.0021 J	0.0065	0.0257	0.038	0.04	0.03
Lead	7439-92-1	0.015	mg/L	0.0030 U	0.0035	0.0030 U	0.0058	**0.017**	0.011	0.0095	0.012	**0.017**	0.013	NA	0.005 U	0.005 UB	0.005 U	0.0028 J	0.0113	0.0149	0.015 U	0.009
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-09S 09/01/94 Shallow Wells	OBG-09S 12/01/94 Shallow Wells	OBG-09S 03/01/95 Shallow Wells	OBG-09S 06/01/95 Shallow Wells	OBG-09S 09/01/95 Shallow Wells	OBG-09S 12/01/95 Shallow Wells	OBG-09S 03/01/96 Shallow Wells	OBG-09S 06/01/96 Shallow Wells	OBG-09S 09/01/96 Shallow Wells	OBG-09S 12/11/96 Shallow Wells	OBG-09S 03/22/97 Shallow Wells	OBG-09S 06/30/97 Shallow Wells	OBG-09S 09/30/97 Shallow Wells	OBG-09S 12/08/97 Shallow Wells	OBG-09S 06/27/98 Shallow Wells	OBG-09S 12/09/98 Shallow Wells	OBG-09S 06/21/99 Shallow Wells	OBG-09S 12/11/99 Shallow Wells	OBG-09S 06/18/00 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	100 U	100 U	100 U	100 U	220	110	110	100 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Trichloroethene	79-01-6	5	ug/L	**1,500**	**1,600**	**1,700**	**1,800**	**2,100**	**2,500**	**2,400**	**1,900**	**2,200**	**2,700**	**1,800**	**2,100**	**2,400**	**2,500**	**2,300**	**2,300**	**2,000**	**2,300**	**1,600**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.03	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.008	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-09S 12/02/00 Shallow Wells	OBG-09S 06/01/01 Shallow Wells	OBG-09S 12/08/01 Shallow Wells	OBG-09S 06/15/02 Shallow Wells	OBG-09S 11/20/02 Shallow Wells	OBG-09S 06/22/03 Shallow Wells	OBG-09S 06/09/04 Shallow Wells	OBG-09S 06/24/05 Shallow Wells	OBG-09S 11/16/05 Shallow Wells	OBG-09S 06/20/06 Shallow Wells	OBG-09S 11/29/06 Shallow Wells	OBG-09S 06/25/07 Shallow Wells	OBG-09S 11/12/07 Shallow Wells	OBG-09S 06/18/08 Shallow Wells	OBG-09S 11/18/08 Shallow Wells	OBG-09S 06/21/17 Shallow Wells	OBG-09S 10/03/18 Shallow Wells	OBG-09S 02/25/19 Shallow Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	23 U	50 U	5.5 J	50 U [50 U]	50 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	12 U	50 U	6.7 U	50 U [50 U]	50 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	100 U	100 U	**100**	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	20 U	50 U	6.7 U	50 U [50 U]	50 U
1,1-Dichloroethane	75-34-3	- -	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	20 U	50 U	22	17 J [16 J]	21 J
1,1-Dichloroethene	75-35-4	7	ug/L	100 U	100 U	**100**	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	18 U	50 U	**58**	**57 [55]**	**72**
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	500 U	500 U	500	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	20 U	50 U	6.7 U	50 U [50 U]	50 U
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	100 U	**100**	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	20 U	50 U	2.5 J	50 U [50 U]	50 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	100 U	100 U	**100**	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	14 U	50 U	6.7 U	50 U [50 U]	50 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	500 U	500 U	500	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	12 U	50 U	6.7 U	50 U [50 U]	50 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	500 U	500 U	500	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	17 U	50 U	6.7 U	50 U [50 U]	50 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	1,000 U	1,000 U	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
Bromodichloromethane	75-27-4	- -	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	15 U	50 U	6.7 U	50 U [50 U]	50 U
Bromoform	75-25-2	- -	ug/L	1,000 U	1,000 U	1,000	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	12 U	50 U	6.7 U	50 U [50 U]	50 U
Bromomethane	74-83-9	- -	ug/L	1,000 U	1,000 U	1,000	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	18 U	50 U	6.7 U	50 U [50 U]	50 U
Carbon Tetrachloride	56-23-5	5	ug/L	100 U	100 U	**100**	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	18 U	50 U	6.7 U	50 U [50 U]	50 U
CFC-11	75-69-4	- -	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	16 U	58	380 D	160 [160]	360
CFC-12	75-71-8	- -	ug/L	1,000 U	1,000 U	1,000	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	21 U	50 U	6.7 U	50 U [50 U]	50 U
Chlorobenzene	108-90-7	100	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	18 U	50 U	6.7 U	50 U [50 U]	50 U
Chlorodibromomethane	124-48-1	- -	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	20 U	50 U	6.7 U	50 U [50 U]	50 U
Chloroethane	75-00-3	- -	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	16 U	50 U	6.7 U	50 U [50 U]	50 U
Chloroform	67-66-3	- -	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	22 U	50 U	6.7 U	50 U [50 U]	50 U
Chloromethane	74-87-3	- -	ug/L	1,000 U	1,000 U	1,000	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	22 U	50 U	6.7 U	50 U [50 U]	50 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	100 U	100 U	**100**	54	59	50 U	31	25	50 U	50 U	50 U	50 U	50 U	20 U	50 U	54	55 [54]	65
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	22 U	50 U	6.7 U	50 U [50 U]	50 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
Dichloromethane	75-09-2	5	ug/L	100 U	100 U	**100**	100 U	250 U	250 U	100 U	100 U	250 U	250 U	250 U	250 U	250 U	18 U	250 U	6.7 U	250 U [250 U]	250 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7 U	50 U [50 U]	50 U
Tetrachloroethene	127-18-4	5	ug/L	100 U	100 U	**100**	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	22 U	50 U	6.7 U	50 U [50 U]	50 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	100 U	100 U	100	50 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	17 U	50 U	6.7 U	50 U [50 U]	50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	20 U	50 U	6.7 U	50 U [50 U]	50 U
Trichloroethene	79-01-6	5	ug/L	**1,300**	**2,200**	**2,500**	**2,200**	**2,000**	**1,400**	**1,200**	**1,400**	**1,500**	**1,800**	**2,000**	**1,800**	**1,700**	**2,200**	**2,200**	**960 D**	**1,100 [1,100]**	**1,400**
Vinyl chloride	75-01-4	2	ug/L	100 U	100 U	**100**	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	20 U	50 U	6.7 U	50 U [50 U]	50 U
Benzene	71-43-2	5	ug/L	100 U	100 U	**100**	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	14 U	50 U	6.7 U	50 U [50 U]	50 U
Toluene	108-88-3	100	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	19 U	50 U	6.7 U	50 U [50 U]	50 U
Ethylbenzene	100-41-4	700	ug/L	100 U	100 U	100	100 U	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	18 U	50 U	6.7 U	50 U [50 U]	50 U
Total Xylenes	1330-20-7	10,000	ug/L	300 U	300 U	300	NA	50 U	50 U	20 U	20 U	50 U	50 U	50 U	50 U	50 U	34 U	50 U	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	**0.17**	0.08	0.09	0.10	**0.18**	0.063	0.040	0.016	**0.11**	0.070	**0.12**	**0.19**	**0.24**	**0.32**	**0.32**	NA	0.054 [0.051]	0.054
Lead	7439-92-1	0.015	mg/L	**0.52**	0.005 U	0.006	0.0030 U	**0.37**	**0.016**	0.0032	0.0030 U	**0.027**	0.013	**0.022**	**0.058**	**0.036**	0.013	**0.046**	NA	0.005 U [0.005 U]	0.0033 J
Inorganics-Filtered																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	**0.11**	NA	NA	NA	NA	NA	NA	**0.19**	**0.26**	**0.32**	**0.38**	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	0.0030 U	NA	NA	NA	NA	NA	NA	0.0030 U	0.0030 U	0.0019 U	0.0030 U	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-09S 06/06/19 Shallow Wells	OBG-09S 09/26/19 Shallow Wells	OBG-10S 05/01/93 Shallow Wells	OBG-10S 12/01/93 Shallow Wells	OBG-10S 03/01/94 Shallow Wells	OBG-10S 05/01/94 Shallow Wells	OBG-10S 09/01/94 Shallow Wells	OBG-10S 12/01/94 Shallow Wells	OBG-10S 03/01/95 Shallow Wells	OBG-10S 06/01/95 Shallow Wells	OBG-10S 09/01/95 Shallow Wells	OBG-10S 12/01/95 Shallow Wells	OBG-10S 03/01/96 Shallow Wells	OBG-10S 06/01/96 Shallow Wells	OBG-10S 09/01/96 Shallow Wells	OBG-10S 12/11/96 Shallow Wells	OBG-10S 03/21/97 Shallow Wells	OBG-10S 06/29/97 Shallow Wells	OBG-10S 09/27/97 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	50 U	50 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
1,1-Dichloroethane	75-34-3	- -	ug/L	24 J	26 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
1,1-Dichloroethene	75-35-4	7	ug/L	**79**	**94**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
1,1-Dichloropropene	563-58-6	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	50 U	50 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25 U	25 U	25 U	25 U
1,2-Dichloroethane	107-06-2	5	ug/L	50 U	50 U	5 U	1 U	10 U	10 U	10 U	10 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	4	5.5	10 U	10 U	10 U	10 U	10 U	4	7	6	3	1	10 U	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25 U	25 U	25 U	25 U
1,3-Dichloropropane	142-28-9	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25 U	25 U	25 U	25 U
2,2-Dichloropropane	594-20-7	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
2-Chlorotoluene	95-49-8	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Bromoform	75-25-2	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Bromomethane	74-83-9	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Carbon Tetrachloride	56-23-5	5	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
CFC-11	75-69-4	- -	ug/L	360	360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	11	5	5 U
CFC-12	75-71-8	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Chlorobenzene	108-90-7	100	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Chlorodibromomethane	124-48-1	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Chloroethane	75-00-3	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Chloroform	67-66-3	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Chloromethane	74-87-3	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	53	54	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	250 U	250 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Trichloroethene	79-01-6	5	ug/L	**910**	**1,400**	**98**	**140**	**130**	**120**	**110**	**120**	**150**	**110**	**120**	**120**	**87**	**77**	**140**	**130**	**120**	**110**	**49**
Vinyl chloride	75-01-4	2	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Benzene	71-43-2	5	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Toluene	108-88-3	100	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Ethylbenzene	100-41-4	700	ug/L	50 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15 U	15 U	15 U	15 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.042	0.047	0.0475	0.034	0.05	0.04	0.03	0.03	0.05	0.03	0.03	0.04	0.04	0.03	0.04	0.03	0.03	0.02	0.03
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.0016	0.0015	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-10S 12/08/97 Shallow Wells	OBG-10S 03/25/98 Shallow Wells	OBG-10S 06/25/98 Shallow Wells	OBG-10S 10/01/98 Shallow Wells	OBG-10S 12/06/98 Shallow Wells	OBG-10S 03/18/99 Shallow Wells	OBG-10S 06/18/99 Shallow Wells	OBG-10S 09/15/99 Shallow Wells	OBG-10S 12/10/99 Shallow Wells	OBG-10S 03/22/00 Shallow Wells	OBG-10S 06/17/00 Shallow Wells	OBG-10S 09/19/00 Shallow Wells	OBG-10S 12/01/00 Shallow Wells	OBG-10S 03/29/01 Shallow Wells	OBG-10S 06/01/01 Shallow Wells	OBG-10S 06/14/02 Shallow Wells	OBG-10S 06/09/04 Shallow Wells	OBG-10S 06/20/06 Shallow Wells	OBG-10S 11/29/06 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	50 U	NA	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	3	3	3	4	3	3	3	4	2	2.3	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	50 U	NA	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.50 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.50 U	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.50 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	**120**	**78**	**110**	**120**	**120**	**58**	**43**	**45**	**36**	**36**	**27**	**41**	**28**	**24**	**24**	**22**	**18**	**15**	**17**
Vinyl chloride	75-01-4	2	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	15 U	15 U	15 U	15 U	15 U	15 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	NA	1.0 U	1.0 U	1.0 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.03	0.02	0.02	0.02	0.03	0.01 U	0.01 U	0.01 U	**0.29**	0.03	**0.2**	**0.14**	0.02	0.03	0.01	0.0092	0.0091	0.066	0.050
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.02**	**0.036**	**0.046**	0.012	0.005 U	0.005 U	0.005 U	0.0030 U	0.0030 U	0.0030 U	0.0037
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.01 U	0.01	0.01 U	0.01 U	0.01 U	NA	0.01 U	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	NA	0.005 U	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: Date Collected: mg/L = miligrams per liter Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-10S 03/26/07 Shallow Wells	OBG-10S 06/22/07 Shallow Wells	OBG-10S 09/17/07 Shallow Wells	OBG-10S 11/13/07 Shallow Wells	OBG-10S 03/17/08 Shallow Wells	OBG-10S 06/18/08 Shallow Wells	OBG-10S 09/23/08 Shallow Wells	OBG-10S 11/18/08 Shallow Wells	OBG-10S 03/03/09 Shallow Wells	OBG-10S 06/22/17 Shallow Wells	OBG-10S 10/03/18 Shallow Wells	OBG-10S 02/25/19 Shallow Wells	OBG-10S 06/04/19 Shallow Wells	OBG-10S 09/26/19 Shallow Wells	OBG-11S 05/01/93 Shallow Wells	OBG-11S 12/01/93 Shallow Wells	OBG-11S 03/01/94 Shallow Wells	OBG-11S 05/01/94 Shallow Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.46 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.40 J	1.0 U	1.0 U	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	0.26 J	1.0 U	1.0 U	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	5 U	0.5 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	2.2	4	6
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.29 U	0.29 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.30 U	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.4	0.32 U	0.32 U	1.0 U	1.2	1.0 U	2.6	0.99 J [1.1]	2.8	1.0 U	1.9	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.42 U	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.45 U	0.45 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.43 U	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U	1.0 U	0.43 J	0.80 J [0.73 J]	1.3	0.18 J	0.49 J	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.36 U	0.36 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U [5 U]	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	0.14 J	1.0 U	1.0 U	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
o,p-Xylene	36777-61-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.24 J	1.0 U	1.0 U	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**12**	**12**	**17**	**18**	**16**	**15**	**13**	**15**	**15**	**19**	**22 [23]**	**38**	**10**	**22**	**15**	**48**	**81**	**110**
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.27 U	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	**5.4**	1.0 U	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 UB	7.1	1.0 U	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.37 U	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.35 J	1.0 U	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.67 U	0.67 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	0.065	NA	0.0050 U	NA	0.025	NA	0.027	NA	NA	0.0066 [0.0082]	0.011	0.042	0.011	0.0116	0.033	0.03	0.05
Lead	7439-92-1	0.015	mg/L	NA	0.0064	NA	0.0030 U	NA	0.0019 U	NA	0.0030 U	NA	NA	0.0032 J [0.005]	0.0054	**0.027**	0.0061	0.0017	0.0132	0.003 U	0.005 U
Inorganics-Filtered																					
Chromium	7440-47-3	0.1	mg/L	NA	0.0071	NA	0.0050 U	NA	NA	NA	NA	NA	NA	NA	NA	0.00067 J	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	0.0030 U	NA	0.0030 U	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-11S 09/01/94 Shallow Wells	OBG-11S 12/01/94 Shallow Wells	OBG-11S 03/01/95 Shallow Wells	OBG-11S 06/01/95 Shallow Wells	OBG-11S 09/01/95 Shallow Wells	OBG-11S 12/01/95 Shallow Wells	OBG-11S 03/01/96 Shallow Wells	OBG-11S 06/01/96 Shallow Wells	OBG-11S 09/01/96 Shallow Wells	OBG-11S 12/11/96 Shallow Wells	OBG-11S 03/21/97 Shallow Wells	OBG-11S 06/28/97 Shallow Wells	OBG-11S 09/29/97 Shallow Wells	OBG-11S 12/08/97 Shallow Wells	OBG-11S 03/25/98 Shallow Wells	OBG-11S 06/22/98 Shallow Wells	OBG-11S 10/01/98 Shallow Wells	OBG-11S 12/06/98 Shallow Wells	OBG-11S 03/18/99 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	3	3	2	2	1	2	2	2	1
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	5	4	3	4	6	4	3	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	4	4	4	5	4	5	5	6	4
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	**100**	**89**	**65**	**100**	**110**	**100**	**67**	**41**	**34**	**27**	**18**	**16**	**18**	**21**	**11**	**15**	**16**	**16**	**10**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.04	0.04	0.03	0.04	0.05	0.03	0.03	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01 U	0.01	0.02	0.01
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-11S 06/18/99 Shallow Wells	OBG-11S 09/15/99 Shallow Wells	OBG-11S 12/10/99 Shallow Wells	OBG-11S 03/21/00 Shallow Wells	OBG-11S 03/22/00 Shallow Wells	OBG-11S 06/17/00 Shallow Wells	OBG-11S 12/01/00 Shallow Wells	OBG-11S 03/27/01 Shallow Wells	OBG-11S 03/28/01 Shallow Wells	OBG-11S 06/01/01 Shallow Wells	OBG-11S 06/09/04 Shallow Wells	OBG-11S 06/20/06 Shallow Wells	OBG-11S 03/26/07 Shallow Wells	OBG-11S 06/22/07 Shallow Wells	OBG-11S 09/17/07 Shallow Wells	OBG-11S 03/17/08 Shallow Wells	OBG-11S 06/17/08 Shallow Wells	OBG-11S 09/23/08 Shallow Wells	OBG-11S 11/18/08 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	2	1 U	1	1 U	NA	1 U	1 U	1 U	NA	0.3 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.46 U	0.46 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	0.24 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	0.39 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	0.36 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	NA	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.29 U	0.29 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	NA	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	0.24 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	NA	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	0.34 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.30 U	0.30 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	NA	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	NA	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	0.35 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	0.35 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	4	3	4	4	NA	1 U	1	3	NA	2	1.0 U	1.0 U	3.6	1.1	1.0	0.32 U	1.7	2.0	2.1
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	NA	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.42 U	0.42 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	0.36 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	0.32 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.45 U	0.45 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	NA	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.43 U	0.43 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	0.44 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.36 U	0.36 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	0.44 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	0.34 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	0.40 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	**10**	**12**	**20**	**18**	NA	4	**10**	**10**	NA	**7**	1.4	**7.4**	**6.0**	4.5	**5.6**	0.39 U	4.0	4.1	4.0
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	0.39 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.27 U	0.27 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	0.38 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.37 U	0.37 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3 U	3 U	NA	3 U	3 U	3 U	NA	3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.67 U	0.67 U	1.0 U	1.0 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01	0.01	0.04	0.01	0.01	**0.21**	0.07	NA	0.01 U	**0.23**	0.050	0.10	NA	**0.26**	NA	NA	0.024	NA	0.044
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.013	0.005 U	**0.038**	**0.018**	NA	0.005 U	**0.018**	**0.030**	**0.040**	NA	**0.10**	NA	NA	0.0082	NA	0.011
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	0.01 U	0.01 U	NA	NA	0.01 U	NA	0.023	NA	0.011	NA	NA	0.0022 U	NA	0.017
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	0.005 U	0.005 U	NA	NA	0.005 U	NA	0.0030 U	NA	0.0030 U	NA	NA	0.0019 U	NA	0.0030 U

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-11S 03/03/09 Shallow Wells	OBG-11S 06/21/17 Shallow Wells	OBG-11S 10/02/18 Shallow Wells	OBG-11S 02/21/19 Shallow Wells	OBG-11S 06/06/19 Shallow Wells	OBG-11S 09/25/19 Shallow Wells	OBG-12S 05/01/93 Shallow Wells	OBG-12S 12/01/93 Shallow Wells	OBG-12S 03/01/94 Shallow Wells	OBG-12S 05/01/94 Shallow Wells	OBG-12S 09/01/94 Shallow Wells	OBG-12S 12/01/94 Shallow Wells	OBG-12S 06/01/95 Shallow Wells	OBG-12S 12/01/95 Shallow Wells	OBG-12S 12/07/96 Shallow Wells	OBG-12S 06/28/97 Shallow Wells	OBG-12S 06/21/98 Shallow Wells	OBG-12S 06/18/99 Shallow Wells	OBG-12S 06/14/00 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	0.33 J	0.40 J	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	0.43 J	0.57 J	0.42 J	0.42 J	0.65 J	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	4.4	6.7	6.3 J	4.5	4.1	7.3	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	0.37 J	0.20 J	0.21 J	1.3	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 J	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	**7.0**	**7.3**	**8.4**	**6.2**	**5.3**	**9.9**	5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 J	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	0.004 J	0.0049 J	0.016	0.005 UB	0.0115	0.007	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02
Lead	7439-92-1	0.015	mg/L	NA	NA	0.005 U	0.005 U	0.013	0.005 U	0.0023	0.0027	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	0.0018 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-12S 06/29/01 Shallow Wells	OBG-12S 06/14/02 Shallow Wells	OBG-12S 06/18/03 Shallow Wells	OBG-12S 06/26/05 Shallow Wells	OBG-12S 06/19/07 Shallow Wells	OBG-12S 06/24/09 Shallow Wells	OBG-12S 05/16/11 Shallow Wells	OBG-12S 06/04/13 Shallow Wells	OBG-12S 06/15/15 Shallow Wells	OBG-12S 06/23/17 Shallow Wells	OBG-12S 02/21/19 Shallow Wells	OBG-13S 05/01/93 Shallow Wells	OBG-13S 12/01/93 Shallow Wells	OBG-13S 03/01/94 Shallow Wells	OBG-13S 05/01/94 Shallow Wells	OBG-13S 09/01/94 Shallow Wells	OBG-13S 12/01/94 Shallow Wells	OBG-13S 03/01/95 Shallow Wells	OBG-13S 06/01/95 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	0.6 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	0.3 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	2.9	5 U	0.6	1 U	1 U	1	1 U	1	1 U
Vinyl chloride	75-01-4	2	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	0.79 J	0.21 J	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.033	0.036	0.056	0.025	**0.19**	**0.13**	0.017	0.016	0.026	0.027	0.0499	0.005	0.02	0.06	0.02	0.01 U	0.02	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.0030 U	**0.019**	0.012	0.0030 U	**0.017**	**0.02**	0.003 U	0.003 U	0.005 U	0.005 U	**0.0244**	0.0129	**0.038**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	0.01	0.0050 U	0.0055	0.011	NA	0.021	0.036	0.005 U	0.005 U	0.024	0.034	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005	0.0030 U	0.0030 U	0.0030 U	NA	0.0030 U	0.003 U	0.003 U	0.003 U	0.005 U	0.005 U	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-13S 09/01/95 Shallow Wells	OBG-13S 12/01/95 Shallow Wells	OBG-13S 03/01/96 Shallow Wells	OBG-13S 06/01/96 Shallow Wells	OBG-13S 09/01/96 Shallow Wells	OBG-13S 12/11/96 Shallow Wells	OBG-13S 03/22/97 Shallow Wells	OBG-13S 06/27/97 Shallow Wells	OBG-13S 09/30/97 Shallow Wells	OBG-13S 12/08/97 Shallow Wells	OBG-13S 12/09/97 Shallow Wells	OBG-13S 06/25/98 Shallow Wells	OBG-13S 12/07/98 Shallow Wells	OBG-13S 12/08/98 Shallow Wells	OBG-13S 06/18/99 Shallow Wells	OBG-13S 12/09/99 Shallow Wells	OBG-13S 06/14/00 Shallow Wells	OBG-13S 06/01/01 Shallow Wells	OBG-13S 06/13/02 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	NA	5 U	5 U	5 U	5 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	NA	5 U	5 U	5 U	5 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	NA	5 U	5 U	NA	5 U	5 U	5 U	5 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	NA	10 U	10 U	10 U	10 U	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	NA	10 U	10 U	10 U	10 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	NA	10 U	10 U	10 U	10 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	NA	10 U	10 U	10 U	10 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	NA	10 U	10 U	10 U	10 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1	2	2	1 U	1 U	2	2	1	3	2	NA	1	5	NA	2	3	3	5	**7.5**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	1 U	1 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	NA	3 U	3 U	NA	3 U	3 U	3 U	3 U	1.0 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01	**0.26**	0.02	0.08	0.06	0.04	0.03	0.01	0.01	NA	0.06	0.02	NA	0.01	0.01 U	0.04	0.04	0.03	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	**0.04**	**0.052**	0.012	**0.083**	**0.1**	**0.051**	**0.019**	0.005 U	NA	**0.022**	0.014	NA	0.005 U	0.013	**0.048**	0.014	**0.028**	NA
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA	NA	NA	0.01 U	NA	0.01 U	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	0.005 U	0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	0.005 U	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-13S 11/18/03 Shallow Wells	OBG-13S 06/11/04 Shallow Wells	OBG-13S 06/20/06 Shallow Wells	OBG-13S 06/19/07 Shallow Wells	OBG-13S 06/17/08 Shallow Wells	OBG-13S 06/22/17 Shallow Wells	OBG-13S 10/02/18 Shallow Wells	OBG-13S 02/20/19 Shallow Wells	OBG-13S 06/06/19 Shallow Wells	OBG-13S 09/27/19 Shallow Wells	OBG-14S 05/01/93 Shallow Wells	OBG-14S 12/01/93 Shallow Wells	OBG-14S 03/01/94 Shallow Wells	OBG-14S 05/01/94 Shallow Wells	OBG-14S 09/01/94 Shallow Wells	OBG-14S 12/01/94 Shallow Wells	OBG-14S 03/01/95 Shallow Wells	OBG-14S 06/01/95 Shallow Wells	OBG-14S 09/01/95 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	0.27 J	0.21 J	0.24 J	0.64 J	0.50 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.29 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	0.60 J	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.45 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.36 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**15**	**11**	**12**	**19**	**17**	**21**	**24**	**27**	**29**	**41**	5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.67 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	NA	0.015	**0.16**	0.056	0.0072	NA	0.026	0.0036 J	0.0028 J	0.0028 J	0.0359	0.06	0.05	0.06	0.04	0.06	**0.12**	0.01 U	0.02
Lead	7439-92-1	0.015	mg/L	NA	0.0067	**0.19**	**0.048**	0.0086	NA	**0.016**	0.005 U	0.005 U	0.0038 J	0.0069	**0.0198**	**0.02**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	0.0050 U	0.0050 U	0.0050 U	0.0022 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	0.0030 U	0.0030 U	0.0030 U	0.0019 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14S 12/01/95 Shallow Wells	OBG-14S 03/01/96 Shallow Wells	OBG-14S 06/01/96 Shallow Wells	OBG-14S 09/01/96 Shallow Wells	OBG-14S 12/07/96 Shallow Wells	OBG-14S 03/20/97 Shallow Wells	OBG-14S 06/26/97 Shallow Wells	OBG-14S 09/27/97 Shallow Wells	OBG-14S 12/04/97 Shallow Wells	OBG-14S 06/20/98 Shallow Wells	OBG-14S 12/06/98 Shallow Wells	OBG-14S 06/19/99 Shallow Wells	OBG-14S 12/09/99 Shallow Wells	OBG-14S 06/18/00 Shallow Wells	OBG-14S 12/01/00 Shallow Wells	OBG-14S 06/27/01 Shallow Wells	OBG-14S 12/07/01 Shallow Wells	OBG-14S 06/18/02 Shallow Wells	OBG-14S 11/22/02 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.9 J	10	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.6 J	1	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	2.2
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3	1.0 U	1.0 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.02	0.03	**0.22**	0.03	0.01 U	0.04	0.01 U	0.02	0.02	0.02	0.01	0.01	0.06	0.02	0.01	0.01 U	0.03	**0.11**	0.013
Lead	7439-92-1	0.015	mg/L	0.005 U	0.007	0.005 U	0.005 U	0.005 U	0.008	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.019**	0.005 U	0.005 U	0.005	**0.039**	0.0057
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0050 U	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	0.005 U	0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0030 U	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14S 06/19/03 Shallow Wells	OBG-14S 06/11/04 Shallow Wells	OBG-14S 06/22/05 Shallow Wells	OBG-14S 06/23/06 Shallow Wells	OBG-14S 06/21/07 Shallow Wells	OBG-14S 06/18/08 Shallow Wells	OBG-14S 06/26/09 Shallow Wells	OBG-14S 06/22/10 Shallow Wells	OBG-14S 05/17/11 Shallow Wells	OBG-14S 06/26/12 Shallow Wells	OBG-14S 06/03/13 Shallow Wells	OBG-14S 06/10/14 Shallow Wells	OBG-14S 06/18/15 Shallow Wells	OBG-14S 06/02/16 Shallow Wells	OBG-14S 06/19/17 Shallow Wells	OBG-14S 02/19/19 Shallow Wells	OBG-15S 05/01/93 Shallow Wells	OBG-15S 12/01/93 Shallow Wells	OBG-15S 03/01/94 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 J	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	50 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	82	100 U	130
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.29 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.45 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.36 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 J	**47**	50 U	100 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.14 J	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.67 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.0050 U	0.0054	0.0050 U	0.0092	0.0059	0.0022 U	0.030	0.0050 U	0.0093	0.005 U	0.005 U	0.041	0.005 U	0.005 U	0.0033 J	0.004 J	0.0041	0.011	0.01 U
Lead	7439-92-1	0.015	mg/L	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0019 U	0.0065	0.0030 U	0.003 U	0.003 U	0.0037	**0.023**	0.003 U	0.005 U	0.0077	0.0037 J	0.0066	0.0148	0.004
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	0.0050 U	0.005 U	0.005 U	0.005 U	0.005 U	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	0.0030 U	0.003 U	0.003 U	0.003 U	0.003 U	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-15S 05/01/94 Shallow Wells	OBG-15S 09/01/94 Shallow Wells	OBG-15S 12/01/94 Shallow Wells	OBG-15S 03/01/95 Shallow Wells	OBG-15S 06/01/95 Shallow Wells	OBG-15S 09/01/95 Shallow Wells	OBG-15S 12/01/95 Shallow Wells	OBG-15S 03/01/96 Shallow Wells	OBG-15S 06/01/96 Shallow Wells	OBG-15S 09/01/96 Shallow Wells	OBG-15S 12/13/96 Shallow Wells	OBG-15S 03/24/97 Shallow Wells	OBG-15S 06/30/97 Shallow Wells	OBG-15S 09/30/97 Shallow Wells	OBG-15S 12/07/97 Shallow Wells	OBG-15S 06/25/98 Shallow Wells	OBG-15S 12/11/98 Shallow Wells	OBG-15S 06/21/99 Shallow Wells	OBG-15S 12/11/99 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5,600**	**5,900**	**4,700**	**6,100**	**6,200**	**6,300**	**5,900**	**5,400**	**5,300**
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	340	490	360	400	420	430	410	370	370
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3,300**	**3,200**	**3,200**	**3,600**	**4,800**	**5,300**	**4,900**	**4,800**	**4,800**
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	1,000 U	500 U	500 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	100 U	100 U	100 U	100 U	100 U	190	120	100 U	100 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	1,000 U	500 U	500 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	1,000 U	500 U	500 U	500 U	1,000 U	1,000 U	1,000 U	1,000 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U	1,000 U	2,000 U	2,000 U	2,000 U	2,000 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U	1,000 U	2,000 U	2,000 U	2,000 U	2,000 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U	1,000 U	2,000 U	2,000 U	2,000 U	2,000 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	120	310	110	110	100	200 U	200 U	200 U	200 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U	1,000 U	2,000 U	2,000 U	2,000 U	2,000 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	1,000 U	1,000 U	1,000 U	2,000 U	2,000 U	2,000 U	2,000 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	**260**	100 U	100 U	100 U	200 U	200 U	200 U	200 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Trichloroethene	79-01-6	5	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	**100**	100 U	**280**	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U	600 U	300 U	300 U	300 U	600 U	600 U	600 U	600 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.007	0.005 U	0.005 U	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: Date Collected: mg/L = miligrams per liter Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-15S 06/19/00 Shallow Wells	OBG-15S 12/03/00 Shallow Wells	OBG-15S 06/01/01 Shallow Wells	OBG-15S 12/08/01 Shallow Wells	OBG-15S 06/15/02 Shallow Wells	OBG-15S 11/22/02 Shallow Wells	OBG-15S 06/21/03 Shallow Wells	OBG-15S 06/22/05 Shallow Wells	OBG-15S 06/23/07 Shallow Wells	OBG-15S 06/22/17 Shallow Wells	OBG-15S 02/27/19 Shallow Wells	OBG-16S 05/01/93 Shallow Wells	OBG-16S 12/01/93 Shallow Wells	OBG-16S 03/01/94 Shallow Wells	OBG-16S 05/01/94 Shallow Wells	OBG-16S 09/01/94 Shallow Wells	OBG-16S 12/01/94 Shallow Wells	OBG-16S 03/01/95 Shallow Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	**3,100**	**1,800**	**2,300**	**1,300**	**1,700**	**1,600 [1,400]**	**1,600**	**2,100**	**2,100**	**1,400**	**970**	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	200 U	50 U	50 U	**50**	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	220	170	210	170	240	230 [200]	230	310	370	400	280 J	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	**2,900**	**1,800**	**2,600**	**1,500**	**2,000**	**2,200 [1,900]**	**2,100**	**4,100**	**4,300**	**6,700 D**	**5,000**	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1,000 U	250 U	250 U	250	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	200 U	50 U	50 U	**50**	50 U	50 U [50 U]	50 U	100 U	100 U	**22 J**	330 U	50 U	25 U	100 U	100 U	100 U	100 U	100 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	530	800	730	810	830	810	700
1,2-Dichloropropane	78-87-5	5	ug/L	200 U	50 U	50 U	**50**	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1,000 U	250 U	250 U	250	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1,000 U	250 U	250 U	250	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	2,000 U	500 U	500 U	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	2,000 U	500 U	500 U	500	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	2,000 U	500 U	500 U	500	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	200 U	50 U	50 U	**50**	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	200 U	88	4 J	69	210	140 [110]	180	220	130	77	330 U	NA	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	2,000 U	500 U	500 U	500	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	2,000 U	500 U	500 U	500	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	200 U	50 U	37 J	50	66	**76 [69]**	50 U	100 U	100 U	23 J	330 U	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	200 U	**79**	**130**	**50**	250 U	250 U [250 U]	250 U	500 U	500 U	50 U	1,700 U	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	200 U	50 U	50 U	**50**	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	200 U	50 U	50 U	**50**	50 U	**61 [52]**	50 U	100 U	100 U	**23 J**	**93 J**	**2,500**	**4,500**	**4,000**	**4,000**	**5,300**	**4,900**	**4,700**
Vinyl chloride	75-01-4	2	ug/L	200 U	50 U	50 U	**50**	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	200 U	50 U	50 U	**50**	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	200 U	50 U	50 U	50	50 U	50 U [50 U]	50 U	100 U	100 U	50 U	330 U	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	600 U	150 U	150 U	150	50 U	50 U [50 U]	50 U	100 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01	0.0050 U	0.0050 U [0.005 U]	0.0050 U	NA	NA	NA	0.0031 J	0.0135	0.004	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005	0.0084	0.0030 U [0.003 U]	0.0030 U	NA	NA	NA	**0.069**	0.0026	0.001 U	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-16S 06/01/95 Shallow Wells	OBG-16S 09/01/95 Shallow Wells	OBG-16S 12/01/95 Shallow Wells	OBG-16S 03/01/96 Shallow Wells	OBG-16S 06/01/96 Shallow Wells	OBG-16S 09/01/96 Shallow Wells	OBG-16S 12/13/96 Shallow Wells	OBG-16S 03/24/97 Shallow Wells	OBG-16S 06/30/97 Shallow Wells	OBG-16S 09/30/97 Shallow Wells	OBG-16S 12/07/97 Shallow Wells	OBG-16S 06/25/98 Shallow Wells	OBG-16S 12/10/98 Shallow Wells	OBG-16S 06/21/99 Shallow Wells	OBG-16S 12/11/99 Shallow Wells	OBG-16S 06/19/00 Shallow Wells	OBG-16S 12/03/00 Shallow Wells	OBG-16S 06/01/01 Shallow Wells	OBG-16S 12/08/01 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	500 U	1,000 U	1,200 U	2,500 U	2,500 U	1,200 U	1,000 U	1,200 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	680	970	840	810	580	560	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	500 U	1,000 U	1,200 U	2,500 U	2,500 U	1,200 U	1,000 U	1,200 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	500 U	1,000 U	1,200 U	2,500 U	2,500 U	1,200 U	1,000 U	1,200 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	2,500 U	5,000 U	5,000 U	2,500 U	2,000 U	2,500 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	2,500 U	5,000 U	5,000 U	2,500 U	2,000 U	2,500 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	2,500 U	5,000 U	5,000 U	2,500 U	2,000 U	2,500 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	2,500 U	5,000 U	5,000 U	2,500 U	2,000 U	2,500 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	1,000 U	2,000 U	2,500 U	5,000 U	5,000 U	2,500 U	2,000 U	2,500 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	**600**	**660**	**710**	**870**	**850**	**880**	**900**	**830**	**960**	**740**	**780**	**750**	**870**
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
Trichloroethene	79-01-6	5	ug/L	**4,800**	**5,500**	**6,100**	**6,100**	**5,700**	**5,000**	**5,800**	**6,500**	**6,600**	**8,400**	**8,900**	**7,900**	**7,500**	**6,900**	**7,400**	**5,600**	**5,300**	**6,000**	**6,500**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	**200**
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	100 U	200 U	250 U	500 U	500 U	250 U	200 U	250 U	200 U	200 U	200 U	200 U	200
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	300 U	600 U	750 U	1,500 U	1,500 U	750 U	600 U	750 U	600 U	600 U	600 U	600 U	600
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.01 U	0.01
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.01 U	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-16S 06/15/02 Shallow Wells	OBG-16S 11/22/02 Shallow Wells	OBG-16S 06/21/03 Shallow Wells	OBG-16S 06/12/04 Shallow Wells	OBG-16S 06/22/05 Shallow Wells	OBG-16S 06/24/06 Shallow Wells	OBG-16S 06/23/07 Shallow Wells	OBG-16S 06/18/08 Shallow Wells	OBG-16S 06/22/17 Shallow Wells	OBG-16S 10/02/18 Shallow Wells	OBG-16S 02/27/19 Shallow Wells	OBG-16S 06/06/19 Shallow Wells	OBG-16S 09/24/19 Shallow Wells	OBG-17S 05/01/93 Shallow Wells	OBG-17S 12/01/93 Shallow Wells	OBG-17S 03/01/94 Shallow Wells	OBG-17S 05/01/94 Shallow Wells	OBG-17S 09/01/94 Shallow Wells	OBG-17S 12/01/94 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	23 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	12 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	20 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	20 U	14	11 J	5.4 J	8.0 J	7.9 J	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	18 U	**9.2**	**8.3 J**	6.2 J	3.8 J	5.1 J	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	20 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	20 U	2.9 U	20 U	14 U	10 U	13 U	10 U	0.5 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	14 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	12 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	17 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	15 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	12 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	18 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	18 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	16 U	1.9 J	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	21 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	18 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	20 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	16 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	22 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	22 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	**950**	**830**	**790**	**670**	**580**	**520**	**430**	**430**	**110**	**85**	**72**	61	66	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	22 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	500 U	1,000 U	1,000 U	1,000 U	1,000 U	250 U	250 U	18 U	2.9 U	100 U	71 U	50 U	67 U	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	22 U	2.9 U	20 U	**8.0 J**	10 U	13 U	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	17 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	20 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**5,500**	**4,800**	**5,200**	**3,500**	**2,500**	**2,600**	**2,400**	**2,500**	**430 D**	**420**	**340**	**240**	**390**	10 U	0.5 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	20 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	14 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	19 U	1.4 J	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	18 U	2.9 U	20 U	14 U	10 U	13 U	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	100 U	200 U	200 U	200 U	200 U	50 U	50 U	34 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.0075	0.0050 U	0.0050 U	NA	0.0050 U	NA	0.0050 U	NA	NA	0.002 J	0.0029 J	0.035	0.0061	0.0135	0.004	0.01 U	0.005 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.0030 U	0.0030 U	0.0030 U	NA	0.0030 U	NA	0.0030 U	NA	NA	0.0043 J	0.0058 UB	**0.031**	0.0032 J	0.0026	0.0014	0.003 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	0.0050 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.0030 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-17S 06/01/95 Shallow Wells	OBG-17S 12/01/95 Shallow Wells	OBG-17S 12/07/96 Shallow Wells	OBG-17S 06/26/97 Shallow Wells	OBG-17S 06/19/98 Shallow Wells	OBG-17S 06/21/99 Shallow Wells	OBG-17S 06/18/00 Shallow Wells	OBG-17S 06/28/01 Shallow Wells	OBG-17S 06/14/02 Shallow Wells	OBG-17S 06/18/03 Shallow Wells	OBG-17S 06/09/04 Shallow Wells	OBG-17S 06/22/05 Shallow Wells	OBG-17S 06/23/06 Shallow Wells	OBG-17S 06/23/07 Shallow Wells	OBG-17S 06/18/08 Shallow Wells	OBG-17S 06/23/09 Shallow Wells	OBG-17S 06/25/10 Shallow Wells	OBG-17S 05/20/11 Shallow Wells	OBG-17S 06/28/12 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.29 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.45 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Dichloromethane	75-09-2	5	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.36 U	5.0 U	5.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.67 U	1.0 U	1.0 U	2.0 U	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0050 U	0.0050 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0030 U	0.0030 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-17S 06/05/13 Shallow Wells	OBG-17S 06/11/14 Shallow Wells	OBG-17S 06/17/15 Shallow Wells	OBG-17S 06/02/16 Shallow Wells	OBG-17S 06/22/17 Shallow Wells	OBG-17S 02/22/19 Shallow Wells	OBG-18S 05/01/93 Shallow Wells	OBG-18S 12/01/93 Shallow Wells	OBG-18S 03/01/94 Shallow Wells	OBG-18S 05/01/94 Shallow Wells	OBG-18S 09/01/94 Shallow Wells	OBG-18S 12/01/94 Shallow Wells	OBG-18S 06/01/95 Shallow Wells	OBG-18S 12/01/95 Shallow Wells	OBG-18S 12/10/96 Shallow Wells	OBG-18S 06/27/97 Shallow Wells	OBG-18S 06/25/98 Shallow Wells	OBG-18S 06/22/99 Shallow Wells	OBG-18S 06/15/00 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	0.0023 J	0.0178	0.007	0.01 U	0.005 U	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	0.005 U	0.0063	0.0012	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-18S 06/28/01 Shallow Wells	OBG-18S 06/12/02 Shallow Wells	OBG-18S 06/18/03 Shallow Wells	OBG-18S 06/22/05 Shallow Wells	OBG-18S 06/20/07 Shallow Wells	OBG-18S 06/24/09 Shallow Wells	OBG-18S 05/18/11 Shallow Wells	OBG-18S 06/05/13 Shallow Wells	OBG-18S 06/17/15 Shallow Wells	OBG-18S 06/20/17 Shallow Wells	OBG-18S 02/19/19 Shallow Wells	OBG-18S 06/06/19 Shallow Wells	OBG-19S 05/01/93 Shallow Wells	OBG-19S 12/01/93 Shallow Wells	OBG-19S 03/01/94 Shallow Wells	OBG-19S 05/01/94 Shallow Wells	OBG-19S 09/01/94 Shallow Wells	OBG-19S 12/01/94 Shallow Wells	OBG-19S 06/01/95 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	0.5 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 J	1.0 U	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 J	1.0 U	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.4**	1.0 UB	10 U	0.5 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.8	1.0 U	2.7	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 J	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.0050 U	0.0050 U	NA	NA	NA	NA	NA	NA	NA	0.004 J	**0.15**	0.0113	0.009	0.01 U	0.005 U	0.01	0.01 U	0.01
Lead	7439-92-1	0.015	mg/L	0.005 U	0.0030 U	0.0030 U	NA	NA	NA	NA	NA	NA	NA	0.0072	**0.43**	0.0029	0.0023	0.003 U	0.005 U	0.005 U	0.005 U	0.006
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00069 J	0.005 U	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-19S 12/01/95 Shallow Wells	OBG-19S 12/08/96 Shallow Wells	OBG-19S 06/27/97 Shallow Wells	OBG-19S 06/19/98 Shallow Wells	OBG-19S 12/04/98 Shallow Wells	OBG-19S 06/17/99 Shallow Wells	OBG-19S 12/08/99 Shallow Wells	OBG-19S 06/14/00 Shallow Wells	OBG-19S 12/01/00 Shallow Wells	OBG-19S 06/27/01 Shallow Wells	OBG-19S 12/05/01 Shallow Wells	OBG-19S 06/13/02 Shallow Wells	OBG-19S 11/19/02 Shallow Wells	OBG-19S 06/17/03 Shallow Wells	OBG-19S 11/18/03 Shallow Wells	OBG-19S 06/10/04 Shallow Wells	OBG-19S 11/17/04 Shallow Wells	OBG-19S 06/26/05 Shallow Wells	OBG-19s 11/16/05 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
1,1-Dichloroethene	75-35-4	7	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Bromoform	75-25-2	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Bromomethane	74-83-9	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Carbon Tetrachloride	56-23-5	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
CFC-11	75-69-4	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
CFC-12	75-71-8	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Chlorobenzene	108-90-7	100	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Chlorodibromomethane	124-48-1	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Chloroethane	75-00-3	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Chloroform	67-66-3	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Chloromethane	74-87-3	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	5.0 U	5.0 U	5.0 U	NA	NA	NA	5.0 U	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Trichloroethene	79-01-6	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Vinyl chloride	75-01-4	2	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Benzene	71-43-2	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.2	NA	NA	NA	1.0 U	NA
Toluene	108-88-3	100	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Ethylbenzene	100-41-4	700	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01	0.01	0.01	0.01 U	0.02	0.02	0.01	0.01	**0.11**	**0.18**	0.040	**0.65**	0.026	0.062	0.0050 U	0.024	0.050
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.008	0.005 U	0.005 U	**0.26**	**0.18**	0.0080	**1.2**	**0.069**	**0.22**	0.0030 U	**0.059**	**0.071**
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.01	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	NA	0.0050 U	0.0050 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.007	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	0.0030 U	0.0030 U

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-19S 06/20/06 Shallow Wells	OBG-19S 11/28/06 Shallow Wells	OBG-19S 06/19/07 Shallow Wells	OBG-19S 11/13/07 Shallow Wells	OBG-19S 06/17/08 Shallow Wells	OBG-19S 11/18/08 Shallow Wells	OBG-19S 06/24/09 Shallow Wells	OBG-19S 12/01/09 Shallow Wells	OBG-19S 06/22/10 Shallow Wells	OBG-19S 11/16/10 Shallow Wells	OBG-19S 05/19/11 Shallow Wells	OBG-19S 11/01/11 Shallow Wells	OBG-19S 06/27/12 Shallow Wells	OBG-19S 11/28/12 Shallow Wells	OBG-19S 06/04/13 Shallow Wells	OBG-19S 12/03/13 Shallow Wells	OBG-19S 06/09/14 Shallow Wells	OBG-19S 12/03/14 Shallow Wells	OBG-19S 06/18/15 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U*	NA	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Bromoform	75-25-2	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
CFC-11	75-69-4	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
CFC-12	75-71-8	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Chloroform	67-66-3	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U*
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Dichloromethane	75-09-2	5	ug/L	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA	5.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Trichloroethene	79-01-6	5	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Vinyl chloride	75-01-4	2	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Benzene	71-43-2	5	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Toluene	108-88-3	100	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.032	0.0050 UJ	0.074	0.047	0.017	0.027	0.021	0.0050 U	**0.36**	0.046	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Lead	7439-92-1	0.015	mg/L	**0.036**	0.0030 UJ	**0.12**	**0.083**	**0.036**	**0.028**	0.010	0.0030 U	**0.31**	**0.053**	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	0.0050 U	NA	0.0050 U	0.0050 U	0.0022 U	0.0050 U	0.0050 U	NA	0.0050 U	0.0050 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	NA	0.005 U	NA
Lead	7439-92-1	0.015	mg/L	0.0030 U	NA	0.0030 U	0.0030 U	0.0019 U	0.0030 U	0.0030 U	NA	0.0030 U	0.0034	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	NA	0.003 U	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-19S 12/01/15 Shallow Wells	OBG-19S 05/31/16 Shallow Wells	OBG-19S 12/22/16 Shallow Wells	OBG-19S 06/21/17 Shallow Wells	OBG-19S 11/16/17 Shallow Wells	OBG-19S 02/20/19 Shallow Wells	OBG-20S 06/01/95 Shallow Wells	OBG-20S 09/01/95 Shallow Wells	OBG-20S 12/01/95 Shallow Wells	OBG-20S 03/01/96 Shallow Wells	OBG-20S 06/01/96 Shallow Wells	OBG-20S 09/01/96 Shallow Wells	OBG-20S 12/12/96 Shallow Wells	OBG-20S 03/25/97 Shallow Wells	OBG-20S 06/30/97 Shallow Wells	OBG-20S 09/29/97 Shallow Wells	OBG-20S 12/06/97 Shallow Wells	OBG-20S 06/23/98 Shallow Wells	OBG-20S 06/20/99 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	5	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 UJ	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	1.0 U	NA	1.0 U	NA	5.0 UJ	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 UJ	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	NA	1.0 U	NA	1.0 U	NA	0.18 J	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	NA	1.0 U	NA	1.0 U	NA	0.55 J	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	NA	1.0 U	NA	1.0 U	NA	0.18 J	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.005 U	0.005 U	0.005 U	0.0025 J	0.0033 J	0.0031 J	0.0066	0.01	0.01 U	0.01	0.02	0.04	0.01 U	0.01 U	0.02	0.01	0.01 U	0.01	NA
Lead	7439-92-1	0.015	mg/L	0.003 U	0.005 U	0.005 U	0.005 U	0.0034 J	0.0029 J	0.002	0.005 U	0.005 U	0.005 U	0.005 U	0.013	0.005 U	0.005 U	0.005	0.005 U	0.005 U	0.005 U	NA
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.01	0.01 U	0.01 U	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U	0.005 U	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-20S 06/21/99 Shallow Wells	OBG-20S 06/17/08 Shallow Wells	OBG-20S 06/23/09 Shallow Wells	OBG-20S 06/22/10 Shallow Wells	OBG-20S 05/19/11 Shallow Wells	OBG-20S 06/26/12 Shallow Wells	OBG-20S 06/04/13 Shallow Wells	OBG-20S 06/10/14 Shallow Wells	OBG-20S 06/16/15 Shallow Wells	OBG-20S 06/01/16 Shallow Wells	OBG-20S 06/22/17 Shallow Wells	OBG-20S 02/21/19 Shallow Wells	OBG-21S 06/01/95 Shallow Wells	OBG-21S 09/01/95 Shallow Wells	OBG-21S 12/01/95 Shallow Wells	OBG-21S 03/01/96 Shallow Wells	OBG-21S 06/01/96 Shallow Wells	OBG-21S 09/01/96 Shallow Wells	OBG-21S 12/10/96 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	50 U
1,2-Dichloroethane	107-06-2	5	ug/L	NA	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36	37	41	24	18	28	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	0.29 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	50 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	50 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Bromoform	75-25-2	- -	ug/L	NA	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	100 U
Bromomethane	74-83-9	- -	ug/L	NA	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	100 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
CFC-11	75-69-4	- -	ug/L	NA	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
CFC-12	75-71-8	- -	ug/L	NA	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	100 U
Chlorobenzene	108-90-7	100	ug/L	NA	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Chloroethane	75-00-3	- -	ug/L	NA	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Chloroform	67-66-3	- -	ug/L	NA	0.45 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Chloromethane	74-87-3	- -	ug/L	NA	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	100 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	29
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	0.36 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	NA	NA	NA	NA	NA	NA	10 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Trichloroethene	79-01-6	5	ug/L	NA	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.30 J	**310**	**240**	**310**	**250**	**330**	**380**	**390**
Vinyl chloride	75-01-4	2	ug/L	NA	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Benzene	71-43-2	5	ug/L	NA	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Toluene	108-88-3	100	ug/L	NA	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Ethylbenzene	100-41-4	700	ug/L	NA	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	10 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	0.67 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0028 J	0.0116	0.02	0.01	0.01	0.01	0.01	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.002	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-21S 03/21/97 Shallow Wells	OBG-21S 06/27/97 Shallow Wells	OBG-21S 09/28/97 Shallow Wells	OBG-21S 12/04/97 Shallow Wells	OBG-21S 03/25/98 Shallow Wells	OBG-21S 06/19/98 Shallow Wells	OBG-21S 09/30/98 Shallow Wells	OBG-21S 12/03/98 Shallow Wells	OBG-21S 03/17/99 Shallow Wells	OBG-21S 06/17/99 Shallow Wells	OBG-21S 09/15/99 Shallow Wells	OBG-21S 12/08/99 Shallow Wells	OBG-21S 03/21/00 Shallow Wells	OBG-21S 06/14/00 Shallow Wells	OBG-21S 09/18/00 Shallow Wells	OBG-21S 12/01/00 Shallow Wells	OBG-21S 03/29/01 Shallow Wells	OBG-21S 06/29/01 Shallow Wells	OBG-21S 10/05/01 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	75-34-3	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	75-35-4	7	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
1,2-Dichloroethane	107-06-2	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	100 U	100 U	100 U	100 U	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	75-25-2	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Bromomethane	74-83-9	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Carbon Tetrachloride	56-23-5	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CFC-11	75-69-4	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CFC-12	75-71-8	- -	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chlorobenzene	108-90-7	100	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorodibromomethane	124-48-1	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	75-00-3	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	67-66-3	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	74-87-3	- -	ug/L	100 U	100 U	100 U	100 U	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	30	38	48	37	13	48	44	44	36	33	49	53	41	30	27	21	38	21	20
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	79-01-6	5	ug/L	**370**	**440**	**540**	**470**	**190**	**600**	**480**	**500**	**420**	**350**	**510**	**560**	**430**	**340**	**360**	**220**	**430**	**490**	**270**
Vinyl chloride	75-01-4	2	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	71-43-2	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	108-88-3	100	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	100-41-4	700	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total Xylenes	1330-20-7	10,000	ug/L	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.01	0.01 U	0.01 U	0.01 U	0.01	0.01	0.01 U	0.01 U	0.01	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-21S 12/04/01 Shallow Wells	OBG-21S 03/21/02 Shallow Wells	OBG-21S 06/14/02 Shallow Wells	OBG-21S 09/17/02 Shallow Wells	OBG-21S 11/19/02 Shallow Wells	OBG-21S 03/17/03 Shallow Wells	OBG-21S 06/17/03 Shallow Wells	OBG-21S 11/21/03 Shallow Wells	OBG-21S 06/11/04 Shallow Wells	OBG-21S 11/15/04 Shallow Wells	OBG-21S 06/21/05 Shallow Wells	OBG-21S 11/17/05 Shallow Wells	OBG-21S 06/19/06 Shallow Wells	OBG-21S 11/28/06 Shallow Wells	OBG-21S 06/19/07 Shallow Wells	OBG-21S 11/12/07 Shallow Wells	OBG-21S 06/17/08 Shallow Wells	OBG-21S 11/17/08 Shallow Wells	OBG-21S 06/21/17 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	4.6 U	10 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	2.4 U	10 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.9 U	10 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	4.0 U	10 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.6 U	10 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	25	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	4.0 U	10 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	**42**	10 U	4.0 U	10 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	2.9 U	10 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	25	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	2.4 U	10 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	25	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.4 U	10 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.0 U	10 U	1.0 U
Bromoform	75-25-2	- -	ug/L	50	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	2.3 U	10 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	50	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.5 U	10 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.5 U	10 U	1.0 U
CFC-11	75-69-4	- -	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.2 U	10 U	1.0 U
CFC-12	75-71-8	- -	ug/L	50	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	4.2 U	10 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.6 U	10 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	4.0 U	10 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.2 U	10 U	1.0 U
Chloroform	67-66-3	- -	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	4.5 U	10 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	50	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	4.3 U	10 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	9	23	22	1.0 U	31	16	33	40	53	25 U	42	35	44	33	10 U	19	45	20	14
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	4.4 U	10 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Dichloromethane	75-09-2	5	ug/L	5	50 U	25 U	5.0 U	25 U	25 U	25 U	25 U	120 U	120 U	120 U	50 U	50 U	50 U	50 U	50 U	3.6 U	50 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	4.4 U	10 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.4 U	10 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	4.0 U	10 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	**140**	**170**	**200**	1.0 U	**300**	**140**	**260**	**270**	**300**	**180**	**290**	**390**	**400**	**330**	**390**	**180**	**480**	**230**	**6.0**
Vinyl chloride	75-01-4	2	ug/L	**5**	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.9 U	10 U	1.0 U
Benzene	71-43-2	5	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	2.7 U	10 U	1.0 U
Toluene	108-88-3	100	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.8 U	10 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	5	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	3.7 U	10 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	15	10 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	6.7 U	10 U	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.01	0.0066	0.0096	0.0058	0.0078	0.0050 U	0.0050 U	NA	NA	NA	0.0052	NA	NA	NA	0.013	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	NA	NA	0.0030 U	NA	NA	NA	0.0030 U	NA	NA	NA	NA
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-21S 02/20/19 Shallow Wells	OBG-22S 12/01/95 Shallow Wells	OBG-22S 03/01/96 Shallow Wells	OBG-22S 06/01/96 Shallow Wells	OBG-22S 09/01/96 Shallow Wells	OBG-22S 12/07/96 Shallow Wells	OBG-22S 03/19/97 Shallow Wells	OBG-22S 06/25/97 Shallow Wells	OBG-22S 09/27/97 Shallow Wells	OBG-22S 12/04/97 Shallow Wells	OBG-22S 06/19/98 Shallow Wells	OBG-22S 06/17/99 Shallow Wells	OBG-22S 06/13/00 Shallow Wells	OBG-22S 06/26/01 Shallow Wells	OBG-22S 06/13/02 Shallow Wells	OBG-22S 06/17/03 Shallow Wells	OBG-22S 06/17/08 Shallow Wells	OBG-22S 06/21/17 Shallow Wells	OBG-23S 12/11/98 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.46 U	1.0 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.24 U	1.0 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.39 U	1.0 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.40 U	1.0 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.36 U	1.0 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	0.40 U	1.0 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.40 U	1.0 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	10 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.29 U	1.0 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	0.24 U	1.0 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	0.34 U	1.0 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	NA	NA	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.30 U	1.0 U	1 U
Bromoform	75-25-2	- -	ug/L	1.0 U	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	0.23 U	1.0 U	10 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	0.35 U	1.0 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.35 U	1.0 U	1 U
CFC-11	75-69-4	- -	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.32 U	1.0 U	1 U
CFC-12	75-71-8	- -	ug/L	1.0 U	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	0.42 U	1.0 U	10 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.36 U	1.0 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.40 U	1.0 U	1 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.32 U	1.0 U	1 U
Chloroform	67-66-3	- -	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.45 U	1.0 U	1 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	0.43 U	1.0 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.1	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.40 U	1.0 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.44 U	1.0 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
Dibromomethane	74-95-3	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.4 J	5.0 U	5.0 U	0.36 U	1.0 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.44 U	1.0 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.34 U	1.0 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.40 U	1.0 U	1 U
Trichloroethene	79-01-6	5	ug/L	2.9	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.39 U	1.0 U	1 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.39 U	1.0 U	1 U
Benzene	71-43-2	5	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.27 U	1.0 U	1 U
Toluene	108-88-3	100	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.38 U	1.0 U	1 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	0.37 U	1.0 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	1.0 U	1.0 U	0.67 U	NA	3 U
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.0079	0.0367	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0050 U	0.0050 U	NA	NA	0.01 U
Lead	7439-92-1	0.015	mg/L	0.0067 J	0.0014	0.005 U	0.005 U	0.005 U	0.011	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.005 U	0.0030 U	0.0031	NA	NA	0.005 U
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	0.0079	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	**0.41 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: Date Collected: mg/L = miligrams per liter Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-23S 03/17/99 Shallow Wells	OBG-23S 06/17/99 Shallow Wells	OBG-23S 09/15/99 Shallow Wells	OBG-23S 12/08/99 Shallow Wells	OBG-23S 03/21/00 Shallow Wells	OBG-23S 06/13/00 Shallow Wells	OBG-23S 09/18/00 Shallow Wells	OBG-23S 12/01/00 Shallow Wells	OBG-23S 06/27/01 Shallow Wells	OBG-23S 10/05/01 Shallow Wells	OBG-23S 12/04/01 Shallow Wells	OBG-23S 03/19/02 Shallow Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
CFC-11	75-69-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Chloromethane	74-87-3	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.4 J	1 U	1	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Trichloroethene	79-01-6	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Benzene	71-43-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Toluene	108-88-3	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3	1.0 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.0050 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.0030 U
Inorganics-Filtered															
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5
Summary of Shallow Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, MO

Location ID: / Date Collected: / mg/L = miligrams per liter / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-23S 06/13/02 Shallow Wells	OBG-23S 09/17/02 Shallow Wells	OBG-23S 11/18/02 Shallow Wells	OBG-23S 03/18/03 Shallow Wells	OBG-23S 06/17/03 Shallow Wells	OBG-23S 06/08/04 Shallow Wells	OBG-23S 06/21/05 Shallow Wells	OBG-23S 06/19/06 Shallow Wells	OBG-23S 06/19/07 Shallow Wells	OBG-23S 06/23/09 Shallow Wells	OBG-23S 06/22/10 Shallow Wells	OBG-23S 05/20/11 Shallow Wells	OBG-23S 06/28/12 Shallow Wells	OBG-23S 06/05/13 Shallow Wells	OBG-23S 06/11/14 Shallow Wells	OBG-23S 06/17/15 Shallow Wells	OBG-23S 06/02/16 Shallow Wells	OBG-23S 06/21/17 Shallow Wells	OBG-23S 02/20/19 Shallow Wells
Volatile Organics																						
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 B	1.0 U	1.0 U	1.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
Inorganics																						
Chromium	7440-47-3	0.1	mg/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	NA	0.0050 U	NA	0.0050 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0065
Lead	7439-92-1	0.015	mg/L	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	0.0030 U	NA	0.0030 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.018**
Inorganics-Filtered																						
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U

Notes:
µg/L = micrograms per liter
mg/L = milligrams per liter
CAS = Chemical Abstract Service
MCL = maximum contaminant level
NA = Not applicable
ND = Not detected
Bold/Shade = Exceedance of federal MCLs
[ ] = Duplicate Sample

Qualifiers:
U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J = Indicates an estimated value.
* = Laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) is outside acceptance limits.

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	MW-20D 11/17/17 Intermediate Wells	MW-20D 02/21/19 Intermediate Wells	MW-20D 06/05/19 Intermediate Wells	MW-20D 09/25/19 Intermediate Wells	MW-24D 06/15/04 Intermediate Wells	MW-24D 09/20/04 Intermediate Wells	MW-24D 11/18/04 Intermediate Wells	MW-24D 03/21/05 Intermediate Wells	MW-24D 06/25/05 Intermediate Wells	MW-24D 06/24/06 Intermediate Wells	MW-24D 06/24/07 Intermediate Wells	MW-24D 06/18/08 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	9.2 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	4.8 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	7.8 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	8.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	7.2 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	8.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	8.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	5.8 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	4.8 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	6.8 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	6.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	4.6 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	7.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	7.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	0.64 J	1.0 U	0.57 J	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	6.4 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	8.4 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	7.2 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	8.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	6.4 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	9.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	8.6 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	0.20 J	1.0 U	1.0 U	33	35 [31]	25	37	36	32	36	38
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	8.8 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	`	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	100 U	120 U [50 U]	100 U	120 U	100 U	100 U	100 U	7.2 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	0.21 J	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	8.8 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	6.8 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	8.0 U
Trichloroethene	79-01-6	5	ug/L	0.41 J	**7.1**	1.0 U	**8.1**	**780**	**890 [770]**	**830**	**870**	**940**	**730 J**	**900**	**1,000**
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	7.8 U
Benzene	71-43-2	5	ug/L	1.0 UB	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	5.4 U
Toluene	108-88-3	100	ug/L	1.0 UB	1.0 U	1.0 UB	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	7.6 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	7.4 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	20 U	25 U [10 U]	20 U	25 U	20 U	20 U	20 U	13 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	**0.16**	0.0039 J	0.0092	NA	0.010 [0.011]	0.0088	0.0080	0.0088	NA	0.012	NA
Lead	7439-92-1	0.015	mg/L	NA	0.005 U	0.005 U	0.005 U	NA	0.0030 U [0.003 U]	0.0030 U	0.0030 U	0.0030 U	NA	0.0030 U	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	MW-24D 06/22/17 Intermediate Wells	MW-24D 10/01/18 Intermediate Wells	MW-24D 02/25/19 Intermediate Wells	MW-24D 04/02/19 Intermediate Wells	MW-24D 04/16/19 Intermediate Wells	MW-24D 06/06/19 Intermediate Wells	MW-24D 09/25/19 Intermediate Wells	OBG-01D 05/01/93 Intermediate Wells	OBG-01D 12/01/93 Intermediate Wells	OBG-01D 03/01/94 Intermediate Wells	OBG-01D 05/01/94 Intermediate Wells	OBG-01D 09/01/94 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	0.20 J	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	50 U	50 U	50 U [21 J]	10 U	2.0 U	1.0 U	0.18 J	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	50 U	50 U	**50 U [74 J]**	10 U	2.0 U	1.0 U	1.1	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	5 U	3 U	10 U	10 U	10 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	9 U	8.7	33	28	27
1,2-Dichloropropane	78-87-5	5	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	0.77 J	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	50 U	50 U	50 UJ [400 J]	10 U	2.0 U	1.0 U	2.7	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	0.45 J	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	46 J	44 J	**48 J [71 J]**	2.6 J	1.7 J	13	17	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	50 U	250 U	250 U [380 U]	50 U	10 U	5.0 U	5.0 U	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**800**	**930**	**880 J [1,500 J]**	**74**	**62**	**32**	**340**	**150**	**160**	**700**	**720**	**810**
Vinyl chloride	75-01-4	2	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	50 U	50 U	**11 J [77 U]**	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 UB	1.0 U	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	50 U	50 U	50 U [77 U]	10 U	2.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	0.025	0.028 J [0.052 J]	NA	NA	0.021	0.01	0.0066	0.02	0.01	0.01	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	0.005 U	0.005 U [0.005 U]	NA	NA	0.0092	0.005 U	0.001	0.0106	0.015 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-01D 12/01/94 Intermediate Wells	OBG-01D 03/01/95 Intermediate Wells	OBG-01D 06/01/95 Intermediate Wells	OBG-01D 09/01/95 Intermediate Wells	OBG-01D 12/01/95 Intermediate Wells	OBG-01D 03/01/96 Intermediate Wells	OBG-01D 06/01/96 Intermediate Wells	OBG-01D 09/01/96 Intermediate Wells	OBG-01D 12/14/96 Intermediate Wells	OBG-01D 03/20/97 Intermediate Wells	OBG-01D 06/29/97 Intermediate Wells	OBG-01D 09/28/97 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	250 U	250 U	250 U	250 U
1,2-Dichloroethane	107-06-2	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U	50 U	50 U	50 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	27	22	23	39	34	30	10 U	16	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	250 U	250 U	250 U	250 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	250 U	250 U	250 U	250 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	500 U	500 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	35	50 U	50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Trichloroethene	79-01-6	5	ug/L	**830**	**750**	**820**	**910**	**1,100**	**830**	**760**	**840**	**960**	**990**	**960**	**1,100**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U	50 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	150 U	150 U	150 U	150 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01 U	0.01
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-01D 12/10/97 Intermediate Wells	OBG-01D 06/26/98 Intermediate Wells	OBG-01D 12/07/98 Intermediate Wells	OBG-01D 06/23/99 Intermediate Wells	OBG-01D 12/14/99 Intermediate Wells	OBG-01D 06/19/00 Intermediate Wells	OBG-01D 12/01/00 Intermediate Wells	OBG-01D 06/01/01 Intermediate Wells	OBG-01D 12/07/01 Intermediate Wells	OBG-01D 06/18/02 Intermediate Wells	OBG-01D 11/20/02 Intermediate Wells	OBG-01D 06/19/03 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	**50**	50 U	25 U	25 U
1,1-Dichloroethane	75-34-3	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
1,1-Dichloroethene	75-35-4	7	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	**50**	50 U	25 U	25 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	250 U	250 U	250 U	250 U	250 U	250 U	120 U	120 U	250	50 U	25 U	25 U
1,2-Dichloroethane	107-06-2	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	**50**	50 U	25 U	25 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	**50**	50 U	25 U	25 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	250 U	250 U	250 U	250 U	250 U	250 U	120 U	120 U	250	50 U	25 U	25 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	250 U	250 U	250 U	250 U	250 U	250 U	120 U	120 U	250	50 U	25 U	25 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	500	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
Bromoform	75-25-2	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	500	50 U	25 U	25 U
Bromomethane	74-83-9	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	500	50 U	25 U	25 U
Carbon Tetrachloride	56-23-5	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	**50**	50 U	25 U	25 U
CFC-11	75-69-4	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
CFC-12	75-71-8	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	500	50 U	25 U	25 U
Chlorobenzene	108-90-7	100	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
Chlorodibromomethane	124-48-1	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
Chloroethane	75-00-3	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
Chloroform	67-66-3	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
Chloromethane	74-87-3	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	500	50 U	25 U	25 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	39	40
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	**50**	250 U	120 U	120 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	**50**	50 U	25 U	25 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
Trichloroethene	79-01-6	5	ug/L	**1,100**	**1,200**	**1,300**	**1,000**	**1,200**	**1,800**	**1,000**	**1,200**	**1,200**	**1,200**	**1,200**	**1,500**
Vinyl chloride	75-01-4	2	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	**50**	50 U	25 U	25 U
Benzene	71-43-2	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	**50**	50 U	25 U	25 U
Toluene	108-88-3	100	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
Ethylbenzene	100-41-4	700	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50	50 U	25 U	25 U
Total Xylenes	1330-20-7	10,000	ug/L	150 U	150 U	150 U	150 U	150 U	150 U	75 U	75 U	150	50 U	25 U	25 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.010	0.012	0.010
Lead	7439-92-1	0.015	mg/L	0.005 U	0.01	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.0030 U	0.0030 U	0.0030 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-01D 11/21/03 Intermediate Wells	OBG-01D 06/15/04 Intermediate Wells	OBG-01D 11/18/04 Intermediate Wells	OBG-01D 06/23/05 Intermediate Wells	OBG-01D 11/15/05 Intermediate Wells	OBG-01D 06/22/06 Intermediate Wells	OBG-01D 11/28/06 Intermediate Wells	OBG-01D 06/25/07 Intermediate Wells	OBG-01D 11/13/07 Intermediate Wells	OBG-01D 06/19/08 Intermediate Wells	OBG-01D 11/19/08 Intermediate Wells	OBG-01D 06/20/17 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	23 U	50 U	67 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	12 U	50 U	67 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	20 U	50 U	67 U
1,1-Dichloroethane	75-34-3	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	20 U	50 U	67 U
1,1-Dichloroethene	75-35-4	7	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	18 U	50 U	67 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	20 U	50 U	67 U
1,2-Dichloroethane	107-06-2	5	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	20 U	50 U	67 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	14 U	50 U	67 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	12 U	50 U	67 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	17 U	50 U	67 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
Bromodichloromethane	75-27-4	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	15 U	50 U	67 U
Bromoform	75-25-2	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	12 U	50 U	67 U
Bromomethane	74-83-9	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	18 U	50 U	67 U
Carbon Tetrachloride	56-23-5	5	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	18 U	50 U	67 U
CFC-11	75-69-4	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	16 U	50 U	67 U
CFC-12	75-71-8	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	21 U	50 U	67 U
Chlorobenzene	108-90-7	100	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	18 U	50 U	67 U
Chlorodibromomethane	124-48-1	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	20 U	50 U	67 U
Chloroethane	75-00-3	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	16 U	50 U	67 U
Chloroform	67-66-3	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	22 U	50 U	67 U
Chloromethane	74-87-3	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	22 U	50 U	67 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	27	41	25 U	35	36	43	43	48	47	54	50	57 J
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	22 U	50 U	67 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
Dichloromethane	75-09-2	5	ug/L	120 U	120 U	120 U	120 U	120 U	120 U	100 U	120 U	120 U	18 U	5.0 U	67 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 U
Tetrachloroethene	127-18-4	5	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	22 U	50 U	67 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	17 U	50 U	67 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	20 U	50 U	67 U
Trichloroethene	79-01-6	5	ug/L	**1,200**	**1,400**	**1,200**	**1,600**	**1,600**	**1,300**	**1,400**	**1,600**	**1,600**	**2,000**	**2,100**	**990**
Vinyl chloride	75-01-4	2	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	20 U	50 U	67 U
Benzene	71-43-2	5	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	14 U	50 U	67 U
Toluene	108-88-3	100	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	19 U	50 U	67 U
Ethylbenzene	100-41-4	700	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	18 U	50 U	67 U
Total Xylenes	1330-20-7	10,000	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	20 U	25 U	25 U	34 U	50 U	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.012	0.013	0.012	0.012	0.015	0.017	0.017	0.017	0.019	0.025	0.023	NA
Lead	7439-92-1	0.015	mg/L	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0019 U	0.0030 U	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-01D 10/01/18 Intermediate Wells	OBG-01D 02/19/19 Intermediate Wells	OBG-01D 04/02/19 Intermediate Wells	OBG-01D 04/16/19 Intermediate Wells	OBG-01D 06/06/19 Intermediate Wells	OBG-01D 09/25/19 Intermediate Wells	OBG-04D 05/01/93 Intermediate Wells	OBG-04D 12/01/93 Intermediate Wells	OBG-04D 03/01/94 Intermediate Wells	OBG-04D 05/01/94 Intermediate Wells	OBG-04D 09/01/94 Intermediate Wells	OBG-04D 12/01/94 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	5 U	0.5 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	3	5.1	4	6	6	6
1,2-Dichloropropane	78-87-5	5	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	50 UJ [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	50 UJ [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	**66 [72]**	**86**	1.0 U	12 J	2.8	**100 J**	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	250 U [250 U]	250 U	5.0 U	170 U	5.0 U	630 U	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**1,200 [1,200]**	**1,900**	**7.5**	**350**	**39**	**2,400**	5	**5.7**	4	5	**6**	**6**
Vinyl chloride	75-01-4	2	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	50 U [50 U]	50 U	1.0 U	33 U	1.0 U	130 U	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.057 [0.061]	0.061	NA	NA	0.0057	0.069	0.002	0.004 U	0.01 U	0.005 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U [0.005 U]	0.0031 J	NA	NA	0.014	0.0045 J	0.001	0.0014	0.003 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-04D 03/01/95 Intermediate Wells	OBG-04D 06/01/95 Intermediate Wells	OBG-04D 09/01/95 Intermediate Wells	OBG-04D 12/01/95 Intermediate Wells	OBG-04D 03/01/96 Intermediate Wells	OBG-04D 06/01/96 Intermediate Wells	OBG-04D 09/01/96 Intermediate Wells	OBG-04D 12/13/96 Intermediate Wells	OBG-04D 03/23/97 Intermediate Wells	OBG-04D 06/30/97 Intermediate Wells	OBG-04D 09/30/97 Intermediate Wells	OBG-04D 12/07/97 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	3	3	3	3	4
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1	1 U	1	1
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	1	2	2	3	2
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	5	5	7	6	7	4	5	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	5	6	10	7	7
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	**6**	**6**	**6**	**7**	**7**	4	**8**	**6**	**7**	**20**	**8**	**8**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-04D 03/27/98 Intermediate Wells	OBG-04D 06/27/98 Intermediate Wells	OBG-04D 10/02/98 Intermediate Wells	OBG-04D 12/12/98 Intermediate Wells	OBG-04D 03/19/99 Intermediate Wells	OBG-04D 06/24/99 Intermediate Wells	OBG-04D 09/16/99 Intermediate Wells	OBG-04D 12/12/99 Intermediate Wells	OBG-04D 03/22/00 Intermediate Wells	OBG-04D 06/21/00 Intermediate Wells	OBG-04D 09/19/00 Intermediate Wells	OBG-04D 12/04/00 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	3	4	4	3	4	4	4	5	6	4	5	5
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1	1 U	1	1 U	1	1 U	1	1	1 U	1	1
1,1-Dichloroethene	75-35-4	7	ug/L	3	2	2	3	3	3	4	4	5	3	6	5
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	6	7	8	6	7	7	8	8	8	5	38	7
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	3	1 U	3	3	1 U	4	4	4	1 U	1 U	1 U	3
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	**6**	**7**	**8**	**7**	**7**	**7**	**6**	**7**	**7**	5	**43**	**6**
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-04D 03/29/01 Intermediate Wells	OBG-04D 06/01/01 Intermediate Wells	OBG-04D 10/06/01 Intermediate Wells	OBG-04D 12/11/01 Intermediate Wells	OBG-04D 03/22/02 Intermediate Wells	OBG-04D 06/18/02 Intermediate Wells	OBG-04D 09/19/02 Intermediate Wells	OBG-04D 11/21/02 Intermediate Wells	OBG-04D 03/18/03 Intermediate Wells	OBG-04D 06/21/03 Intermediate Wells	OBG-04D 06/12/04 Intermediate Wells	OBG-04D 06/25/05 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	5	4	4	4	4.7	5.3	4.5 [4.6]	4.1	4.6 [4.5]	4.0	4.9	4.7
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	2	1	1 U	1	1.6	1.9	1.6 [1.5]	1.0	1.6 [1.6]	1.3	1.8	1.8
1,1-Dichloroethene	75-35-4	7	ug/L	6	6	5	6	**8.5**	**11**	5.0 [5]	5.0	5.0 [5]	**8.2**	5.6	**7.5**
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	10 U	10 U	10	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	8	7	7	6	7.4	5.4	6.1 [6.1]	5.8	5.6 [5.6]	5.6	6.4	5.5
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	1 U	1 U	1	5.0 U	5.0 U	5.0 U [5 U]	5.0 U	5.0 U [5 U]	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	**7**	**6**	**6**	**7**	**6.6**	**7.1**	**6.5 [6.4]**	**6.6**	**6.1 [6.1]**	**6.5**	**6.3**	**6.5**
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3 U	3	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01	0.0050 U	0.0050 U	0.0050 U [0.005 U]	0.0050 U	0.0050 U [0.005 U]	0.0050 U	NA	0.0050 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005	0.0030 U	0.0030 U	0.0030 U [0.003 U]	0.0030 U	0.0030 U [0.003 U]	0.0030 U	NA	0.0030 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-04D 06/24/06 Intermediate Wells	OBG-04D 06/22/07 Intermediate Wells	OBG-04D 06/20/08 Intermediate Wells	OBG-04D 06/21/17 Intermediate Wells	OBG-04D 10/01/18 Intermediate Wells	OBG-04D 02/25/19 Intermediate Wells	OBG-04D 06/05/19 Intermediate Wells	OBG-04D 09/24/19 Intermediate Wells	OBG-08D 05/01/93 Intermediate Wells	OBG-08D 12/01/93 Intermediate Wells	OBG-08D 03/01/94 Intermediate Wells	OBG-08D 05/01/94 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	6.3	1.0 U	7.2	4.5	4.2	3.9	1.5	2.1	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	2.0	2.4	3.2	3.6	3.9	3.8	2.2	2.5	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	**8.8**	**10**	**13**	**24**	**24**	**22**	**8.5**	**14**	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	3 U	10 U	10 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	16	19	30	23
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	**5.9**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.8	2.8	1.9	2.5	0.88 J	1.6	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	5.7	5.6	6.1	4.0	4.2	3.9	2.0	2.3	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**6.7**	**6.9**	**8.0**	4.2	4.7	4.3	1.8	2.7	**260**	**380**	**540**	**530**
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	0.0050 U	NA	NA	0.0019 J	0.0022 J	0.0023 J	0.0041 J	0.0586	0.008	0.01	0.005 U
Lead	7439-92-1	0.015	mg/L	NA	0.0030 U	NA	NA	0.005 U	0.005 U	0.005 U	0.005 U	**0.0586**	0.0042	0.003 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-08D 09/01/94 Intermediate Wells	OBG-08D 12/01/94 Intermediate Wells	OBG-08D 03/01/95 Intermediate Wells	OBG-08D 06/01/95 Intermediate Wells	OBG-08D 09/01/95 Intermediate Wells	OBG-08D 12/01/95 Intermediate Wells	OBG-08D 03/01/96 Intermediate Wells	OBG-08D 06/01/96 Intermediate Wells	OBG-08D 09/01/96 Intermediate Wells	OBG-08D 12/15/96 Intermediate Wells	OBG-08D 03/24/97 Intermediate Wells	OBG-08D 06/30/97 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	100 U	250 U
1,2-Dichloroethane	107-06-2	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	50 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	26	24	19	20	37	29	29	14	15	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	100 U	250 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	100 U	250 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	500 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	500 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	500 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	500 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	200 U	500 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	37	50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Trichloroethene	79-01-6	5	ug/L	**640**	**560**	**540**	**610**	**730**	**740**	**800**	**760**	**770**	**620**	**840**	**870**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	20 U	50 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	30 U	60 U	150 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01	0.01	0.01	0.01	0.01 U	0.01	0.01	0.01	0.01	0.01	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-08D 09/30/97 Intermediate Wells	OBG-08D 12/08/97 Intermediate Wells	OBG-08D 06/27/98 Intermediate Wells	OBG-08D 12/09/98 Intermediate Wells	OBG-08D 06/21/99 Intermediate Wells	OBG-08D 12/11/99 Intermediate Wells	OBG-08D 06/19/00 Intermediate Wells	OBG-08D 12/02/00 Intermediate Wells	OBG-08D 06/01/01 Intermediate Wells	OBG-08D 12/08/01 Intermediate Wells	OBG-08D 06/15/02 Intermediate Wells	OBG-08D 11/21/02 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	**25**	40 U	50 U
1,1-Dichloroethane	75-34-3	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
1,1-Dichloroethene	75-35-4	7	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	**25**	40 U	50 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	120 U	120	40 U	50 U
1,2-Dichloroethane	107-06-2	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	**25**	40 U	50 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	**25**	40 U	50 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	120 U	120	40 U	50 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	120 U	120	40 U	50 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
Bromodichloromethane	75-27-4	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
Bromoform	75-25-2	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250	40 U	50 U
Bromomethane	74-83-9	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250	40 U	50 U
Carbon Tetrachloride	56-23-5	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	**25**	40 U	50 U
CFC-11	75-69-4	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
CFC-12	75-71-8	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250	40 U	50 U
Chlorobenzene	108-90-7	100	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
Chlorodibromomethane	124-48-1	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
Chloroethane	75-00-3	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
Chloroform	67-66-3	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
Chloromethane	74-87-3	- -	ug/L	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250	40 U	50 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	19 J	26	38	56
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
Dichloromethane	75-09-2	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	**25**	40 U	250 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20 U	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	NA
Tetrachloroethene	127-18-4	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	**25**	40 U	50 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	20 U	50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
Trichloroethene	79-01-6	5	ug/L	**1,100**	**1,200**	**1,000**	**1,100**	**1,100**	**1,200**	**910**	**960**	**1,300**	**1,300**	**1,500**	**1,500**
Vinyl chloride	75-01-4	2	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	**25**	40 U	50 U
Benzene	71-43-2	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	**25**	40 U	50 U
Toluene	108-88-3	100	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
Ethylbenzene	100-41-4	700	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25	40 U	50 U
Total Xylenes	1330-20-7	10,000	ug/L	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	75 U	75	NA	50 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.014	0.015
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.0030 U	0.0030 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-08D 06/21/03 Intermediate Wells	OBG-08D 11/21/03 Intermediate Wells	OBG-08D 06/12/04 Intermediate Wells	OBG-08D 11/18/04 Intermediate Wells	OBG-08D 06/25/05 Intermediate Wells	OBG-08D 11/18/05 Intermediate Wells	OBG-08D 06/24/06 Intermediate Wells	OBG-08D 11/28/06 Intermediate Wells	OBG-08D 06/23/07 Intermediate Wells	OBG-08D 11/14/07 Intermediate Wells	OBG-08D 06/21/08 Intermediate Wells	OBG-08D 11/18/08 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
1,1-Dichloroethane	75-34-3	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
1,1-Dichloroethene	75-35-4	7	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
1,2-Dichloroethane	107-06-2	5	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Bromoform	75-25-2	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Bromomethane	74-83-9	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Carbon Tetrachloride	56-23-5	5	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
CFC-11	75-69-4	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
CFC-12	75-71-8	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Chlorobenzene	108-90-7	100	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Chlorodibromomethane	124-48-1	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Chloroethane	75-00-3	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Chloroform	67-66-3	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Chloromethane	74-87-3	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	**77**	66 [50 U]	**73**	**73**	**78**	67
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	250 U [250 U]	250 U	250 U	250 U	250 U	250 U	250 U	250 U [250 U]	250 U	250 U	250 U	250 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Trichloroethene	79-01-6	5	ug/L	**1,500 [1,500]**	**1,400**	**1,500**	**880**	**2,000**	**1,400**	**2,100**	**2,200 [2,100]**	**2,500**	**2,400**	**2,900**	**2,900**
Vinyl chloride	75-01-4	2	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Benzene	71-43-2	5	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Toluene	108-88-3	100	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Ethylbenzene	100-41-4	700	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Total Xylenes	1330-20-7	10,000	ug/L	50 U [50 U]	50 U	50 U	50 U	50 U	50 U	50 U	50 U [50 U]	50 U	50 U	50 U	50 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.017 [0.014]	NA	0.018	NA	0.019	NA	0.027	NA	0.031	NA	0.036	NA
Lead	7439-92-1	0.015	mg/L	0.0030 U [0.003 U]	NA	0.0030 U	NA	0.0030 U	NA	0.0030 U	NA	0.0030 U	NA	0.0030 U	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-08D 06/19/17 Intermediate Wells	OBG-08D 10/02/18 Intermediate Wells	OBG-08D 02/25/19 Intermediate Wells	OBG-08D 04/02/19 Intermediate Wells	OBG-08D 04/16/19 Intermediate Wells	OBG-08D 06/06/19 Intermediate Wells	OBG-08D 09/25/19 Intermediate Wells	OBG-11D 05/01/93 Intermediate Wells	OBG-11D 12/01/93 Intermediate Wells	OBG-11D 03/01/94 Intermediate Wells	OBG-11D 05/01/94 Intermediate Wells	OBG-11D 09/01/94 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	5 U	0.5 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	200 U	140 U	170 U	50 U	100 UF2	10 U	250 U	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	**95 J**	**120 J**	**130 J**	45 J	66 J	12	**170 J**	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	200 U	140 U	170 U	50 U	100 UF2	10 U	250 U	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	200 U	710 U	830 U	250 U	**500**	50 U	1,300 U	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**2,500**	**3,000**	**2,800**	**1,700**	**2,000 F1**	**130**	**4,300**	**8**	4	5	**7**	**7**
Vinyl chloride	75-01-4	2	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	200 U	140 U	170 U	50 U	100 U	10 U	250 U	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	0.098	**0.11**	NA	NA	0.023	**0.13**	**0.118**	0.02	**0.23**	**0.36**	0.01
Lead	7439-92-1	0.015	mg/L	NA	0.005 U	0.0053	NA	NA	0.005 U	0.005 U	**0.0174**	0.0081	**0.041**	**0.15**	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-11D 12/01/94 Intermediate Wells	OBG-11D 03/01/95 Intermediate Wells	OBG-11D 06/01/95 Intermediate Wells	OBG-11D 09/01/95 Intermediate Wells	OBG-11D 12/01/95 Intermediate Wells	OBG-11D 03/01/96 Intermediate Wells	OBG-11D 06/01/96 Intermediate Wells	OBG-11D 09/01/96 Intermediate Wells	OBG-11D 12/11/96 Intermediate Wells	OBG-11D 03/21/97 Intermediate Wells	OBG-11D 06/28/97 Intermediate Wells	OBG-11D 09/29/97 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	2	1 U	1 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	**7**	**6**	**8**	**8**	**10**	**7**	4	**8**	**11**	**10**	**11**	**10**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.03	0.05	0.01	0.01	0.01	0.03	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.01	**0.028**	0.005 U	0.008	0.005 U	0.005 U	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-11D 12/08/97 Intermediate Wells	OBG-11D 03/25/98 Intermediate Wells	OBG-11D 06/22/98 Intermediate Wells	OBG-11D 09/30/98 Intermediate Wells	OBG-11D 12/06/98 Intermediate Wells	OBG-11D 03/19/99 Intermediate Wells	OBG-11D 06/18/99 Intermediate Wells	OBG-11D 09/15/99 Intermediate Wells	OBG-11D 12/10/99 Intermediate Wells	OBG-11D 03/21/00 Intermediate Wells	OBG-11D 06/18/00 Intermediate Wells	OBG-11D 09/19/00 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	1 U	1	1	1 U	1	1	1	1 U	1	2	1	1
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	**12**	**9**	**12**	**10**	**12**	**11**	**10**	**11**	**12**	**13**	**9**	**13**
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.02	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-11D 12/01/00 Intermediate Wells	OBG-11D 03/27/01 Intermediate Wells	OBG-11D 06/29/01 Intermediate Wells	OBG-11D 10/06/01 Intermediate Wells	OBG-11D 12/05/01 Intermediate Wells	OBG-11D 03/19/02 Intermediate Wells	OBG-11D 06/14/02 Intermediate Wells	OBG-11D 09/19/02 Intermediate Wells	OBG-11D 11/20/02 Intermediate Wells	OBG-11D 03/18/03 Intermediate Wells	OBG-11D 06/18/03 Intermediate Wells	OBG-11D 06/11/04 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	10 U	10 U	10 U	10	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1	2	NA	1	1	1.8	2.7	2.2	1.5	2.4	2.3	2.3
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	10 U	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	1 U	1 U	1 U	1	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	0.50 U	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	**9**	**14**	**11**	**13**	**15**	**15**	**16**	**14**	**15**	**14**	**15**	**13**
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3 U	3 U	3	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-11D 06/22/05 Intermediate Wells	OBG-11D 06/24/06 Intermediate Wells	OBG-11D 06/22/07 Intermediate Wells	OBG-11D 06/17/08 Intermediate Wells	OBG-11D 06/21/17 Intermediate Wells	OBG-11D 10/03/18 Intermediate Wells	OBG-11D 02/21/19 Intermediate Wells	OBG-11D 06/05/19 Intermediate Wells	OBG-11D 09/25/19 Intermediate Wells	OBG-12D 05/01/93 Intermediate Wells	OBG-12D 12/01/93 Intermediate Wells	OBG-12D 03/01/94 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	0.5 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	0.5 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	0.29 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	3.2	1.7	1.9	3.0	3.8	2.1	1.7	1.0	2.2	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.45 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.43 U	1.0 U	1.0 U	1.0 U	1.0 UB	1.0 U	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U	5.0 U	0.36 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**13**	**13**	**12**	**15**	**5.2**	3.7	3.7	2.2	**5.9**	5 U	0.9	1
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	1.0 U	1.0 U	0.67 U	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.0050 U	NA	0.0050 U	NA	NA	0.0046 J	0.0045 J	0.0043 J	0.005 UB	0.0022	0.004 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.0030 U	NA	0.0030 U	NA	NA	0.003 J	0.005 U	0.0034 J	0.005 U	0.001	0.0046	0.003 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-12D 05/01/94 Intermediate Wells	OBG-12D 09/01/94 Intermediate Wells	OBG-12D 12/01/94 Intermediate Wells	OBG-12D 06/01/95 Intermediate Wells	OBG-12D 12/01/95 Intermediate Wells	OBG-12D 12/07/96 Intermediate Wells	OBG-12D 06/28/97 Intermediate Wells	OBG-12D 06/21/98 Intermediate Wells	OBG-12D 12/04/98 Intermediate Wells	OBG-12D 06/18/99 Intermediate Wells	OBG-12D 12/10/99 Intermediate Wells	OBG-12D 06/14/00 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	1 U	1	1	1	3	2	2	2	2	2	3	2
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-12D 12/01/00 Intermediate Wells	OBG-12D 06/28/01 Intermediate Wells	OBG-12D 12/05/01 Intermediate Wells	OBG-12D 06/14/02 Intermediate Wells	OBG-12D 11/20/02 Intermediate Wells	OBG-12D 06/18/03 Intermediate Wells	OBG-12D 06/10/04 Intermediate Wells	OBG-12D 06/21/05 Intermediate Wells	OBG-12D 06/22/06 Intermediate Wells	OBG-12D 06/19/07 Intermediate Wells	OBG-12D 06/17/08 Intermediate Wells	OBG-12D 06/24/09 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.46 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.29 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	10 U	10	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.30 U	1.0 U
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.42 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.45 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.43 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	0.6 J	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.36 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	2	2	3	3.0	3.5	3.1	2.8	3.1	3.3	4.3	3.8	2.9
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U
Benzene	71-43-2	5	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.27 U	1.0 U
Toluene	108-88-3	100	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.37 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.67 U	1.0 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01	0.0050 U	0.0050 U	0.0050 U	NA	0.0050 U	NA	0.0050 U	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005	0.0030 U	0.0030 U	0.0030 U	NA	0.0030 U	NA	0.0030 U	NA	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-12D 06/25/10 Intermediate Wells	OBG-12D 05/20/11 Intermediate Wells	OBG-12D 06/26/12 Intermediate Wells	OBG-12D 06/04/13 Intermediate Wells	OBG-12D 06/11/14 Intermediate Wells	OBG-12D 06/16/15 Intermediate Wells	OBG-12D 06/02/16 Intermediate Wells	OBG-12D 06/21/17 Intermediate Wells	OBG-12D 10/02/18 Intermediate Wells	OBG-12D 02/20/19 Intermediate Wells	OBG-12D 06/05/19 Intermediate Wells	OBG-12D 09/25/19 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	3.6	1.0 U	2.7	2.7	2.8	2.3	2.1	1.3	1.0 UB	0.78 J	1.0 UB	1.2
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.0011 J	0.0016 J	0.005 U	0.005 UB
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-13D 05/01/93 Intermediate Wells	OBG-13D 12/01/93 Intermediate Wells	OBG-13D 03/01/94 Intermediate Wells	OBG-13D 05/01/94 Intermediate Wells	OBG-13D 09/01/94 Intermediate Wells	OBG-13D 12/01/94 Intermediate Wells	OBG-13D 03/01/95 Intermediate Wells	OBG-13D 06/01/95 Intermediate Wells	OBG-13D 09/01/95 Intermediate Wells	OBG-13D 12/01/95 Intermediate Wells	OBG-13D 03/01/96 Intermediate Wells	OBG-13D 06/01/96 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	5 U	3 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	7	8.4	32	38	33	29	27	26	36	33	27	50 U
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**140**	**180**	**1,000**	**910**	**940**	**760**	**840**	**900**	**1,200**	**910**	**820**	**830**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.0042	0.009	0.02	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Lead	7439-92-1	0.015	mg/L	0.0051	**0.0154**	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-13D 09/01/96 Intermediate Wells	OBG-13D 12/10/96 Intermediate Wells	OBG-13D 03/22/97 Intermediate Wells	OBG-13D 06/27/97 Intermediate Wells	OBG-13D 09/30/97 Intermediate Wells	OBG-13D 12/08/97 Intermediate Wells	OBG-13D 06/25/98 Intermediate Wells	OBG-13D 12/07/98 Intermediate Wells	OBG-13D 06/18/99 Intermediate Wells	OBG-13D 12/08/99 Intermediate Wells	OBG-13D 06/14/00 Intermediate Wells	OBG-13D 12/01/00 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	120 U	120 U	120 U
1,2-Dichloroethane	107-06-2	5	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	120 U	120 U	120 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	120 U	120 U	120 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	250 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Bromoform	75-25-2	- -	ug/L	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	250 U
Bromomethane	74-83-9	- -	ug/L	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	250 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
CFC-11	75-69-4	- -	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
CFC-12	75-71-8	- -	ug/L	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	250 U
Chlorobenzene	108-90-7	100	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Chloroethane	75-00-3	- -	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Chloroform	67-66-3	- -	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Chloromethane	74-87-3	- -	ug/L	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	250 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Trichloroethene	79-01-6	5	ug/L	**770**	**1,200**	**880**	**1,000**	**1,100**	**1,200**	**1,200**	**1,200**	**1,000**	**1,100**	**980**	**960**
Vinyl chloride	75-01-4	2	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Benzene	71-43-2	5	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Toluene	108-88-3	100	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Ethylbenzene	100-41-4	700	ug/L	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	25 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	75 U	75 U	75 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-13D 06/29/01 Intermediate Wells	OBG-13D 12/05/01 Intermediate Wells	OBG-13D 06/13/02 Intermediate Wells	OBG-13D 11/19/02 Intermediate Wells	OBG-13D 06/17/03 Intermediate Wells	OBG-13D 11/18/03 Intermediate Wells	OBG-13D 06/10/04 Intermediate Wells	OBG-13D 11/18/04 Intermediate Wells	OBG-13D 06/21/05 Intermediate Wells	OBG-13D 11/18/05 Intermediate Wells	OBG-13D 06/21/06 Intermediate Wells	OBG-13D 11/28/06 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	25 U	**25**	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
1,1-Dichloroethane	75-34-3	- -	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
1,1-Dichloroethene	75-35-4	7	ug/L	25 U	**25**	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	120 U	120	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
1,2-Dichloroethane	107-06-2	5	ug/L	25 U	**25**	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	25 U	**25**	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	120 U	120	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	120 U	120	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	250 U	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Bromoform	75-25-2	- -	ug/L	250 U	250	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Bromomethane	74-83-9	- -	ug/L	250 U	250	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon Tetrachloride	56-23-5	5	ug/L	25 U	**25**	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
CFC-11	75-69-4	- -	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
CFC-12	75-71-8	- -	ug/L	250 U	250	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Chlorobenzene	108-90-7	100	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Chlorodibromomethane	124-48-1	- -	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Chloroethane	75-00-3	- -	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Chloroform	67-66-3	- -	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Chloromethane	74-87-3	- -	ug/L	250 U	250	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	17 J	25	50 U	57	50 U	39	50 U	50 U	50 U	50 U	50 U	66
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 J	**25**	250 U	250 U	250 U	120 U	250 U	250 U	250 U	250 U	250 U	250 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	25 U	**25**	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Trichloroethene	79-01-6	5	ug/L	**1,300**	**1,500**	**1,400**	**1,400**	**1,100**	**1,400**	**1,100**	**1,300**	**1,300**	**1,800**	**1,600**	**2,000**
Vinyl chloride	75-01-4	2	ug/L	25 U	**25**	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	71-43-2	5	ug/L	25 U	**25**	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Toluene	108-88-3	100	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Ethylbenzene	100-41-4	700	ug/L	25 U	25	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Total Xylenes	1330-20-7	10,000	ug/L	75 U	75	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	50 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.03	0.03	0.027	0.030	0.028	NA	0.030	NA	0.039	NA	0.042	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005	0.0030 U	0.0030 U	0.0030 U	NA	0.0030 U	NA	0.0030 U	NA	0.0030 U	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-13D 06/19/07 Intermediate Wells	OBG-13D 11/13/07 Intermediate Wells	OBG-13D 06/17/08 Intermediate Wells	OBG-13D 11/18/08 Intermediate Wells	OBG-13D 06/21/17 Intermediate Wells	OBG-13D 10/02/18 Intermediate Wells	OBG-13D 02/20/19 Intermediate Wells	OBG-13D 06/05/19 Intermediate Wells	OBG-13D 09/24/19 Intermediate Wells	OBG-14D 05/01/93 Intermediate Wells	OBG-14D 12/01/93 Intermediate Wells	OBG-14D 03/01/94 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	50 U	50 U	23 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	50 U	50 U	12 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	50 U	50 U	20 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	50 U	50 U	20 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	50 U	50 U	18 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	50 U	50 U	20 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	50 U	50 U	20 U	50 U	100 U	20 U	100 U	10 U	100 U	5 U	0.5 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	50 U	50 U	14 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	50 U	50 U	12 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	50 U	50 U	17 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	50 U	50 U	15 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	50 U	50 U	12 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	50 U	50 U	18 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	50 U	50 U	18 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	50 U	50 U	16 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	50 U	50 U	21 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	50 U	50 U	18 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	50 U	50 U	20 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	50 U	50 U	16 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	50 U	50 U	22 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	50 U	50 U	22 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	70	63	65	66	**140**	68	**110**	51	**83 J**	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	50 U	50 U	22 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	250 U	250 U	18 U	250 U	100 U	100 U	500 U	50 U	500 U	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	50 U	50 U	22 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	50 U	50 U	17 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	50 U	50 U	20 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**2,000**	**1,700**	**2,300**	**2,300**	**1,100**	**460**	**2,500 J**	**830**	**2,100**	5 U	0.5 U	1 U
Vinyl chloride	75-01-4	2	ug/L	50 U	50 U	20 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Benzene	71-43-2	5	ug/L	50 U	50 U	14 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Toluene	108-88-3	100	ug/L	50 U	50 U	19 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	50 U	50 U	18 U	50 U	100 U	20 U	100 U	10 U	100 U	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	50 U	50 U	34 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.058	NA	0.064	NA	NA	0.056	0.086	0.077	0.074	0.0082	0.007	0.01 U
Lead	7439-92-1	0.015	mg/L	0.0030 U	NA	0.0019 U	NA	NA	0.005 U	0.005 U	0.0033 J	0.005 U	0.002	0.0025	0.003 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14D 05/01/94 Intermediate Wells	OBG-14D 09/01/94 Intermediate Wells	OBG-14D 12/01/94 Intermediate Wells	OBG-14D 06/01/95 Intermediate Wells	OBG-14D 12/01/95 Intermediate Wells	OBG-14D 12/07/96 Intermediate Wells	OBG-14D 03/22/97 Intermediate Wells	OBG-14D 06/26/97 Intermediate Wells	OBG-14D 09/27/97 Intermediate Wells	OBG-14D 12/04/97 Intermediate Wells	OBG-14D 03/26/98 Intermediate Wells	OBG-14D 06/21/98 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.005 U	0.01 U	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14D 10/01/98 Intermediate Wells	OBG-14D 12/06/98 Intermediate Wells	OBG-14D 03/19/99 Intermediate Wells	OBG-14D 06/19/99 Intermediate Wells	OBG-14D 09/14/99 Intermediate Wells	OBG-14D 12/09/99 Intermediate Wells	OBG-14D 03/22/00 Intermediate Wells	OBG-14D 06/17/00 Intermediate Wells	OBG-14D 09/19/00 Intermediate Wells	OBG-14D 12/01/00 Intermediate Wells	OBG-14D 03/28/01 Intermediate Wells	OBG-14D 06/27/01 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14D 10/04/01 Intermediate Wells	OBG-14D 12/07/01 Intermediate Wells	OBG-14D 03/22/02 Intermediate Wells	OBG-14D 06/17/02 Intermediate Wells	OBG-14D 09/18/02 Intermediate Wells	OBG-14D 11/21/02 Intermediate Wells	OBG-14D 03/18/03 Intermediate Wells	OBG-14D 06/19/03 Intermediate Wells	OBG-14D 11/20/03 Intermediate Wells	OBG-14D 06/11/04 Intermediate Wells	OBG-14D 11/17/04 Intermediate Wells	OBG-14D 06/22/05 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	10 U	10	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	10 U	10	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	10 U	10	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	10 U	10	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	1	5.0 U [5 U]	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U [5 U]	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01	0.0050 U [0.005 U]	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	NA	NA	NA	0.0050 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.006	0.0030 U [0.003 U]	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	NA	NA	0.0030 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14D 11/18/05 Intermediate Wells	OBG-14D 06/23/06 Intermediate Wells	OBG-14D 11/27/06 Intermediate Wells	OBG-14D 06/21/07 Intermediate Wells	OBG-14D 11/13/07 Intermediate Wells	OBG-14D 06/18/08 Intermediate Wells	OBG-14D 11/20/08 Intermediate Wells	OBG-14D 06/26/09 Intermediate Wells	OBG-14D 12/01/09 Intermediate Wells	OBG-14D 06/23/10 Intermediate Wells	OBG-14D 11/16/10 Intermediate Wells	OBG-14D 05/17/11 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.29 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.45 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U [5 U]	5.0 U	0.36 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	0.67 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	0.0050 U [0.005 U]	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	0.0030 U [0.003 U]	NA	NA	NA	NA	NA	NA	NA	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14D 11/01/11 Intermediate Wells	OBG-14D 06/27/12 Intermediate Wells	OBG-14D 11/28/12 Intermediate Wells	OBG-14D 06/03/13 Intermediate Wells	OBG-14D 12/03/13 Intermediate Wells	OBG-14D 06/10/14 Intermediate Wells	OBG-14D 12/03/14 Intermediate Wells	OBG-14D 06/18/15 Intermediate Wells	OBG-14D 12/01/15 Intermediate Wells	OBG-14D 06/02/16 Intermediate Wells	OBG-14D 12/21/16 Intermediate Wells	OBG-14D 06/19/17 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	2.0 U [2 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14D 11/16/17 Intermediate Wells	OBG-14D 10/03/18 Intermediate Wells	OBG-14D 02/19/19 Intermediate Wells	OBG-14D 06/04/19 Intermediate Wells	OBG-14D 09/23/19 Intermediate Wells	OBG-17D 05/01/93 Intermediate Wells	OBG-17D 12/01/93 Intermediate Wells	OBG-17D 03/01/94 Intermediate Wells	OBG-17D 05/01/94 Intermediate Wells	OBG-17D 09/01/94 Intermediate Wells	OBG-17D 12/01/94 Intermediate Wells	OBG-17D 06/01/95 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 UJ	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 UJ	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	10 U	0.5 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	10 U	0.5 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 UJ	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1.0 U	5.0 U	5.0 U [5 U]	5.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 UJ	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 UJ	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 UJ	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	0.13 J [0.21 J]	1.0 UB	1.0 U	10 U	0.5 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	0.0031 J	0.0026 J [0.0028 J]	0.0011 J	0.00091 J	0.0059	0.004 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	0.0052	0.0041 J [0.0037 J]	0.005 U	0.005 U	0.001	0.001	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-17D 12/01/95 Intermediate Wells	OBG-17D 12/07/96 Intermediate Wells	OBG-17D 06/26/97 Intermediate Wells	OBG-17D 06/19/98 Intermediate Wells	OBG-17D 06/21/99 Intermediate Wells	OBG-17D 06/18/00 Intermediate Wells	OBG-17D 06/28/01 Intermediate Wells	OBG-17D 06/14/02 Intermediate Wells	OBG-17D 06/18/03 Intermediate Wells	OBG-17D 06/22/05 Intermediate Wells	OBG-17D 06/23/07 Intermediate Wells	OBG-17D 06/23/09 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	0.4 J	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	0.50 U	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	3 U	3 U	3 U	3 U	3 U	3 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0050 U	0.0050 U	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0030 U	0.0030 U	NA	NA	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-17D 05/20/11 Intermediate Wells	OBG-17D 06/05/13 Intermediate Wells	OBG-17D 06/17/15 Intermediate Wells	OBG-17D 06/22/17 Intermediate Wells	OBG-17D 10/03/18 Intermediate Wells	OBG-17D 02/22/19 Intermediate Wells	OBG-17D 06/05/19 Intermediate Wells	OBG-17D 09/23/19 Intermediate Wells	OBG-18D 05/01/93 Intermediate Wells	OBG-18D 12/01/93 Intermediate Wells	OBG-18D 03/01/94 Intermediate Wells	OBG-18D 05/01/94 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	5 U	0.5 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	5.0 U	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0	NA	NA	0.7	1.2	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	0.31 J	NA	1.0 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	0.00097 J	0.0011 J	0.005 U	0.005 U	0.0026	0.004 U	0.01 U	0.005 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.001	0.0014	0.003 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-18D 09/01/94 Intermediate Wells	OBG-18D 12/01/94 Intermediate Wells	OBG-18D 06/01/95 Intermediate Wells	OBG-18D 12/01/95 Intermediate Wells	OBG-18D 12/10/96 Intermediate Wells	OBG-18D 06/27/97 Intermediate Wells	OBG-18D 06/25/98 Intermediate Wells	OBG-18D 06/22/99 Intermediate Wells	OBG-18D 06/14/00 Intermediate Wells	OBG-18D 06/28/01 Intermediate Wells	OBG-18D 06/12/02 Intermediate Wells	OBG-18D 06/18/03 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	0.4 J	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1	1	1 U	1	1 U	1	1	1	1 U	1	1.5	1.6
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	1.0 U	1.0 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0050 U	0.0050 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0030 U	0.0030 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-18D 06/11/04 Intermediate Wells	OBG-18D 06/21/05 Intermediate Wells	OBG-18D 06/23/06 Intermediate Wells	OBG-18D 06/20/07 Intermediate Wells	OBG-18D 06/17/08 Intermediate Wells	OBG-18D 03/03/09 Intermediate Wells	OBG-18D 06/24/09 Intermediate Wells	OBG-18D 06/24/10 Intermediate Wells	OBG-18D 05/18/11 Intermediate Wells	OBG-18D 06/27/12 Intermediate Wells	OBG-18D 06/05/13 Intermediate Wells	OBG-18D 06/11/14 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.29 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.45 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.8 [1 U]	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	5.0 U [5 U]	5.0 U	5.0 U	5.0 U	0.36 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.1 B
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U [1.7]	2.0	2.1	2.0	**7.1**	2.1	1.9	2.3	2.2	2.2	2.2	2.3
Vinyl chloride	75-01-4	2	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	0.67 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-18D 06/17/15 Intermediate Wells	OBG-18D 06/02/16 Intermediate Wells	OBG-18D 06/20/17 Intermediate Wells	OBG-18D 10/02/18 Intermediate Wells	OBG-18D 02/19/19 Intermediate Wells	OBG-18D 06/05/19 Intermediate Wells	OBG-18D 09/24/19 Intermediate Wells	OBG-19D 05/01/93 Intermediate Wells	OBG-19D 12/01/93 Intermediate Wells	OBG-19D 03/01/94 Intermediate Wells	OBG-19D 05/01/94 Intermediate Wells	OBG-19D 09/01/94 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.64 J	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	0.5 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.62 J	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	1.8	2.0	0.77 J	1.0 UB	1.9	1.0 UB	2.6	5 U	0.5 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	0.005 U	0.00077 J	0.0021 J	0.00065 J	0.002	0.004 U	0.01 U	0.005 U	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.001	0.001 U	0.003 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-19D 12/01/94 Intermediate Wells	OBG-19D 06/01/95 Intermediate Wells	OBG-19D 12/01/95 Intermediate Wells	OBG-19D 12/08/96 Intermediate Wells	OBG-19D 06/27/97 Intermediate Wells	OBG-19D 06/19/98 Intermediate Wells	OBG-19D 12/04/98 Intermediate Wells	OBG-19D 06/17/99 Intermediate Wells	OBG-19D 12/08/99 Intermediate Wells	OBG-19D 06/14/00 Intermediate Wells	OBG-19D 12/01/00 Intermediate Wells	OBG-19D 06/27/01 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-19D 12/04/01 Intermediate Wells	OBG-19D 06/13/02 Intermediate Wells	OBG-19D 11/19/02 Intermediate Wells	OBG-19D 06/17/03 Intermediate Wells	OBG-19D 11/18/03 Intermediate Wells	OBG-19D 06/10/04 Intermediate Wells	OBG-19D 11/15/04 Intermediate Wells	OBG-19D 06/21/05 Intermediate Wells	OBG-19D 11/17/05 Intermediate Wells	OBG-19D 06/21/06 Intermediate Wells	OBG-19D 11/28/06 Intermediate Wells	OBG-19D 06/19/07 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	10	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	10	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	10	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	10	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1	5.0 U	5.0 U [5 U]	5.0 U [5 U]	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	36777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	3	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01	0.0050 U	0.0050 U [0.005 U]	0.0050 U [0.005 U]	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005	0.0030 U	0.0030 U [0.003 U]	0.0030 U [0.003 U]	NA	NA	NA	NA	NA	NA	NA	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-19D 11/13/07 Intermediate Wells	OBG-19D 06/17/08 Intermediate Wells	OBG-19D 11/18/08 Intermediate Wells	OBG-19D 06/24/09 Intermediate Wells	OBG-19D 12/01/09 Intermediate Wells	OBG-19D 06/25/10 Intermediate Wells	OBG-19D 11/16/10 Intermediate Wells	OBG-19D 05/19/11 Intermediate Wells	OBG-19D 11/01/11 Intermediate Wells	OBG-19D 06/27/12 Intermediate Wells	OBG-19D 11/28/12 Intermediate Wells	OBG-19D 06/04/13 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	0.29 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	0.45 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	5.0 U	0.36 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	0.67 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-19D 12/03/13 Intermediate Wells	OBG-19D 06/09/14 Intermediate Wells	OBG-19D 12/03/14 Intermediate Wells	OBG-19D 06/18/15 Intermediate Wells	OBG-19D 12/01/15 Intermediate Wells	OBG-19D 05/31/16 Intermediate Wells	OBG-19D 12/22/16 Intermediate Wells	OBG-19D 06/21/17 Intermediate Wells	OBG-19D 11/16/17 Intermediate Wells	OBG-19D 10/02/18 Intermediate Wells	OBG-19D 02/20/19 Intermediate Wells	OBG-19D 06/04/19 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 UB	1.0 U	1.0 UB
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0016 J	0.0009 J	0.0014 J
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-19D 09/24/19 Intermediate Wells	OBG-21D 06/01/95 Intermediate Wells	OBG-21D 09/01/95 Intermediate Wells	OBG-21D 12/01/95 Intermediate Wells	OBG-21D 03/01/96 Intermediate Wells	OBG-21D 06/01/96 Intermediate Wells	OBG-21D 09/01/96 Intermediate Wells	OBG-21D 12/10/96 Intermediate Wells	OBG-21D 03/21/97 Intermediate Wells	OBG-21D 06/27/97 Intermediate Wells	OBG-21D 09/28/97 Intermediate Wells	OBG-21D 12/04/97 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	1	1 U	1	1	1 U	1 U	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1	1 U	1	1
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	1.0 UB	**10**	**10**	**12**	**16**	**13**	**15**	**16**	**18**	**15**	**19**	**22**
Vinyl chloride	75-01-4	2	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.0011 J	0.0106	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.01 U	0.01	0.01 U	0.01 U	0.01
Lead	7439-92-1	0.015	mg/L	0.005 U	0.002	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-21D 03/25/98 Intermediate Wells	OBG-21D 06/19/98 Intermediate Wells	OBG-21D 09/30/98 Intermediate Wells	OBG-21D 12/03/98 Intermediate Wells	OBG-21D 03/19/99 Intermediate Wells	OBG-21D 06/17/99 Intermediate Wells	OBG-21D 09/15/99 Intermediate Wells	OBG-21D 12/08/99 Intermediate Wells	OBG-21D 03/21/00 Intermediate Wells	OBG-21D 06/13/00 Intermediate Wells	OBG-21D 09/18/00 Intermediate Wells	OBG-21D 12/01/00 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1	1	1	1	1	1 U	1	1	1 U	1 U	1
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	**20**	**26**	**22**	**23**	**23**	**20**	**23**	**23**	**25**	**19**	**25**	**19**
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01	0.01	0.01	0.01	0.01 U	0.01	0.01 U	0.01	0.01 U	0.01 U	0.01
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-21D 03/29/01 Intermediate Wells	OBG-21D 06/29/01 Intermediate Wells	OBG-21D 10/05/01 Intermediate Wells	OBG-21D 12/04/01 Intermediate Wells	OBG-21D 03/21/02 Intermediate Wells	OBG-21D 06/13/02 Intermediate Wells	OBG-21D 09/19/02 Intermediate Wells	OBG-21D 11/19/02 Intermediate Wells	OBG-21D 03/18/03 Intermediate Wells	OBG-21D 06/17/03 Intermediate Wells	OBG-21D 11/21/03 Intermediate Wells	OBG-21D 06/11/04 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5 U	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	10 U	10 U	10	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	10 U	10 U	10 U	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1	0.7 J	1 U	1	1.5	1.5	1.5	1.8	1.7	1.5	1.2	1.4
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	1 U	1 U	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	**25**	**22**	**25**	**26**	**20**	**24**	**20**	**25**	**21**	**21**	**24**	**22**
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1 U	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3 U	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Inorganics															
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01	0.0050 U	0.0058	0.0057	0.0058	0.0050	0.0050 U	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	NA

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-21D 11/15/04 Intermediate Wells	OBG-21D 06/21/05 Intermediate Wells	OBG-21D 11/17/05 Intermediate Wells	OBG-21D 06/21/06 Intermediate Wells	OBG-21D 11/28/06 Intermediate Wells	OBG-21D 06/19/07 Intermediate Wells	OBG-21D 11/12/07 Intermediate Wells	OBG-21D 06/16/08 Intermediate Wells	OBG-21D 11/17/08 Intermediate Wells	OBG-21D 06/22/17 Intermediate Wells	OBG-21D 10/02/18 Intermediate Wells	OBG-21D 02/20/19 Intermediate Wells
Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.29 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	3.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.45 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.3	1.5	1.2	1.5	1.0 U	1.7	1.5	1.4	1.3	0.98 J	0.76 J	0.60 J
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.36 U	5.0 U	1.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	**23**	**19**	**23**	**22**	**24 J**	**26**	**21**	**24**	**24**	**14**	**12**	**12**
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.67 U	1.0 U	NA	NA	NA
Inorganics															
Chromium	7440-47-3	0.1	mg/L	NA	0.0050 U	NA	NA	NA	0.0050 U	NA	NA	NA	NA	0.0029 J	0.0035 J
Lead	7439-92-1	0.015	mg/L	NA	0.0030 U	NA	NA	NA	0.0030 U	NA	NA	NA	NA	0.005 U	0.005 U

Table 6
Summary of Intermediate Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-21D 06/05/19 Intermediate Wells	OBG-21D 09/24/19 Intermediate Wells
Volatile Organics					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	0.27 J
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.41 J	0.56 J
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U
Naphthalene	91-20-3	- -	ug/L	1.0 U	0.81 J
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U
o,p-Xylene	.36777-61-2	- -	ug/L	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	**5.3**	**8.9**
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA
Inorganics					
Chromium	7440-47-3	0.1	mg/L	0.0016 J	0.0019 J
Lead	7439-92-1	0.015	mg/L	0.0031 J	0.005 U

Notes:
µg/L = micrograms per liter
mg/L = milligrams per liter
CAS = Chemical Abstract Service
MCL = maximum contaminant level
NA = Not applicable
ND = Not detected
Bold/Shade = Exceedance of federal MCLs
[ ] = Duplicate Sample

Qualifiers:
U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J = Indicates an estimated value.
F1 = Matrix spike (MS) and/or matrix spike duplicate (MSD) recovery is outside acceptance limits.

Table 7
Summary of Deep Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-01DD 05/01/93 Deep Wells	OBG-01DD 12/01/93 Deep Wells	OBG-01DD 03/01/94 Deep Wells	OBG-01DD 05/01/94 Deep Wells	OBG-01DD 09/01/94 Deep Wells	OBG-01DD 12/01/94 Deep Wells	OBG-01DD 03/01/95 Deep Wells	OBG-01DD 06/01/95 Deep Wells	OBG-01DD 09/01/95 Deep Wells	OBG-01DD 12/01/95 Deep Wells	OBG-01DD 03/01/96 Deep Wells	OBG-01DD 06/01/96 Deep Wells	OBG-01DD 09/01/96 Deep Wells	OBG-01DD 12/14/96 Deep Wells	OBG-01DD 03/20/97 Deep Wells	OBG-01DD 06/30/97 Deep Wells	OBG-01DD 09/30/97 Deep Wells	OBG-01DD 12/10/97 Deep Wells	OBG-01DD 06/26/98 Deep Wells	OBG-01DD 12/08/98 Deep Wells	OBG-01DD 06/23/99 Deep Wells	OBG-01DD 12/13/99 Deep Wells
Volatile Organics																									
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U	50 U
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	25 U
1,2-Dichloroethane	107-06-2	5	ug/L	**10**	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	3	2.1	3	2	3	3	2	2	4	3	4	1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	25 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	25 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U	50 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U	50 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U	50 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U	50 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	2	2	1 U	1	1	1 U	5 U	5 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Trichloroethene	79-01-6	5	ug/L	**41**	**33**	**38**	**31**	**41**	**37**	**31**	**43**	**47**	**47**	**40**	**34**	**31**	**35**	**34**	**29**	**24**	**26**	**28**	**23**	**130**	**54**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	1	1	1 U	1 U	1	1 U	5 U	5 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	15 U	15 U
Inorganics																									
Chromium	7440-47-3	0.1	mg/L	0.003	0.009	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02	0.01 U
Lead	7439-92-1	0.015	mg/L	0.0015	0.0063	0.003 U	0.005 U	0.005 U	0.005 U	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.02**	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																									
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7
Summary of Deep Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-01DD 06/20/00 Deep Wells	OBG-01DD 12/05/00 Deep Wells	OBG-01DD 06/01/01 Deep Wells	OBG-01DD 12/10/01 Deep Wells	OBG-01DD 06/16/02 Deep Wells	OBG-01DD 11/23/02 Deep Wells	OBG-01DD 06/24/03 Deep Wells	OBG-01DD 11/19/03 Deep Wells	OBG-01DD 06/14/04 Deep Wells	OBG-01DD 11/16/04 Deep Wells	OBG-01DD 06/24/05 Deep Wells	OBG-01DD 11/15/05 Deep Wells	OBG-01DD 06/22/06 Deep Wells	OBG-01DD 06/25/07 Deep Wells	OBG-01DD 11/15/07 Deep Wells	OBG-01DD 06/19/08 Deep Wells	OBG-01DD 11/19/08 Deep Wells	OBG-01DD 06/22/17 Deep Wells	OBG-01DD 10/01/18 Deep Wells	OBG-01DD 02/18/19 Deep Wells	OBG-01DD 06/06/19 Deep Wells	OBG-01DD 09/27/19 Deep Wells
Volatile Organics																									
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	50 U	20 U	50 U	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.6 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.4 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 UJ
1,1,2-Trichloroethane	79-00-5	5	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.9 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 UJ
1,1-Dichloroethane	75-34-3	- -	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.0 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,1-Dichloroethene	75-35-4	7	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.6 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 UJ
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	0.47 J	6.7 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 UJ
1,2-Dichlorobenzene	95-50-1	- -	ug/L	25 U	10 U	25 U	5	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.0 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,2-Dichloroethane	107-06-2	5	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.0 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.9 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	0.38 J	6.7 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	25 U	10 U	25 U	5	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.4 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 UJ
1,4-Dichlorobenzene	106-46-7	- -	ug/L	25 U	10 U	25 U	5	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.4 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Bromodichloromethane	75-27-4	- -	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.0 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 UJ
Bromoform	75-25-2	- -	ug/L	50 U	20 U	50 U	10	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.3 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Bromomethane	74-83-9	- -	ug/L	50 U	20 U	50 U	10	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.5 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Carbon Tetrachloride	56-23-5	5	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.5 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
CFC-11	75-69-4	- -	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.2 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
CFC-12	75-71-8	- -	ug/L	50 U	20 U	50 U	10	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.2 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Chlorobenzene	108-90-7	100	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.6 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Chlorodibromomethane	124-48-1	- -	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.0 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Chloroethane	75-00-3	- -	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.2 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Chloroform	67-66-3	- -	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.5 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Chloromethane	74-87-3	- -	ug/L	50 U	20 U	50 U	10	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.3 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	5 U	2 U	8	1	5.0 U [5 U]	7.0	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	11	10 U	1.0 U	3.8	1.9 J	0.36 J	4.6 J
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.4 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Dichloromethane	75-09-2	5	ug/L	5 U	2 U	5 U	1	25 U [25 U]	25 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	3.6 U	50 U	1.0 U	13 U	13 U	5.0 U	33 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	0.99 J	6.7 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Tetrachloroethene	127-18-4	5	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.4 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.4 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.0 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 UJ
Trichloroethene	79-01-6	5	ug/L	**57**	**37**	**190**	**53**	**160 [160]**	**240**	**260**	**270**	**330**	**380**	**540**	**520**	**400**	**360**	**360**	**480**	**320**	0.90 J	**82**	**29**	**9.8**	**130**
Vinyl chloride	75-01-4	2	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.9 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Benzene	71-43-2	5	ug/L	5 U	2 U	NA	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.7 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Toluene	108-88-3	100	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.8 U	10 U	1.0 U	2.5 U	2.5 U	1.0 UB	6.7 U
Ethylbenzene	100-41-4	700	ug/L	5 U	2 U	5 U	1	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.7 U	10 U	1.0 U	2.5 U	2.5 U	1.0 U	6.7 U
Total Xylenes	1330-20-7	10,000	ug/L	15 U	6 U	15 U	3	5.0 U [5 U]	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	6.7 U	10 U	NA	NA	NA	NA	NA
Inorganics																									
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01	0.012 [0.014]	0.015	0.022	0.019	0.028	0.033	0.025	0.024	0.028	0.028	0.020	0.021	0.019	NA	0.018	0.022	0.0029 J	0.029
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005	0.0030 U [0.003 U]	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0019 U	0.0030 U	NA	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																									
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.00073 J
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	0.0030 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U

Table 7
Summary of Deep Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14DD 05/01/93 Deep Wells	OBG-14DD 12/01/93 Deep Wells	OBG-14DD 03/01/94 Deep Wells	OBG-14DD 05/01/94 Deep Wells	OBG-14DD 09/01/94 Deep Wells	OBG-14DD 12/01/94 Deep Wells	OBG-14DD 03/01/95 Deep Wells	OBG-14DD 06/01/95 Deep Wells	OBG-14DD 09/01/95 Deep Wells	OBG-14DD 12/01/95 Deep Wells	OBG-14DD 03/01/96 Deep Wells	OBG-14DD 06/01/96 Deep Wells	OBG-14DD 09/01/96 Deep Wells	OBG-14DD 12/08/96 Deep Wells	OBG-14DD 03/19/97 Deep Wells	OBG-14DD 06/25/97 Deep Wells	OBG-14DD 09/30/97 Deep Wells	OBG-14DD 12/05/97 Deep Wells	OBG-14DD 03/26/98 Deep Wells	OBG-14DD 06/20/98 Deep Wells	OBG-14DD 10/01/98 Deep Wells	OBG-14DD 12/05/98 Deep Wells
Volatile Organics																									
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	5	ug/L	10 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	79-01-6	5	ug/L	10 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Inorganics																									
Chromium	7440-47-3	0.1	mg/L	0.003	0.004 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.001	0.0024	0.003 U	**0.056**	**0.021**	0.008	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Inorganics-Filtered																									
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7
Summary of Deep Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14DD 03/18/99 Deep Wells	OBG-14DD 06/19/99 Deep Wells	OBG-14DD 09/14/99 Deep Wells	OBG-14DD 12/09/99 Deep Wells	OBG-14DD 03/23/00 Deep Wells	OBG-14DD 06/17/00 Deep Wells	OBG-14DD 09/20/00 Deep Wells	OBG-14DD 12/06/00 Deep Wells	OBG-14DD 03/28/01 Deep Wells	OBG-14DD 06/01/01 Deep Wells	OBG-14DD 10/04/01 Deep Wells	OBG-14DD 12/06/01 Deep Wells	OBG-14DD 12/07/01 Deep Wells	OBG-14DD 03/29/02 Deep Wells	OBG-14DD 06/19/02 Deep Wells	OBG-14DD 09/18/02 Deep Wells	OBG-14DD 11/24/02 Deep Wells	OBG-14DD 03/19/03 Deep Wells	OBG-14DD 06/25/03 Deep Wells	OBG-14DD 11/20/03 Deep Wells	OBG-14DD 06/16/04 Deep Wells	OBG-14DD 11/17/04 Deep Wells
Volatile Organics																									
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	10	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Bromoform	75-25-2	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Bromomethane	74-83-9	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
CFC-11	75-69-4	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
CFC-12	75-71-8	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Chlorobenzene	108-90-7	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Chloroethane	75-00-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Chloroform	67-66-3	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Chloromethane	74-87-3	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U [5 U]
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Trichloroethene	79-01-6	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Vinyl chloride	75-01-4	2	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Benzene	71-43-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Toluene	108-88-3	100	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Ethylbenzene	100-41-4	700	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Total Xylenes	1330-20-7	10,000	ug/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Inorganics																									
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.01	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.005	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	NA	NA
Inorganics-Filtered																									
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7
Summary of Deep Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-14DD 06/23/05 Deep Wells	OBG-14DD 11/16/05 Deep Wells	OBG-14DD 06/23/06 Deep Wells	OBG-14DD 11/29/06 Deep Wells	OBG-14DD 06/21/07 Deep Wells	OBG-14DD 11/16/07 Deep Wells	OBG-14DD 06/20/08 Deep Wells	OBG-14DD 11/20/08 Deep Wells	OBG-14DD 06/26/09 Deep Wells	OBG-14DD 06/22/10 Deep Wells	OBG-14DD 05/17/11 Deep Wells	OBG-14DD 06/27/12 Deep Wells	OBG-14DD 06/03/13 Deep Wells	OBG-14DD 06/10/14 Deep Wells	OBG-14DD 06/18/15 Deep Wells	OBG-14DD 06/01/16 Deep Wells	OBG-14DD 06/19/17 Deep Wells	OBG-14DD 02/19/19 Deep Wells	OBG-18DD 05/01/93 Deep Wells	OBG-18DD 12/01/93 Deep Wells	OBG-18DD 03/01/94 Deep Wells	OBG-18DD 05/01/94 Deep Wells
Volatile Organics																									
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 UF1	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.18 J	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	10 U	0.5 U	1 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UF1	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U	5.0 U [5 U]	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 B	1.0 U	1.0 U	1.0 U [1 U]	5.0 U	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	1.0 U	2.6	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.25 J	10 U	0.5 U	1 U	1 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.67 J	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.15 J	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																									
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001 J	0.003	0.004 U	0.01 U	0.005 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.001	0.001 U	0.003 U	0.005 U
Inorganics-Filtered																									
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7
Summary of Deep Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-18DD 09/01/94 Deep Wells	OBG-18DD 12/01/94 Deep Wells	OBG-18DD 06/01/95 Deep Wells	OBG-18DD 12/01/95 Deep Wells	OBG-18DD 12/09/96 Deep Wells	OBG-18DD 06/30/97 Deep Wells	OBG-18DD 06/24/98 Deep Wells	OBG-18DD 06/22/99 Deep Wells	OBG-18DD 06/15/00 Deep Wells	OBG-18DD 06/01/01 Deep Wells	OBG-18DD 06/12/02 Deep Wells	OBG-18DD 06/20/03 Deep Wells	OBG-18DD 06/29/05 Deep Wells	OBG-18DD 06/20/07 Deep Wells	OBG-18DD 06/24/09 Deep Wells	OBG-18DD 05/18/11 Deep Wells	OBG-18DD 06/05/13 Deep Wells	OBG-18DD 06/17/15 Deep Wells	OBG-18DD 06/22/17 Deep Wells	OBG-18DD 02/19/19 Deep Wells	OBG-20DD 06/01/95 Deep Wells	OBG-20DD 09/01/95 Deep Wells
Volatile Organics																									
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	1 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	1 U
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Trichloroethene	79-01-6	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2	1 U
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA
Inorganics																									
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0050 U	0.0050 U	NA	NA	NA	NA	NA	NA	NA	0.0015 J	0.0031	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0030 U	0.0030 U	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.002	0.005 U
Inorganics-Filtered																									
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7
Summary of Deep Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-20DD 12/01/95 Deep Wells	OBG-20DD 03/01/96 Deep Wells	OBG-20DD 06/01/96 Deep Wells	OBG-20DD 09/01/96 Deep Wells	OBG-20DD 12/12/96 Deep Wells	OBG-20DD 03/25/97 Deep Wells	OBG-20DD 06/30/97 Deep Wells	OBG-20DD 09/29/97 Deep Wells	OBG-20DD 12/06/97 Deep Wells	OBG-20DD 06/22/98 Deep Wells	OBG-20DD 06/20/99 Deep Wells	OBG-20DD 06/16/00 Deep Wells	OBG-20DD 06/01/01 Deep Wells	OBG-20DD 06/17/02 Deep Wells	OBG-20DD 06/22/03 Deep Wells	OBG-20DD 06/13/04 Deep Wells	OBG-20DD 06/28/05 Deep Wells	OBG-20DD 06/25/06 Deep Wells	OBG-20DD 06/24/07 Deep Wells	OBG-20DD 06/21/08 Deep Wells	OBG-20DD 06/23/09 Deep Wells	OBG-20DD 06/24/10 Deep Wells
Volatile Organics																									
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.7 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1 U	1 U	1 U	1 U	1 U	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0	1.8	2.0 J	2.0	2.2	2.6	3.9
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Inorganics																									
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0050 U	0.0050 U	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0030 U	0.0030 U	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered																									
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7
Summary of Deep Zone Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	OBG-20DD 05/19/11 Deep Wells	OBG-20DD 06/26/12 Deep Wells	OBG-20DD 06/04/13 Deep Wells	OBG-20DD 06/10/14 Deep Wells	OBG-20DD 06/16/15 Deep Wells	OBG-20DD 06/01/16 Deep Wells	OBG-20DD 06/20/17 Deep Wells	OBG-20DD 02/20/19 Deep Wells
Volatile Organics											
2-Chloroethyl vinyl ether	110-75-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	95-49-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.1 B	1.0 U [1 U]	1.0 U	1.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	3.6	3.7	4.1	4.7	3.8 [4]	4.0	1.0 U	0.12 J
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	2.0 U	NA	NA	NA	NA	NA	NA	NA
Inorganics											
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	0.0085
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	0.005 U
Inorganics-Filtered											
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	0.005 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	0.005 U

Notes:
µg/L = micrograms per liter
mg/L = milligrams per liter
CAS = Chemical Abstract Service
MCL = maximum contaminant level
NA = Not applicable
ND = Not detected
Bold/Shade = Exceedance of federal MCLs
[ ] = Duplicate Sample

Qualifiers:
U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J = Indicates an estimated value.

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #02 05/01/93 Municipal Wells	COS #02 12/01/93 Municipal Wells	COS #02 03/01/94 Municipal Wells	COS #02 05/01/94 Municipal Wells	COS #02 09/01/94 Municipal Wells	COS #02 12/01/94 Municipal Wells	COS #02 06/01/95 Municipal Wells	COS #02 12/01/95 Municipal Wells	COS #02 03/01/96 Municipal Wells	COS #02 06/01/96 Municipal Wells	COS #02 09/01/96 Municipal Wells	COS #02 12/06/96 Municipal Wells	COS #02 03/25/97 Municipal Wells	COS #02 06/30/97 Municipal Wells	COS #02 09/24/97 Municipal Wells	COS #02 12/03/97 Municipal Wells	COS #02 03/24/98 Municipal Wells	COS #02 06/23/98 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	2 U	2 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	2 U	2 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.28 J	0.5 U	0.1 J	0.27 J
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.36 J
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.11 J
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	0.12 J	2 U	2 U	0.5 U	0.5 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	2 U	2 U	0.5 U	0.5 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	79-01-6	5	ug/L	0.6	0.5 U	0.7	1	1	1	1	0.84	0.8	1.3	0.8	0.79	0.88	1.2	2.2	2	1.3	3.1
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.004	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.009	0.0079	0.005	0.01	0.005 U	0.013	0.005 U	**0.032**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #02 09/28/98 Municipal Wells	COS #02 12/01/98 Municipal Wells	COS #02 03/17/99 Municipal Wells	COS #02 06/15/99 Municipal Wells	COS #02 03/22/00 Municipal Wells	COS #02 06/16/00 Municipal Wells	COS #02 09/21/00 Municipal Wells	COS #02 12/01/00 Municipal Wells	COS #02 03/27/01 Municipal Wells	COS #02 03/30/01 Municipal Wells	COS #02 10/02/01 Municipal Wells	COS #02 10/04/01 Municipal Wells	COS #02 12/12/01 Municipal Wells	COS #02 03/21/02 Municipal Wells	COS #02 06/11/02 Municipal Wells	COS #02 09/17/02 Municipal Wells	COS #02 12/10/02 Municipal Wells
Volatile Organics																				
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,1,1-Trichloroethane	71-55-6	200	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	**50**	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,1-Dichloroethane	75-34-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,1-Dichloroethene	75-35-4	7	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	**50**	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,1-Dichloropropene	563-58-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	1 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,2,3-Trichloropropane	96-18-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	1 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA	10	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,2-Dichlorobenzene	95-50-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,2-Dichloroethane	107-06-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	**50**	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	**50**	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,3-Dichlorobenzene	541-73-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,3-Dichloropropane	142-28-9	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
1,4-Dichlorobenzene	106-46-7	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
2,2-Dichloropropane	594-20-7	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
4-Chlorotoluene	106-43-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Bromochloromethane	74-97-5	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Bromodichloromethane	75-27-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Bromoform	75-25-2	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Bromomethane	74-83-9	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	1 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	**50**	1.0 U	1 U	1.0 U	1.0 U [1 U]
CFC-11	75-69-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.13 J	0.11 J	0.5 U	0.5 U	0.12 J	NA	1 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
CFC-12	75-71-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	1 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Chlorobenzene	108-90-7	100	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	2.8	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Chlorodibromomethane	124-48-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Chloroethane	75-00-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	1 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Chloroform	67-66-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Chloromethane	74-87-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	1 U	NA	50	1.0 U	10 U	1.0 U	1.0 U [1 U]
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.5 U	0.25 J	0.29 J	0.44 J	0.13 J	0.25 J	0.5 U	0.13 J	0.36 J	NA	0.56	NA	52	0.82	0.63	0.72	0.70 [0.72]
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Dibromomethane	74-95-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Dichloromethane	75-09-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.28 J	0.5 U	0.5 U	0.5 U	NA	2 U	NA	**24 J**	1.0 U	1 U	1.0 U	1.0 U [1 U]
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	1 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Isopropylbenzene	98-82-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	1 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
n-Butylbenzene	104-51-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
n-Propylbenzene	103-65-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1 U	1.0 U	1.0 U [1 U]
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.50 U	0.5 U	0.50 U	0.50 U [0.5 U]
sec-Butylbenzene	135-98-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Styrene (Monomer)	100-42-5	100	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
tert-Butylbenzene	98-06-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Tetrachloroethene	127-18-4	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	**50**	1.0 U	1 U	1.0 U	1.0 U [1 U]
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	0.50 U	0.5 U	0.50 U	0.50 U [0.5 U]
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Trichloroethene	79-01-6	5	ug/L	1.5	3.2	3.9	**5.7**	3.3	4.6	**5.2**	3.9	**6.4**	NA	0.5 U	NA	**64**	**10**	**11**	**15**	**17 [18]**
Vinyl chloride	75-01-4	2	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	1 U	NA	**50**	1.0 U	1 U	1.0 U	1.0 U [1 U]
Benzene	71-43-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	**50**	1.0 U	1 U	1.0 U	1.0 U [1 U]
Toluene	108-88-3	100	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.25 J	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Ethylbenzene	100-41-4	700	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	1.0 U	1 U	1.0 U	1.0 U [1 U]
Total Xylenes	1330-20-7	10,000	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	NA	50	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																				
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NA	0.01 U	NA	0.01 U	0.01	0.0050 U	0.005 U	0.0050 U	0.0050 U [0.005 U]
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	NA	0.005 U	NA	0.005 U	0.005	0.0035	0.003 U	0.0030 U	0.0030 U [0.003 U]
Wet Chemistry																				
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.8	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #02 04/03/03 Municipal Wells	COS #02 06/23/03 Municipal Wells	COS #02 09/23/03 Municipal Wells	COS #02 11/18/03 Municipal Wells	COS #02 03/23/04 Municipal Wells	COS #02 06/08/04 Municipal Wells	COS #02 11/16/04 Municipal Wells	COS #02 03/22/05 Municipal Wells	COS #02 06/23/05 Municipal Wells	COS #02 09/20/05 Municipal Wells	COS #02 11/15/05 Municipal Wells	COS #02 03/27/06 Municipal Wells	COS #02 06/21/06 Municipal Wells	COS #02 09/26/06 Municipal Wells	COS #02 03/28/07 Municipal Wells	COS #02 06/26/07 Municipal Wells	COS #02 09/18/07 Municipal Wells	COS #02 11/14/07 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.88	0.96	0.96	0.86	1.0	0.96	1.2	1.1	1.3	1.5	1.3	1.4	1.3	1.4	1.3	1.3	1.2	1.3
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	**39**	1.0 U	1.0 U	2.6	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.6	1.4 U	1.7 U	1.7 U	1.4 U	2.6 UB	1.4 U	1.4 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.4 U	NA	1.4 U
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
o,p-Xylene	136777-61-2	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	NA	1.4 U	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U	0.62 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.72 U	1.0 U	0.72 U	0.72 U	0.84 U	0.84 U	0.72 U	0.72 U	0.72 U	0.72 U
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U	0.62 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.72 U	1.0 U	0.72 U	0.72 U	0.84 U	0.84 U	0.72 U	0.72 U	0.72 U	0.72 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Trichloroethene	79-01-6	5	ug/L	**23**	**28**	**29**	**28**	**32**	**29**	**39**	**39**	**43**	**48**	**38**	**43**	**46**	**45**	**41 J**	**33**	**37**	**41**
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Benzene	71-43-2	5	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Toluene	108-88-3	100	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 U	2.0 U	1.4 U	1.4 U	1.7 U	1.7 U	1.4 U	1.4 U	1.4 U	1.4 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.0050 U	0.0050 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.0030 U	0.0030 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #02 06/19/08 Municipal Wells	COS #02 09/23/08 Municipal Wells	COS #02 11/20/08 Municipal Wells	COS #02 03/02/09 Municipal Wells	COS #02 06/25/09 Municipal Wells	COS #02 12/02/09 Municipal Wells	COS #02 06/21/10 Municipal Wells	COS #02 11/17/10 Municipal Wells	COS #02 05/19/11 Municipal Wells	COS #02 11/02/11 Municipal Wells	COS #02 06/26/12 Municipal Wells	COS #02 11/28/12 Municipal Wells	COS #02 06/04/13 Municipal Wells	COS #02 12/03/13 Municipal Wells	COS #02 06/09/14 Municipal Wells	COS #02 12/03/14 Municipal Wells	COS #02 06/16/15 Municipal Wells	COS #02 12/01/15 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	0.33 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,1,1-Trichloroethane	71-55-6	200	ug/L	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,1-Dichloroethane	75-34-3	- -	ug/L	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,1-Dichloroethene	75-35-4	7	ug/L	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,1-Dichloropropene	563-58-6	- -	ug/L	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U [1 U]	1.0 U [1 U]
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,2,3-Trichloropropane	96-18-4	- -	ug/L	0.52 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,2-Dichlorobenzene	95-50-1	- -	ug/L	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,2-Dichloroethane	107-06-2	5	ug/L	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,3-Dichlorobenzene	541-73-1	- -	ug/L	0.33 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,3-Dichloropropane	142-28-9	- -	ug/L	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
1,4-Dichlorobenzene	106-46-7	- -	ug/L	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
2,2-Dichloropropane	594-20-7	- -	ug/L	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
4-Chlorotoluene	106-43-4	- -	ug/L	0.33 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Bromochloromethane	74-97-5	- -	ug/L	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Bromodichloromethane	75-27-4	- -	ug/L	0.33 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Bromoform	75-25-2	- -	ug/L	0.53 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Bromomethane	74-83-9	- -	ug/L	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	0.30 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
CFC-11	75-69-4	- -	ug/L	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
CFC-12	75-71-8	- -	ug/L	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Chlorobenzene	108-90-7	100	ug/L	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Chlorodibromomethane	124-48-1	- -	ug/L	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Chloroethane	75-00-3	- -	ug/L	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Chloroform	67-66-3	- -	ug/L	0.35 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Chloromethane	74-87-3	- -	ug/L	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0	1.1	1.2	0.94	1.1	1.2	0.90	1.1	1.2	1.1 [1.1]	1.1	1.2	1.0	1.0 U	1.1	1.3	1.0 [1.1]	1.2 [1.3]
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Dibromomethane	74-95-3	- -	ug/L	0.37 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Dichloromethane	75-09-2	5	ug/L	0.47 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	0.42 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Isopropylbenzene	98-82-8	- -	ug/L	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
n-Butylbenzene	104-51-8	- -	ug/L	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
n-Propylbenzene	103-65-1	- -	ug/L	0.28 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
o,p-Xylene	136777-61-2	- -	ug/L	0.48 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.30 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Styrene (Monomer)	100-42-5	100	ug/L	0.27 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
tert-Butylbenzene	98-06-6	- -	ug/L	0.28 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Tetrachloroethene	127-18-4	5	ug/L	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.40 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	0.28 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Trichloroethene	79-01-6	5	ug/L	**31**	**33**	**30**	**34**	**33**	**35**	**29**	**30**	**33**	**28 [29]**	**27**	**34**	**28**	**29**	**31**	**32**	**29 [31]**	**35 [36]**
Vinyl chloride	75-01-4	2	ug/L	0.43 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Benzene	71-43-2	5	ug/L	0.33 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Toluene	108-88-3	100	ug/L	0.28 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Ethylbenzene	100-41-4	700	ug/L	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U [1 U]
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #02 06/01/16 Municipal Wells	COS #02 12/22/16 Municipal Wells	COS #02 06/21/17 Municipal Wells	COS #02 10/02/18 Municipal Wells	COS #02 02/26/19 Municipal Wells	COS #02 06/05/19 Municipal Wells	COS #02 09/26/19 Municipal Wells	COS #03 05/01/93 Municipal Wells	COS #03 12/01/93 Municipal Wells	COS #03 03/01/94 Municipal Wells	COS #03 05/01/94 Municipal Wells	COS #03 09/01/94 Municipal Wells	COS #03 12/01/94 Municipal Wells	COS #03 03/01/95 Municipal Wells	COS #03 06/01/95 Municipal Wells	COS #03 09/01/95 Municipal Wells	COS #03 12/01/95 Municipal Wells
Volatile Organics																				
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U [1 U]	2.0 U [1 U]	0.56 J [0.52 J]	0.48 J [2 U]	0.49 J [0.55 J]	0.43 J	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	0.61 J [0.62 J]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.1 [1.1]	2.0 U [1.1]	1.2 [1.3]	1.2 J [1.3 J]	1.5 J [1.5 J]	1.2	1.1 J [1.2 J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	7.2 U [10 U]	8.4 U [13 U]	5.0 U	8.4 UJ [5 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	0.68 J	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	**33 [32]**	**28 [32]**	**35 [35]**	**32 [34]**	**39 [37]**	**30**	**36 J [36 J]**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U [1 U]	2.0 U [1 U]	1.0 U [1 U]	1.4 U [2 U]	1.7 U [2.5 U]	1.0 U	1.7 UJ [1 UJ]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																				
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	0.005 U [0.00092 J]	0.005 U [0.005 U]	0.005 U	0.005 UJ [0.005 UJ]	0.01 U	0.004 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	0.005 U [0.005 U]	0.005 U [0.005 U]	0.005 U	0.005 UJ [0.005 UJ]	0.009	0.001	**0.038**	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Wet Chemistry																				
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #03 03/01/96 Municipal Wells	COS #03 06/01/96 Municipal Wells	COS #03 09/01/96 Municipal Wells	COS #03 12/06/96 Municipal Wells	COS #03 03/25/97 Municipal Wells	COS #03 06/30/97 Municipal Wells	COS #03 09/24/97 Municipal Wells	COS #03 06/23/98 Municipal Wells	COS #03 06/15/99 Municipal Wells	COS #03 06/16/00 Municipal Wells	COS #03 09/21/00 Municipal Wells	COS #03 12/01/00 Municipal Wells	COS #03 03/27/01 Municipal Wells	COS #03 03/30/01 Municipal Wells	COS #03 06/01/01 Municipal Wells	COS #03 10/02/01 Municipal Wells	COS #03 10/04/01 Municipal Wells	COS #03 12/12/01 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	2 U	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	2 U	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	10
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.16 J	0.5 U	NA	50
1,2-Dichloroethane	107-06-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	0.87	0.23 J	0.22 J	0.18 J	0.23 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.99	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	2 U	2 U	0.17 J	2 U	0.5 U	0.5 U	0.22 J	0.5 U	0.5 U	0.5 U	NA	0.12 J	2 U	NA	**18 J**
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	2 U	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Trichloroethene	79-01-6	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.17 J	0.5 U	0.59	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.28 J	0.5 U	NA	**50**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	**50**
Benzene	71-43-2	5	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**
Toluene	108-88-3	100	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NA	0.01 U	0.01 U	NA	0.01 U	0.01
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	NA	0.005 U	0.005 U	NA	0.005 U	0.005
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #03 03/20/02 Municipal Wells	COS #03 06/11/02 Municipal Wells	COS #03 09/17/02 Municipal Wells	COS #03 12/10/02 Municipal Wells	COS #03 04/03/03 Municipal Wells	COS #03 06/23/03 Municipal Wells	COS #03 09/23/03 Municipal Wells	COS #03 11/18/03 Municipal Wells	COS #03 03/23/04 Municipal Wells	COS #03 06/08/04 Municipal Wells	COS #03 09/21/04 Municipal Wells	COS #03 11/16/04 Municipal Wells	COS #03 03/22/05 Municipal Wells	COS #03 06/23/05 Municipal Wells	COS #03 09/20/05 Municipal Wells	COS #03 11/15/05 Municipal Wells	COS #03 03/27/06 Municipal Wells
Volatile Organics																				
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U [1 U]	10 U [10 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U [0.5 U]	0.5 U [0.5 U]	0.50 U	0.50 U	0.50 U	1.2 U	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U [0.5 U]	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	**60**	1.0 U [1 U]	1.0 U [1 U]	2.2 [2.2]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.2	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U [1 U]	2.3 [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
o-Xylene	95-47-6	- -	ug/L	0.50 U [0.5 U]	0.5 U [0.5 U]	0.50 U	0.50 U	0.50 U	1.2 U	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U [0.5 U]	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U [0.5 U]	0.5 U [0.5 U]	0.50 U	0.50 U	0.50 U	1.2 U	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U [0.5 U]	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U [1 U]	1 U [1 U]	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																				
Chromium	7440-47-3	0.1	mg/L	0.0050 U [0.005 U]	0.005 U [0.005 U]	0.0050 U	0.0050 U	0.0050 U	0.0050 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.0030 U [0.003 U]	0.003 U [0.003 U]	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																				
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #03 06/21/06 Municipal Wells	COS #03 09/26/06 Municipal Wells	COS #03 11/30/06 Municipal Wells	COS #03 03/28/07 Municipal Wells	COS #03 06/26/07 Municipal Wells	COS #03 09/18/07 Municipal Wells	COS #03 09/24/07 Municipal Wells	COS #03 11/14/07 Municipal Wells	COS #03 03/18/08 Municipal Wells	COS #03 06/19/08 Municipal Wells	COS #03 09/23/08 Municipal Wells	COS #03 11/20/08 Municipal Wells	COS #03 03/02/09 Municipal Wells	COS #03 06/25/09 Municipal Wells	COS #03 12/02/09 Municipal Wells	COS #03 06/21/10 Municipal Wells	COS #03 11/17/10 Municipal Wells	COS #03 05/19/11 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.31 U	0.31 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.32 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U	0.50 U [0.5 U]	0.25 U	0.25 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.28 U	0.28 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	1.0 U	NA	NA	1.0 U [1 U]	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	NA	1.0 U	1.0 U	NA	0.29 U	0.29 U	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U	0.50 U [0.5 U]	0.18 U	0.18 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.12 U	0.12 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U	0.50 U [0.5 U]	0.24 U	0.24 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U [1 U]	1.0 U [1 U]	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #03 11/01/11 Municipal Wells	COS #03 06/27/12 Municipal Wells	COS #03 11/28/12 Municipal Wells	COS #03 06/04/13 Municipal Wells	COS #03 12/03/13 Municipal Wells	COS #03 06/09/14 Municipal Wells	COS #03 12/03/14 Municipal Wells	COS #03 06/16/15 Municipal Wells	COS #03 12/01/15 Municipal Wells	COS #03 06/01/16 Municipal Wells	COS #03 12/22/16 Municipal Wells	COS #03 06/21/17 Municipal Wells	COS #03 11/16/17 Municipal Wells	COS #03 10/02/18 Municipal Wells	COS #03 02/26/19 Municipal Wells	COS #03 06/05/19 Municipal Wells	COS #03 09/26/19 Municipal Wells	COS #04 05/01/93 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1 B	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.26 J	1.0 UB	1.0 UJ	0.5 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U	0.005 U	0.005 UJ	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U	0.005 U	0.005 UJ	0.003 U
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #04 12/01/93 Municipal Wells	COS #04 05/01/94 Municipal Wells	COS #04 09/01/94 Municipal Wells	COS #04 12/01/94 Municipal Wells	COS #04 06/01/95 Municipal Wells	COS #04 12/01/95 Municipal Wells	COS #04 12/06/96 Municipal Wells	COS #04 06/30/97 Municipal Wells	COS #04 06/23/98 Municipal Wells	COS #04 06/15/99 Municipal Wells	COS #04 06/16/00 Municipal Wells	COS #04 06/01/01 Municipal Wells	COS #04 06/11/02 Municipal Wells	COS #04 06/23/03 Municipal Wells	COS #04 09/23/03 Municipal Wells	COS #04 03/23/04 Municipal Wells	COS #04 06/08/04 Municipal Wells	COS #04 09/21/04 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	1 U	1 U	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,2-Dichloroethane	107-06-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.27 J	0.5 U	0.5 U	0.5 U	10 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.2 U	0.50 U	0.50 U	0.50 U	0.50 U [0.5 U]
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	NA	2 U	0.23 J	0.5 U	0.5 U	0.15 J	0.5 U	1 U	**67**	1.0 U	3.4	1.0 U	1.0 U [1 U]
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	1.2 U	0.50 U	0.50 U	0.50 U	0.50 U [0.5 U]
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.2 U	0.50 U	0.50 U	0.50 U	0.50 U [0.5 U]
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Trichloroethene	79-01-6	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.004 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.0050 U	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.0017	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.0030 U	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #04 11/16/04 Municipal Wells	COS #04 03/22/05 Municipal Wells	COS #04 06/23/05 Municipal Wells	COS #05 05/01/93 Municipal Wells	COS #05 12/01/93 Municipal Wells	COS #05 03/01/94 Municipal Wells	COS #05 05/01/94 Municipal Wells	COS #05 09/01/94 Municipal Wells	COS #05 12/01/94 Municipal Wells	COS #05 06/01/95 Municipal Wells	COS #05 12/01/95 Municipal Wells	COS #05 12/06/96 Municipal Wells	COS #05 06/30/97 Municipal Wells	COS #05 12/03/97 Municipal Wells	COS #05 03/24/98 Municipal Wells	COS #05 06/23/98 Municipal Wells	COS #05 06/15/99 Municipal Wells	COS #05 06/16/00 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	1 U
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.15 J	0.13 J	0.11 J	0.13 J	0.5 U	0.13 J
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.32 J	0.5 U	0.5 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U	0.50 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	2 U	0.19 J	2 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o,p-Xylene	136777-61-2	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U	0.50 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U	0.50 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	0.01 U	0.026	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	0.003	0.0013	0.003 U	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #05 06/01/01 Municipal Wells	COS #05 06/11/02 Municipal Wells	COS #05 06/23/03 Municipal Wells	COS #05 09/23/03 Municipal Wells	COS #05 11/18/03 Municipal Wells	COS #05 03/23/04 Municipal Wells	COS #05 06/08/04 Municipal Wells	COS #05 09/21/04 Municipal Wells	COS #05 11/16/04 Municipal Wells	COS #05 03/22/05 Municipal Wells	COS #05 06/23/05 Municipal Wells	COS #05 09/20/05 Municipal Wells	COS #05 11/15/05 Municipal Wells	COS #05 03/27/06 Municipal Wells	COS #05 06/21/06 Municipal Wells	COS #05 09/26/06 Municipal Wells	COS #05 11/30/06 Municipal Wells	COS #05 03/28/07 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	0.13 J	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	0.5 U	10 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.5 U	0.5 U	1.2 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	0.5 U	1 U	**57**	1.0 U	1.0 U	2.7	1.0 U	1.0 U	1.1 B	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	95-47-6	- -	ug/L	NA	0.5 U	1.2 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.5 U	0.5 U	1.2 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.005 U	0.0050 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.003 U	0.0030 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #05 06/26/07 Municipal Wells	COS #05 09/18/07 Municipal Wells	COS #05 11/14/07 Municipal Wells	COS #05 03/18/08 Municipal Wells	COS #05 06/19/08 Municipal Wells	COS #05 09/23/08 Municipal Wells	COS #05 11/20/08 Municipal Wells	COS #05 03/02/09 Municipal Wells	COS #05 06/25/09 Municipal Wells	COS #05 12/02/09 Municipal Wells	COS #05 06/21/10 Municipal Wells	COS #05 11/17/10 Municipal Wells	COS #05 05/19/11 Municipal Wells	COS #05 11/01/11 Municipal Wells	COS #05 11/28/12 Municipal Wells	COS #05 06/04/13 Municipal Wells	COS #05 12/03/13 Municipal Wells	COS #05 06/09/14 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.31 U	0.31 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	0.32 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U	0.50 U	0.50 U	0.25 U	0.25 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	0.28 U	0.28 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	1.0 U	NA	0.29 U	0.29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U	0.50 U	0.50 U	0.18 U	0.18 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	0.12 U	0.12 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U	0.50 U	0.50 U	0.24 U	0.24 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #05 12/03/14 Municipal Wells	COS #05 06/16/15 Municipal Wells	COS #05 12/01/15 Municipal Wells	COS #05 06/01/16 Municipal Wells	COS #05 12/22/16 Municipal Wells	COS #05 06/21/17 Municipal Wells	COS #05 11/16/17 Municipal Wells	COS #05 10/02/18 Municipal Wells	COS #05 02/26/19 Municipal Wells	COS #05 06/05/19 Municipal Wells	COS #05 09/26/19 Municipal Wells	COS #06 06/01/01 Municipal Wells	COS #06 06/11/02 Municipal Wells	COS #06 09/17/02 Municipal Wells	COS #06 09/23/03 Municipal Wells	COS #06 11/18/03 Municipal Wells	COS #06 03/23/04 Municipal Wells	COS #06 06/08/04 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.84 J	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.49 J	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 J	0.20 J	1.0 UB	1.0 UJ	0.86	1.2	NA	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	10 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	NA	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.6	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.93 J	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.77 J	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	NA	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	NA	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 J	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	1 U	NA	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	0.005 UJ	0.01 U	0.005 U	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	0.005 UJ	0.005 U	0.003 U	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.2	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.6	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #06 09/21/04 Municipal Wells	COS #06 11/16/04 Municipal Wells	COS #06 03/22/05 Municipal Wells	COS #06 06/23/05 Municipal Wells	COS #06 09/20/05 Municipal Wells	COS #06 11/15/05 Municipal Wells	COS #06 06/21/06 Municipal Wells	COS #06 09/26/06 Municipal Wells	COS #06 11/30/06 Municipal Wells	COS #06 03/28/07 Municipal Wells	COS #06 06/26/07 Municipal Wells	COS #06 09/18/07 Municipal Wells	COS #06 11/14/07 Municipal Wells	COS #06 03/18/08 Municipal Wells	COS #06 06/19/08 Municipal Wells	COS #06 09/23/08 Municipal Wells	COS #06 11/20/08 Municipal Wells	COS #06 03/02/09 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.31 U	0.31 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	0.32 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.25 U	0.25 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.28 U	0.28 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	0.29 U	0.29 U	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.18 U	0.18 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.12 U	0.12 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.24 U	0.24 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #06 06/25/09 Municipal Wells	COS #06 12/02/09 Municipal Wells	COS #06 06/21/10 Municipal Wells	COS #06 11/17/10 Municipal Wells	COS #06 05/19/11 Municipal Wells	COS #06 11/01/11 Municipal Wells	COS #06 06/27/12 Municipal Wells	COS #06 11/28/12 Municipal Wells	COS #06 06/04/13 Municipal Wells	COS #06 12/03/13 Municipal Wells	COS #06 06/09/14 Municipal Wells	COS #06 12/03/14 Municipal Wells	COS #06 06/16/15 Municipal Wells	COS #06 12/01/15 Municipal Wells	COS #06 06/01/16 Municipal Wells	COS #06 12/22/16 Municipal Wells	COS #06 06/21/17 Municipal Wells	COS #06 11/16/17 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 B	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #06 10/02/18 Municipal Wells	COS #06 02/26/19 Municipal Wells	COS #06 06/05/19 Municipal Wells	COS #06 09/26/19 Municipal Wells	COS #07 05/01/93 Municipal Wells	COS #07 12/01/93 Municipal Wells	COS #07 03/01/94 Municipal Wells	COS #07 05/01/94 Municipal Wells	COS #07 09/01/94 Municipal Wells	COS #07 12/01/94 Municipal Wells	COS #07 06/01/95 Municipal Wells	COS #07 12/01/95 Municipal Wells	COS #07 12/06/96 Municipal Wells	COS #07 06/30/97 Municipal Wells	COS #07 12/03/97 Municipal Wells	COS #07 03/24/98 Municipal Wells	COS #07 06/23/98 Municipal Wells	COS #07 06/15/99 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.49 J	0.5 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	75-09-2	5	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.16 J	0.11 J	2 U	0.5 U	0.15 J	0.5 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 J	0.64	0.18 J	0.5 U	0.5 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	0.005 U	NA	0.005 UJ	0.01 U	0.004 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	0.005 U	NA	0.005 UJ	0.003 U	0.0024	0.003 U	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #07 06/16/00 Municipal Wells	COS #07 06/01/01 Municipal Wells	COS #07 06/11/02 Municipal Wells	COS #07 06/23/03 Municipal Wells	COS #07 09/23/03 Municipal Wells	COS #07 11/18/03 Municipal Wells	COS #07 03/23/04 Municipal Wells	COS #07 06/08/04 Municipal Wells	COS #07 09/21/04 Municipal Wells	COS #07 11/16/04 Municipal Wells	COS #07 03/22/05 Municipal Wells	COS #07 06/23/05 Municipal Wells	COS #07 09/20/05 Municipal Wells	COS #07 11/15/05 Municipal Wells	COS #07 03/27/06 Municipal Wells	COS #07 09/26/06 Municipal Wells	COS #07 11/30/06 Municipal Wells	COS #07 03/28/07 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	0.5 U	0.5 U	10 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.5 U	0.5 U	0.5 U	1.2 U	0.50 U	0.50 U	0.50 U	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	0.17 J	0.5 U	1 U	**65**	1.0 U	1.0 U	3.7	1.0 U [1 U]	1.0 U	1.1 B	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	95-47-6	- -	ug/L	NA	NA	0.5 U	1.2 U	0.50 U	0.50 U	0.50 U	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.5 U	0.5 U	0.5 U	1.2 U	0.50 U	0.50 U	0.50 U	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	0.5 U	0.12 J	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	0.5 U	0.5 U	1 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.005 U	0.0050 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.003 U	**0.053**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #07 06/26/07 Municipal Wells	COS #07 09/18/07 Municipal Wells	COS #07 11/14/07 Municipal Wells	COS #07 03/18/08 Municipal Wells	COS #07 06/19/08 Municipal Wells	COS #07 09/23/08 Municipal Wells	COS #07 11/20/08 Municipal Wells	COS #07 03/02/09 Municipal Wells	COS #07 06/25/09 Municipal Wells	COS #07 12/02/09 Municipal Wells	COS #07 06/21/10 Municipal Wells	COS #07 11/17/10 Municipal Wells	COS #07 05/19/11 Municipal Wells	COS #07 11/01/11 Municipal Wells	COS #07 06/27/12 Municipal Wells	COS #07 11/28/12 Municipal Wells	COS #07 06/04/13 Municipal Wells	COS #07 12/03/13 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.31 U	0.31 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	0.32 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U	0.50 U	0.50 U	0.25 U	0.25 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	0.28 U	0.28 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	1.0 U	NA	0.29 U	0.29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U	0.50 U	0.50 U	0.18 U	0.18 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	0.12 U	0.12 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U	0.50 U	0.50 U	0.24 U	0.24 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4	1.7	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #07 06/09/14 Municipal Wells	COS #07 12/03/14 Municipal Wells	COS #07 06/16/15 Municipal Wells	COS #07 12/01/15 Municipal Wells	COS #07 06/01/16 Municipal Wells	COS #07 12/22/16 Municipal Wells	COS #07 06/21/17 Municipal Wells	COS #07 11/16/17 Municipal Wells	COS #07 10/02/18 Municipal Wells	COS #07 02/26/19 Municipal Wells	COS #07 06/05/19 Municipal Wells	COS #07 09/26/19 Municipal Wells	COS #08 05/01/93 Municipal Wells	COS #08 12/01/93 Municipal Wells	COS #08 03/01/94 Municipal Wells	COS #08 05/01/94 Municipal Wells	COS #08 09/01/94 Municipal Wells	COS #08 12/01/94 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.8	1.0	1.0 U	1.0 U	1.0 U	0.67 J	0.37 J	1.5	1.4	1.0 UB	0.80 J	0.5 U	0.7	0.6	0.5 U	0.7	0.69
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	NA	NA	NA	NA	NA	NA
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	0.0046 J	0.01 U	0.004 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	0.005 UJ	0.005	0.0013	0.003 U	0.003 U	0.005 U	0.005 U
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #08 06/01/95 Municipal Wells	COS #08 12/01/95 Municipal Wells	COS #08 03/01/96 Municipal Wells	COS #08 06/01/96 Municipal Wells	COS #08 09/01/96 Municipal Wells	COS #08 12/06/96 Municipal Wells	COS #08 03/25/97 Municipal Wells	COS #08 06/30/97 Municipal Wells	COS #08 09/24/97 Municipal Wells	COS #08 12/03/97 Municipal Wells	COS #08 03/24/98 Municipal Wells	COS #08 06/23/98 Municipal Wells	COS #08 09/28/98 Municipal Wells	COS #08 12/01/98 Municipal Wells	COS #08 03/17/99 Municipal Wells	COS #08 06/15/99 Municipal Wells	COS #08 09/16/99 Municipal Wells	COS #08 12/07/99 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	NA	NA	NA	NA	2 U	2 U	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	NA	NA	NA	NA	2 U	2 U	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	74-97-5	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	75-69-4	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-12	75-71-8	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	108-90-7	100	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.11 J	0.36 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	NA	NA	NA	NA	0.15 J	0.17 J	0.18 J	0.27 J	0.2 J	0.23 J	0.29 J	0.24 J	0.3 J	0.26 J	0.3 J	0.31 J	0.33 J
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	74-95-3	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	75-09-2	5	ug/L	NA	NA	NA	NA	NA	2 U	2 U	2 U	2 U	2 U	0.11 J	0.1 J	0.5 U	0.5 U	0.5 U	0.25 J	0.5 U	0.5 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	NA	NA	NA	NA	2 U	2 U	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	79-01-6	5	ug/L	1	1.6	2.2	2.3	2.4	2.5	4	4.3	4.6	**5.4**	**6**	**6.5**	**7.2**	**8.8**	**7.6**	**9.2**	**9.4**	**9.6**
Vinyl chloride	75-01-4	2	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	71-43-2	5	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	108-88-3	100	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	100-41-4	700	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #08 03/22/00 Municipal Wells	COS #08 06/16/00 Municipal Wells	COS #08 09/21/00 Municipal Wells	COS #08 12/01/00 Municipal Wells	COS #08 03/27/01 Municipal Wells	COS #08 03/30/01 Municipal Wells	COS #08 06/01/01 Municipal Wells	COS #08 10/02/01 Municipal Wells	COS #08 10/04/01 Municipal Wells	COS #08 12/12/01 Municipal Wells	COS #08 03/20/02 Municipal Wells	COS #08 06/11/02 Municipal Wells	COS #08 09/17/02 Municipal Wells	COS #08 12/10/02 Municipal Wells	COS #08 04/03/03 Municipal Wells	COS #08 06/23/03 Municipal Wells	COS #08 09/23/03 Municipal Wells	COS #08 11/18/03 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	NA	10	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	3.3	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	10 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.34 J	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	1.2 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	0.23 J	0.21 J	0.5 U	0.5 U	0.5 U	NA	0.5 U	2 U	NA	**50**	1.0 U	5 U	1.0 U	1.2	1.0 U	**66**	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	1.2 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	1.2 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	**10**	1.3	0.75	2.9	1.2	NA	2.4	2.3	NA	**48 J**	1.4	5 U	1.0 U	1.0 U	1.0 U	2.5 U	**6.4**	**6.9**
Vinyl chloride	75-01-4	2	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	1 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	0.34 J	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	NA	0.01 U	0.01 U	NA	0.01 U	0.01	0.0050 U	0.005 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.008	0.005 U	0.006	NA	0.005 U	0.005 U	NA	0.005	0.005	0.0030 U	0.003 U	0.0030 U	0.0030 U	0.0061	0.0030 U	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #08 03/23/04 Municipal Wells	COS #08 06/08/04 Municipal Wells	COS #09 05/01/93 Municipal Wells	COS #09 12/01/93 Municipal Wells	COS #09 03/01/94 Municipal Wells	COS #09 05/01/94 Municipal Wells	COS #09 09/01/94 Municipal Wells	COS #09 12/01/94 Municipal Wells	COS #09 06/01/95 Municipal Wells	COS #09 12/01/95 Municipal Wells	COS #09 12/06/96 Municipal Wells	COS #09 06/30/97 Municipal Wells	COS #09 12/03/97 Municipal Wells	COS #09 03/24/98 Municipal Wells	COS #09 06/23/98 Municipal Wells	COS #09 09/28/98 Municipal Wells	COS #09 12/01/98 Municipal Wells	COS #09 03/17/99 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.81	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	75-09-2	5	ug/L	4.1	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	2 U	0.18 J	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	NA
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o,p-Xylene	136777-61-2	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	79-01-6	5	ug/L	**7.5**	**7.2**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25 J	0.5 U	0.33 J	1.5	0.52	2	2.4	2.5	0.85	2.3
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	0.01 U	0.004 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	NA	0.003 U	0.001 U	0.003 U	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #09 06/15/99 Municipal Wells	COS #09 09/16/99 Municipal Wells	COS #09 12/07/99 Municipal Wells	COS #09 03/23/00 Municipal Wells	COS #09 06/16/00 Municipal Wells	COS #09 09/30/00 Municipal Wells	COS #09 12/01/00 Municipal Wells	COS #09 03/27/01 Municipal Wells	COS #09 03/30/01 Municipal Wells	COS #09 06/01/01 Municipal Wells	COS #09 10/02/01 Municipal Wells	COS #09 10/04/01 Municipal Wells	COS #09 12/12/01 Municipal Wells	COS #09 03/20/02 Municipal Wells	COS #09 06/11/02 Municipal Wells	COS #09 09/17/02 Municipal Wells	COS #09 12/10/02 Municipal Wells
Volatile Organics																				
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	0.5 U	0.5 U	1 U	1 U	1 U	NA	1 U	1 U	NA	1 U	1 U	NA	10	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Bromoform	75-25-2	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Bromomethane	74-83-9	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U [1 U]	1.0 U
CFC-11	75-69-4	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
CFC-12	75-71-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Chlorobenzene	108-90-7	100	ug/L	0.5 U	0.5 U	0.5 U	1.8	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Chloroethane	75-00-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Chloroform	67-66-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Chloromethane	74-87-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	0.50 U	2.5 U	0.50 U [0.5 U]	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Dibromomethane	74-95-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Dichloromethane	75-09-2	5	ug/L	0.6	0.5 U	0.5 U	0.5 U	0.21 J	NA	0.5 U	0.5 U	NA	0.5 U	2 U	NA	**25 J**	1.0 U	5 U	1.0 U [1 U]	1.4
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	5 U	1.0 U [1 U]	1.0 U
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.50 U	2.5 U	0.50 U [0.5 U]	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U [1 U]	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	0.50 U	2.5 U	0.50 U [0.5 U]	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Trichloroethene	79-01-6	5	ug/L	2.6	2.1	0.7	0.63	1	1.3	1.2	2.1	NA	0.49 J	3.4	NA	**51**	1.0 U	5 U	1.0 U [1 U]	2.1
Vinyl chloride	75-01-4	2	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	1 U	NA	**50**	1.0 U	5 U	1.0 U [1 U]	1.0 U
Benzene	71-43-2	5	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U [1 U]	1.0 U
Toluene	108-88-3	100	ug/L	0.5 U	0.5 U	0.5 U	0.15 J	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Ethylbenzene	100-41-4	700	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U [1 U]	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U	0.5 U	NA	50	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																				
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.01 U	NA	0.01 U	0.01 U	NA	0.01 U	0.01	0.0050 U	0.005 U	0.0050 U [0.005 U]	0.0050 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.005 U	NA	0.005 U	0.005 U	NA	0.005 U	0.005	0.0030 U	0.003 U	0.0030 U [0.003 U]	0.0030 U
Wet Chemistry																				
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #09 04/03/03 Municipal Wells	COS #09 06/23/03 Municipal Wells	COS #09 09/23/03 Municipal Wells	COS #09 11/18/03 Municipal Wells	COS #09 03/23/04 Municipal Wells	COS #09 06/08/04 Municipal Wells	COS #09 09/21/04 Municipal Wells	COS #09 11/16/04 Municipal Wells	COS #09 03/22/05 Municipal Wells	COS #09 06/23/05 Municipal Wells	COS #09 09/20/05 Municipal Wells	COS #09 11/15/05 Municipal Wells	COS #09 03/27/06 Municipal Wells	COS #09 06/21/06 Municipal Wells	COS #09 09/26/06 Municipal Wells	COS #09 11/30/06 Municipal Wells	COS #09 03/28/07 Municipal Wells
Volatile Organics																				
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U [0.5 U]	1.7 U [1 U]	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U [1 U]	**97 [81]**	1.0 U	1.0 U	1.5	1.0 U	1.0 U	1.2 B	1.0 U	1 U	1.0 U [1 U]	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	95-47-6	- -	ug/L	0.50 U [0.5 U]	1.7 U [1 U]	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U [0.5 U]	1.7 U [1 U]	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U [0.5 U]	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U [1 U]	3.6 [3.6]	4.2	1.0 U	1.0 U	1.0 U	1.1	1.1	1.7	1.7	1.0 U [1 U]	1.0 U	1.0 U	1.5	1.0 U	1.8	1.5
Vinyl chloride	75-01-4	2	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U [1 U]	3.3 U [2 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																				
Chromium	7440-47-3	0.1	mg/L	0.0050 U [0.005 U]	0.0050 U [0.005 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.0030 U [0.003 U]	0.0030 U [0.003 U]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																				
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #09 06/26/07 Municipal Wells	COS #09 09/18/07 Municipal Wells	COS #09 11/14/07 Municipal Wells	COS #09 03/18/08 Municipal Wells	COS #09 06/19/08 Municipal Wells	COS #09 09/23/08 Municipal Wells	COS #09 11/20/08 Municipal Wells	COS #09 03/02/09 Municipal Wells	COS #09 06/25/09 Municipal Wells	COS #09 12/02/09 Municipal Wells	COS #09 06/21/10 Municipal Wells	COS #09 11/17/10 Municipal Wells	COS #09 05/19/11 Municipal Wells	COS #09 11/02/11 Municipal Wells	COS #09 06/27/12 Municipal Wells	COS #09 11/28/12 Municipal Wells	COS #09 06/04/13 Municipal Wells	COS #09 12/03/13 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.31 U	0.31 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.32 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U [0.5 U]	0.50 U	0.50 U	0.25 U	0.25 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.28 U	0.28 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	1.0 U [1 U]	NA	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	1.0 U	NA	0.29 U	0.29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U [0.5 U]	0.50 U	0.50 U	0.18 U	0.18 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.12 U	0.12 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U [0.5 U]	0.50 U	0.50 U	0.24 U	0.24 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	2.5 [2.5]	3.7	3.6	1.7	3.6	1.0 U	1.0 U	1.0 U	3.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U [1 U]	1.0 U	1.0 U	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #09 06/09/14 Municipal Wells	COS #09 12/03/14 Municipal Wells	COS #09 12/01/15 Municipal Wells	COS #09 06/01/16 Municipal Wells	COS #09 12/22/16 Municipal Wells	COS #09 06/21/17 Municipal Wells	COS #09 11/16/17 Municipal Wells	COS #09 10/02/18 Municipal Wells	COS #09 02/26/19 Municipal Wells	COS #09 06/05/19 Municipal Wells	COS #09 09/26/19 Municipal Wells	COS #10 06/30/97 Municipal Wells	COS #10 06/23/98 Municipal Wells	COS #10 06/15/99 Municipal Wells	COS #10 06/16/00 Municipal Wells	COS #10 06/01/01 Municipal Wells	COS #10 06/11/02 Municipal Wells	COS #10 06/23/03 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	1 U	1 U	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.75	0.5 U	0.5 U	0.5 U	10 U	2.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Dichloromethane	75-09-2	5	ug/L	1.1 B	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	0.17 J	0.5 U	0.5 U	0.17 J	0.5 U	5 U	**60**
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.15 J	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	2.0 U
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.5 U	1.0 U
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.28 J	0.25 J	1.0 UB	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	2.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	0.005 UJ	0.01 U	0.01 U	0.01 U	0.06	0.01 U	0.005 U	0.0050 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	NA	0.005 UJ	0.005 U	0.005 U	0.005 U	0.012	0.005 U	0.003 U	0.0030 U
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #10 09/23/03 Municipal Wells	COS #10 11/18/03 Municipal Wells	COS #10 03/23/04 Municipal Wells	COS #10 06/08/04 Municipal Wells	COS #10 09/21/04 Municipal Wells	COS #10 11/16/04 Municipal Wells	COS #10 03/22/05 Municipal Wells	COS #10 06/23/05 Municipal Wells	COS #10 09/20/05 Municipal Wells	COS #10 11/15/05 Municipal Wells	COS #10 03/27/06 Municipal Wells	COS #10 06/21/06 Municipal Wells	COS #10 09/26/06 Municipal Wells	COS #10 11/30/06 Municipal Wells	COS #10 03/28/07 Municipal Wells	COS #10 06/26/07 Municipal Wells	COS #10 09/18/07 Municipal Wells	COS #10 11/14/07 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	22	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #10 03/18/08 Municipal Wells	COS #10 06/19/08 Municipal Wells	COS #10 09/23/08 Municipal Wells	COS #10 11/20/08 Municipal Wells	COS #10 03/02/09 Municipal Wells	COS #10 06/25/09 Municipal Wells	COS #10 06/21/10 Municipal Wells	COS #10 11/17/10 Municipal Wells	COS #10 05/19/11 Municipal Wells	COS #10 11/02/11 Municipal Wells	COS #10 06/27/12 Municipal Wells	COS #10 11/28/12 Municipal Wells	COS #10 06/04/13 Municipal Wells	COS #10 12/03/13 Municipal Wells	COS #10 06/09/14 Municipal Wells	COS #10 12/03/14 Municipal Wells	COS #10 06/16/15 Municipal Wells	COS #10 12/01/15 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	0.31 U	0.31 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	0.32 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	0.18 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	0.23 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	0.21 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.25 U	0.25 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	0.28 U	0.28 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	0.25 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	0.15 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	0.29 U	0.29 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.18 U	0.18 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	0.14 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	0.16 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	0.12 U	0.12 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.24 U	0.24 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	0.22 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	0.26 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	0.20 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	0.17 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	0.19 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #10 06/01/16 Municipal Wells	COS #10 12/22/16 Municipal Wells	COS #10 06/21/17 Municipal Wells	COS #10 11/16/17 Municipal Wells	COS #10 10/02/18 Municipal Wells	COS #10 02/26/19 Municipal Wells	COS #11 06/24/98 Municipal Wells	COS #11 09/28/98 Municipal Wells	COS #11 12/01/98 Municipal Wells	COS #11 03/17/99 Municipal Wells	COS #11 06/15/99 Municipal Wells	COS #11 09/16/99 Municipal Wells	COS #11 12/07/99 Municipal Wells	COS #11 03/23/00 Municipal Wells	COS #11 06/16/00 Municipal Wells	COS #11 09/21/00 Municipal Wells	COS #11 12/01/00 Municipal Wells	COS #11 03/27/01 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	0.15 J	0.13 J	0.5 U	0.5 U	0.16 J
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.3	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.13 J	0.11 J	0.5 U	0.5 U	0.14 J
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.27 J	0.5 U	0.5 U	0.5 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.3	2	1.3	0.81	1.1	1.6	2.9	3.3	2.8	3.9	3.6	3.1
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.1 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.18 J	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	0.0035 J	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	0.0074	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #11 03/30/01 Municipal Wells	COS #11 06/01/01 Municipal Wells	COS #11 10/02/01 Municipal Wells	COS #11 10/04/01 Municipal Wells	COS #11 12/12/01 Municipal Wells	COS #11 03/20/02 Municipal Wells	COS #11 06/11/02 Municipal Wells	COS #11 09/17/02 Municipal Wells	COS #11 12/10/02 Municipal Wells	COS #11 04/03/03 Municipal Wells	COS #11 06/23/03 Municipal Wells	COS #11 09/23/03 Municipal Wells	COS #11 11/18/03 Municipal Wells	COS #11 03/23/04 Municipal Wells	COS #11 06/08/04 Municipal Wells	COS #11 09/21/04 Municipal Wells	COS #11 11/16/04 Municipal Wells	COS #11 03/22/05 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	1 U	1 U	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	NA	0.5 U	0.5 U	NA	50	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	NA	0.5 U	2 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	**17**	1.0 U	1.0 U	2.9	1.0 U	1.0 U	1.4 B	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	NA	0.5 U	1 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	95-47-6	- -	ug/L	NA	NA	NA	NA	NA	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	NA	0.5 U	0.5 U	NA	50	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	NA	0.9	1.6	NA	**91**	1.0 U	5 U	1.0 U	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	NA	0.5 U	1 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	NA	0.5 U	0.5 U	NA	**50**	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	NA	0.5 U	0.5 U	NA	50	1.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	0.5 U	0.5 U	NA	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	NA	0.01 U	0.01	0.0050 U	0.005 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.005 U	NA	0.005 U	0.005	0.0030 U	0.003 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	15.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	2.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #11 06/23/05 Municipal Wells	COS #11 09/20/05 Municipal Wells	COS #11 11/15/05 Municipal Wells	COS #11 03/27/06 Municipal Wells	COS #11 06/21/06 Municipal Wells	COS #11 09/26/06 Municipal Wells	COS #11 11/30/06 Municipal Wells	COS #11 03/28/07 Municipal Wells	COS #11 06/26/07 Municipal Wells	COS #11 09/18/07 Municipal Wells	COS #11 11/14/07 Municipal Wells	COS #11 03/18/08 Municipal Wells	COS #11 09/23/08 Municipal Wells	COS #11 11/20/08 Municipal Wells	COS #11 03/02/09 Municipal Wells	COS #11 06/25/09 Municipal Wells	COS #11 12/02/09 Municipal Wells	COS #11 06/21/10 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.31 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.21 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.25 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.28 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	0.29 U	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.18 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.14 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.12 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.24 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0	1.1	1.0 U	1.0 U	1.1	1.3	0.22 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.26 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #11 11/17/10 Municipal Wells	COS #11 05/19/11 Municipal Wells	COS #11 11/02/11 Municipal Wells	COS #11 06/27/12 Municipal Wells	COS #11 11/28/12 Municipal Wells	COS #11 06/04/13 Municipal Wells	COS #11 12/03/13 Municipal Wells	COS #11 06/09/14 Municipal Wells	COS #11 12/03/14 Municipal Wells	COS #11 06/16/15 Municipal Wells	COS #11 12/01/15 Municipal Wells	COS #11 06/01/16 Municipal Wells	COS #11 12/22/16 Municipal Wells	COS #11 06/21/17 Municipal Wells	COS #11 11/16/17 Municipal Wells	COS #11 10/02/18 Municipal Wells	COS #11 02/26/19 Municipal Wells	COS #11 06/05/19 Municipal Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	67-64-1	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [0.54 J]	1.0 U	1.0 U	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Dichloromethane	75-09-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	5.0 U	5.0 U	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Acetate	79-20-9	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	ug/L	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	ug/L	1.0 U	1.6	1.2	1.2	1.3	1.0 U	1.1	1.2	1.0	1.0 U	1.0 U	1.2	1.8	2.2	3.3 [3.4]	1.7	1.2	1.3
Vinyl chloride	75-01-4	2	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1 U]	1.0 U	1.0 U	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00081 J	0.005 U	0.005 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.005 U	0.005 U
Wet Chemistry																					
Sulfate	14808-79-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	18496-25-8	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8
Summary of Municipal Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	COS #11 09/26/19 Municipal Wells
Volatile Organics				
1,1,1,2-Tetrachloroethane	630-20-6	- -	ug/L	1.0 U
1,1,1-Trichloroethane	71-55-6	200	ug/L	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	ug/L	1.0 UJ
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	- -	ug/L	NA
1,1,2-Trichloroethane	79-00-5	5	ug/L	1.0 U
1,1-Dichloroethane	75-34-3	- -	ug/L	1.0 U
1,1-Dichloroethene	75-35-4	7	ug/L	1.0 U
1,1-Dichloropropene	563-58-6	- -	ug/L	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	ug/L	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	ug/L	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	ug/L	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	ug/L	NA
1,2-Dibromoethane	106-93-4	- -	ug/L	1.0 UJ
1,2-Dichlorobenzene	95-50-1	- -	ug/L	1.0 U
1,2-Dichloroethane	107-06-2	5	ug/L	1.0 U
1,2-Dichloroethene, Total	540-59-0	- -	ug/L	NA
1,2-Dichloropropane	78-87-5	5	ug/L	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	ug/L	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	ug/L	1.0 U
1,3-Dichloropropane	142-28-9	- -	ug/L	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	ug/L	1.0 U
2,2-Dichloropropane	594-20-7	- -	ug/L	1.0 U
2-Butanone (MEK)	78-93-3	- -	ug/L	NA
2-Chlorotoluene	95-49-8	- -	ug/L	1.0 U
4-Chlorotoluene	106-43-4	- -	ug/L	1.0 U
4-Methyl-2-Pentanone	108-10-1	- -	ug/L	NA
Acetone	67-64-1	- -	ug/L	NA
Bromobenzene	108-86-1	- -	ug/L	1.0 U
Bromochloromethane	74-97-5	- -	ug/L	1.0 U
Bromodichloromethane	75-27-4	- -	ug/L	1.0 U
Bromoform	75-25-2	- -	ug/L	1.0 U
Bromomethane	74-83-9	- -	ug/L	1.0 U
Carbon Disulfide	75-15-0	- -	ug/L	NA
Carbon Tetrachloride	56-23-5	5	ug/L	1.0 U
CFC-11	75-69-4	- -	ug/L	1.0 U
CFC-12	75-71-8	- -	ug/L	1.0 U
Chlorobenzene	108-90-7	100	ug/L	1.0 U
Chlorodibromomethane	124-48-1	- -	ug/L	1.0 U
Chloroethane	75-00-3	- -	ug/L	1.0 U
Chloroform	67-66-3	- -	ug/L	1.0 U
Chloromethane	74-87-3	- -	ug/L	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	ug/L	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	ug/L	1.0 U
Cyclohexane	110-82-7	- -	ug/L	NA
Cymene (p-Isopropyltoluene)	99-87-6	- -	ug/L	1.0 U
Dibromomethane	74-95-3	- -	ug/L	1.0 U
Dichloromethane	75-09-2	5	ug/L	5.0 U
Hexachloro-1,3-butadiene	87-68-3	- -	ug/L	1.0 U
Isopropylbenzene	98-82-8	- -	ug/L	1.0 U
m&p-Xylenes	ARC-mpXyl	- -	ug/L	NA
Methyl Acetate	79-20-9	- -	ug/L	NA
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	- -	ug/L	NA
Methylcyclohexane	108-87-2	- -	ug/L	NA
Naphthalene	91-20-3	- -	ug/L	1.0 U
n-Butylbenzene	104-51-8	- -	ug/L	1.0 U
n-Propylbenzene	103-65-1	- -	ug/L	1.0 U
o,p-Xylene	136777-61-2	- -	ug/L	NA
o-Xylene	95-47-6	- -	ug/L	NA
sec-Butylbenzene	135-98-8	- -	ug/L	1.0 U
Styrene (Monomer)	100-42-5	100	ug/L	1.0 U
tert-Butylbenzene	98-06-6	- -	ug/L	1.0 U
Tetrachloroethene	127-18-4	5	ug/L	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	ug/L	1.0 U
Trichloroethene	79-01-6	5	ug/L	2.1
Vinyl chloride	75-01-4	2	ug/L	1.0 U
Benzene	71-43-2	5	ug/L	1.0 U
Toluene	108-88-3	100	ug/L	1.0 U
Ethylbenzene	100-41-4	700	ug/L	1.0 U
Total Xylenes	1330-20-7	10,000	ug/L	NA
Methyl-tert-butylether	1634-04-4	- -	ug/L	NA
Inorganics				
Chromium	7440-47-3	0.1	mg/L	0.00079 J
Lead	7439-92-1	0.015	mg/L	0.005 U
Wet Chemistry				
Sulfate	14808-79-8	- -	mg/L	NA
Sulfide	18496-25-8	- -	mg/L	NA

Notes:
µg/L = micrograms per liter
CAS = Chemical Abstract Service
MCL = maximum contaminant level
NA = Not applicable
ND = Not detected
Bold/Shade = Exceedance of federal MCLs
[ ] = Duplicate Sample

Qualifiers:
U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J = Indicates an estimated value.
B = Compound was found in the method blank sample.

Table 9
Summary of Private Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	LOC 105 12/01/93 Private Wells	LOC 105 03/01/94 Private Wells	LOC 105 05/01/94 Private Wells	LOC 105 09/01/94 Private Wells	LOC 105 12/01/94 Private Wells	LOC 105 06/01/95 Private Wells	LOC 105 12/01/95 Private Wells	LOC 105 12/05/96 Private Wells	LOC 105 06/30/97 Private Wells	LOC 105 06/23/98 Private Wells	LOC 105 06/15/99 Private Wells	LOC 105 06/15/00 Private Wells	LOC 105 06/01/01 Private Wells	LOC 105 06/11/02 Private Wells	LOC 105 06/23/03 Private Wells	LOC 105 06/08/04 Private Wells	LOC 105 06/24/05 Private Wells	LOC 105 06/21/06 Private Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	µg/L	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	1 U	1 U	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	540-59-0	- -	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	95-49-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	56-23-5	5	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	75-69-4	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	75-71-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	1	1.2	1.1	1.3	1.4	1.1	1.1	1.3	1.2	1.2	1.1
Chloromethane	74-87-3	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	10061-01-5	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	75-09-2	5	µg/L	NA	NA	NA	NA	NA	NA	NA	2 U	0.18 J	0.5 U	0.5 U	0.47 J	0.14 J	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorobutadiene	87-68-3	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
m-Xylene & p-Xylene	ARC-mpXy	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Propylbenzene	103-65-1	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	.36777-61-.	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	95-47-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U
sec-Butylbenzene	135-98-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	100	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	10061-02-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	1330-20-7	10,000	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.004 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Lead	7439-92-1	0.015	mg/L	0.001	0.003 U	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U

Table 9
Summary of Private Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	LOC 105 06/26/07 Private Wells	LOC 105 06/21/08 Private Wells	LOC 105 06/25/09 Private Wells	LOC 105 06/23/10 Private Wells	LOC 105 05/19/11 Private Wells	LOC 105 06/26/12 Private Wells	LOC 105 06/04/13 Private Wells	LOC 105 06/09/14 Private Wells	LOC 105 06/16/15 Private Wells	LOC 105 06/01/16 Private Wells	LOC 105 06/21/17 Private Wells	LOC 105 02/26/19 Private Wells	LOC 111 12/01/93 Private Wells	LOC 111 03/01/94 Private Wells	LOC 111 05/01/94 Private Wells	LOC 111 09/01/94 Private Wells	LOC 111 12/01/94 Private Wells	LOC 111 06/01/95 Private Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene (total)	540-59-0	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	78-87-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Bromobenzene	108-86-1	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Bromochloromethane	74-97-5	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Bromomethane	74-83-9	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	56-23-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	75-69-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	75-71-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Chlorobenzene	108-90-7	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Dibromochloromethane	124-48-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Chloroethane	75-00-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Chloroform	67-66-3	- -	µg/L	1.1	1.0 U	1.0 U	1.0	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0	0.97 J	NA	NA	NA	NA	NA	NA
Chloromethane	74-87-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	µg/L	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	99-87-6	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Dibromomethane	74-95-3	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Methylene Chloride	75-09-2	5	µg/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	87-68-3	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
m-Xylene & p-Xylene	ARC-mpXy	- -	µg/L	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
n-Butylbenzene	104-51-8	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
N-Propylbenzene	103-65-1	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
o,p-Xylene	.36777-61-.	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	µg/L	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Styrene	100-42-5	100	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	µg/L	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	µg/L	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Trichloroethene	79-01-6	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.5	4.4	3.7	3.8	3.3	4.6
Vinyl chloride	75-01-4	2	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	700	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA
Xylenes (total)	1330-20-7	10,000	µg/L	NA	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.005 U	0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.003 U	0.003 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.0017	0.003 U	0.003 U	0.005 U	0.005 U	0.008

Table 9
Summary of Private Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	LOC 111 12/01/95 Private Wells	LOC 111 12/05/96 Private Wells	LOC 111 06/30/97 Private Wells	LOC 111 03/24/98 Private Wells	LOC 111 06/23/98 Private Wells	LOC 157 12/01/93 Private Wells	LOC 157 03/01/94 Private Wells	LOC 157 05/01/94 Private Wells	LOC 157 09/01/94 Private Wells	LOC 157 12/01/94 Private Wells	LOC 157 06/01/95 Private Wells	LOC 157 12/01/95 Private Wells	LOC 157 12/05/96 Private Wells	LOC 157 06/30/97 Private Wells	LOC 157 06/23/98 Private Wells	LOC 157 06/15/00 Private Wells	LOC 157 06/01/01 Private Wells	LOC 157 06/11/02 Private Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,1,1-Trichloroethane	71-55-6	200	µg/L	NA	0.5 U	0.5 U	0.12 J	0.1 J	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,1,2-Trichloroethane	79-00-5	5	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,1-Dichloroethane	75-34-3	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,1-Dichloroethene	75-35-4	7	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,1-Dichloropropene	563-58-6	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,2,3-Trichlorobenzene	87-61-6	- -	µg/L	NA	2 U	2 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	1 U
1,2,3-Trichloropropane	96-18-4	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,2,4-Trichlorobenzene	120-82-1	70	µg/L	NA	2 U	2 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	1 U
1,2,4-Trimethylbenzene	95-63-6	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	NA
1,2-Dibromoethane	106-93-4	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,2-Dichlorobenzene	95-50-1	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,2-Dichloroethane	107-06-2	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,2-Dichloroethene (total)	540-59-0	- -	µg/L	0.5 U	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,3,5-Trimethylbenzene	108-67-8	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,3-Dichlorobenzene	541-73-1	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,3-Dichloropropane	142-28-9	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,4-Dichlorobenzene	106-46-7	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
2,2-Dichloropropane	594-20-7	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
2-Chlorotoluene	95-49-8	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
4-Chlorotoluene	106-43-4	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Bromobenzene	108-86-1	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Bromochloromethane	74-97-5	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Bromodichloromethane	75-27-4	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Bromoform	75-25-2	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Bromomethane	74-83-9	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Carbon tetrachloride	56-23-5	5	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Trichlorofluoromethane	75-69-4	- -	µg/L	NA	0.12 J	0.14 J	0.11 J	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Dichlorodifluoromethane	75-71-8	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Chlorobenzene	108-90-7	100	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Dibromochloromethane	124-48-1	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Chloroethane	75-00-3	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Chloroform	67-66-3	- -	µg/L	NA	0.1 J	0.12 J	0.5 U	0.12 J	NA	NA	NA	NA	NA	NA	NA	0.22 J	0.2 J	0.23 J	0.28 J	0.19 J	1 U
Chloromethane	74-87-3	- -	µg/L	NA	0.5 U	0.5 U	0.12 J	0.17 J	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.12 J	0.5 U	0.5 U	1 U
cis-1,2-Dichloroethene	156-59-2	70	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	10061-01-5	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
p-Isopropyltoluene	99-87-6	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Dibromomethane	74-95-3	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Methylene Chloride	75-09-2	5	µg/L	NA	0.33 J	0.34 J	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	2 U	0.24 J	0.5 U	0.32 J	0.12 J	1 U
Hexachlorobutadiene	87-68-3	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Isopropylbenzene	98-82-8	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
m-Xylene & p-Xylene	ARC-mpXy	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	µg/L	NA	2 U	2 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	1 U
n-Butylbenzene	104-51-8	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
N-Propylbenzene	103-65-1	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
o,p-Xylene	.36777-61-.	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U
o-Xylene	95-47-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U
sec-Butylbenzene	135-98-8	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Styrene	100-42-5	100	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
tert-Butylbenzene	98-06-6	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Tetrachloroethene	127-18-4	5	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
trans-1,2-Dichloroethene	156-60-5	100	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	- -	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Trichloroethene	79-01-6	5	µg/L	4.9	4.8	**5.7**	4.7	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Vinyl chloride	75-01-4	2	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Benzene	71-43-2	5	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Toluene	108-88-3	100	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Ethylbenzene	100-41-4	700	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Xylenes (total)	1330-20-7	10,000	µg/L	NA	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.004 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.01 U	0.005 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.008	0.005 U	0.005 U	0.005 U	0.0043	0.004	0.003 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U

Table 9
Summary of Private Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	LOC 157 06/23/03 Private Wells	LOC 157 06/08/04 Private Wells	LOC 157 06/24/05 Private Wells	LOC 157 06/21/06 Private Wells	LOC 157 06/26/07 Private Wells	LOC 157 06/21/08 Private Wells	LOC 157 06/25/09 Private Wells	LOC 157 06/23/10 Private Wells	LOC 157 05/19/11 Private Wells	LOC 157 06/26/12 Private Wells	LOC 157 06/04/13 Private Wells	LOC 157 06/09/14 Private Wells	LOC 157 06/16/15 Private Wells	LOC 157 06/21/17 Private Wells	LOC 157 02/26/19 Private Wells	LOC 244 12/01/93 Private Wells	LOC 244 03/01/94 Private Wells	LOC 244 05/01/94 Private Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1,1-Trichloroethane	71-55-6	200	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1-Dichloroethane	75-34-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1-Dichloroethene	75-35-4	7	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,1-Dichloropropene	563-58-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,2-Dichloroethane	107-06-2	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene (total)	540-59-0	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	78-87-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,3-Dichloropropane	142-28-9	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
2,2-Dichloropropane	594-20-7	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
2-Chlorotoluene	95-49-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
4-Chlorotoluene	106-43-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromobenzene	108-86-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromochloromethane	74-97-5	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromodichloromethane	75-27-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromoform	75-25-2	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Bromomethane	74-83-9	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Carbon tetrachloride	56-23-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Trichlorofluoromethane	75-69-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Dichlorodifluoromethane	75-71-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chlorobenzene	108-90-7	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Dibromochloromethane	124-48-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chloroethane	75-00-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Chloroform	67-66-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.41 J	0.21 J	NA	NA	NA
Chloromethane	74-87-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
p-Isopropyltoluene	99-87-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Dibromomethane	74-95-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Methylene Chloride	75-09-2	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	NA	NA	NA
Hexachlorobutadiene	87-68-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Isopropylbenzene	98-82-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
m-Xylene & p-Xylene	ARC-mpXy	- -	µg/L	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
n-Butylbenzene	104-51-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
N-Propylbenzene	103-65-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
o,p-Xylene	.36777-61-.	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Styrene	100-42-5	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
tert-Butylbenzene	98-06-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Tetrachloroethene	127-18-4	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Trichloroethene	79-01-6	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	75-01-4	2	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Benzene	71-43-2	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Toluene	108-88-3	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18 J	NA	NA	NA
Ethylbenzene	100-41-4	700	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
Xylenes (total)	1330-20-7	10,000	µg/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.004 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.0018	0.003 U	0.003 U

Table 9
Summary of Private Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	LOC 244 09/01/94 Private Wells	LOC 244 12/01/94 Private Wells	LOC 244 06/01/95 Private Wells	LOC 244 12/01/95 Private Wells	LOC 244 12/05/96 Private Wells	LOC 244 06/30/97 Private Wells	LOC 244 06/23/98 Private Wells	LOC 244 06/15/99 Private Wells	LOC 244 06/15/00 Private Wells	LOC 244 06/01/01 Private Wells	LOC 244 06/11/02 Private Wells	LOC 244 06/23/03 Private Wells	LOC 244 06/08/04 Private Wells	LOC 244 06/24/05 Private Wells	LOC 244 06/21/06 Private Wells	LOC 244 06/26/07 Private Wells	LOC 244 06/21/08 Private Wells	LOC 244 06/25/09 Private Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1,1-Trichloroethane	71-55-6	200	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	µg/L	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	µg/L	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	0.5 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	540-59-0	- -	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
2-Chlorotoluene	95-49-8	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
4-Chlorotoluene	106-43-4	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromobenzene	108-86-1	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromochloromethane	74-97-5	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromodichloromethane	75-27-4	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	56-23-5	5	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	75-69-4	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	75-71-8	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Dibromomethane	74-95-3	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Methylene Chloride	75-09-2	5	µg/L	NA	NA	NA	NA	2 U	0.51 J	0.5 U	0.5 U	0.65	0.12 J	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Hexachlorobutadiene	87-68-3	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Isopropylbenzene	98-82-8	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
m-Xylene & p-Xylene	ARC-mpXy	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA
Naphthalene	91-20-3	- -	µg/L	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
n-Butylbenzene	104-51-8	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
N-Propylbenzene	103-65-1	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
o,p-Xylene	.36777-61-.	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA
o-Xylene	95-47-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA
sec-Butylbenzene	135-98-8	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Styrene	100-42-5	100	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
tert-Butylbenzene	98-06-6	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Tetrachloroethene	127-18-4	5	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	1330-20-7	10,000	µg/L	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	NA
Lead	7439-92-1	0.015	mg/L	0.005 U	0.009	0.008	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	NA

Table 9
Summary of Private Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	LOC 244 06/26/12 Private Wells	LOC 244 06/04/13 Private Wells	LOC 244 06/09/14 Private Wells	LOC 244 06/16/15 Private Wells	LOC 244 06/21/17 Private Wells	LOC 244 02/26/19 Private Wells	LOC 245 12/01/93 Private Wells	LOC 245 03/01/94 Private Wells	LOC 245 05/01/94 Private Wells	LOC 245 09/01/94 Private Wells	LOC 245 12/01/94 Private Wells	LOC 245 06/01/95 Private Wells	LOC 245 12/01/95 Private Wells	LOC 245 12/05/96 Private Wells	LOC 245 06/30/97 Private Wells	LOC 245 06/23/98 Private Wells	LOC 245 06/15/99 Private Wells	LOC 245 06/15/00 Private Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	200	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	µg/L	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	79-00-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	75-35-4	7	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	563-58-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	- -	µg/L	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	70	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	1 U
1,2-Dibromoethane	106-93-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	95-50-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene (total)	540-59-0	- -	µg/L	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	594-20-7	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	95-49-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	106-43-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	108-86-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	74-97-5	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	56-23-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	75-69-4	- -	µg/L	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	75-71-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	108-90-7	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	124-48-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	156-59-2	70	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	10061-01-5	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Isopropyltoluene	99-87-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	74-95-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene Chloride	75-09-2	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA	2 U	0.31 J	0.5 U	0.5 U	0.32 J
Hexachlorobutadiene	87-68-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	98-82-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m-Xylene & p-Xylene	ARC-mpXy	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	104-51-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
N-Propylbenzene	103-65-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o,p-Xylene	.36777-61-.	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100-42-5	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	98-06-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	156-60-5	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	79-01-6	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	75-01-4	2	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	71-43-2	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	108-88-3	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	100-41-4	700	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylenes (total)	1330-20-7	10,000	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	0.005 U	0.004 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	0.005 U	0.0021	0.003 U	0.003 U	0.005 U	0.005 U	0.013	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

Table 9
Summary of Private Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	LOC 245 06/01/01 Private Wells	LOC 245 06/11/02 Private Wells	LOC 245 06/23/03 Private Wells	LOC 245 06/08/04 Private Wells	LOC 245 06/24/05 Private Wells	LOC 245 06/21/06 Private Wells	LOC 245 06/26/07 Private Wells	LOC 245 06/21/08 Private Wells	LOC 245 06/25/09 Private Wells	LOC 245 06/24/10 Private Wells	LOC 245 05/19/11 Private Wells	LOC 245 06/26/12 Private Wells	LOC 245 06/04/13 Private Wells	LOC 245 06/09/14 Private Wells	LOC 245 06/21/17 Private Wells	LOC 245 02/26/19 Private Wells	LOC 246 12/01/93 Private Wells	LOC 246 03/01/94 Private Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1,1-Trichloroethane	71-55-6	200	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	NA	NA
1,1,2-Trichloroethane	79-00-5	5	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1-Dichloroethane	75-34-3	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1-Dichloroethene	75-35-4	7	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,1-Dichloropropene	563-58-6	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,3-Trichlorobenzene	87-61-6	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	NA	NA
1,2,3-Trichloropropane	96-18-4	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,4-Trichlorobenzene	120-82-1	70	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2,4-Trimethylbenzene	95-63-6	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	- -	µg/L	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2-Dichlorobenzene	95-50-1	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2-Dichloroethane	107-06-2	5	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U
1,2-Dichloroethene (total)	540-59-0	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U
1,2-Dichloropropane	78-87-5	5	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,3,5-Trimethylbenzene	108-67-8	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,3-Dichlorobenzene	541-73-1	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,3-Dichloropropane	142-28-9	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
1,4-Dichlorobenzene	106-46-7	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
2,2-Dichloropropane	594-20-7	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
2-Chlorotoluene	95-49-8	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
4-Chlorotoluene	106-43-4	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromobenzene	108-86-1	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromochloromethane	74-97-5	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromodichloromethane	75-27-4	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromoform	75-25-2	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Bromomethane	74-83-9	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Carbon tetrachloride	56-23-5	5	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Trichlorofluoromethane	75-69-4	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	NA	NA
Dichlorodifluoromethane	75-71-8	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Chlorobenzene	108-90-7	100	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Dibromochloromethane	124-48-1	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Chloroethane	75-00-3	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Chloroform	67-66-3	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Chloromethane	74-87-3	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
cis-1,2-Dichloroethene	156-59-2	70	µg/L	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
cis-1,3-Dichloropropene	10061-01-5	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
p-Isopropyltoluene	99-87-6	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Dibromomethane	74-95-3	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Methylene Chloride	75-09-2	5	µg/L	0.16 J	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	NA	NA
Hexachlorobutadiene	87-68-3	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Isopropylbenzene	98-82-8	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
m-Xylene & p-Xylene	ARC-mpXy	- -	µg/L	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	µg/L	0.5 U	1 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
n-Butylbenzene	104-51-8	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
N-Propylbenzene	103-65-1	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
o,p-Xylene	.36777-61-.	- -	µg/L	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	µg/L	NA	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Styrene	100-42-5	100	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
tert-Butylbenzene	98-06-6	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Tetrachloroethene	127-18-4	5	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
trans-1,2-Dichloroethene	156-60-5	100	µg/L	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
trans-1,3-Dichloropropene	10061-02-6	- -	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Trichloroethene	79-01-6	5	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U
Vinyl chloride	75-01-4	2	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Benzene	71-43-2	5	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Toluene	108-88-3	100	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Ethylbenzene	100-41-4	700	µg/L	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Xylenes (total)	1330-20-7	10,000	µg/L	0.5 U	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.005 U	0.005 U	0.028	0.005 U	0.005 U	0.005 U	0.005 U	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.004 U	0.01 U
Lead	7439-92-1	0.015	mg/L	0.005 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	NA	NA	NA	NA	NA	NA	NA	0.005 U	0.001 U	0.003 U

Table 9
Summary of Private Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: / Date Collected: / Sampling Area:	CAS Number	FEDERAL MCLs	Units	LOC 246 05/01/94 Private Wells	LOC 246 09/01/94 Private Wells	LOC 246 12/01/94 Private Wells	LOC 246 06/01/95 Private Wells	LOC 246 12/01/95 Private Wells	LOC 246 12/05/96 Private Wells	LOC 246 06/30/97 Private Wells	LOC 246 06/23/98 Private Wells	LOC 246 06/15/99 Private Wells	LOC 246 06/15/00 Private Wells	LOC 246 06/01/01 Private Wells	LOC 246 06/11/02 Private Wells	LOC 246 06/23/03 Private Wells	LOC 246 06/08/04 Private Wells	LOC 246 06/24/05 Private Wells	LOC 246 06/21/06 Private Wells	LOC 246 06/26/07 Private Wells	LOC 246 06/21/08 Private Wells
Volatile Organics																					
1,1,1,2-Tetrachloroethane	630-20-6	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,1,1-Trichloroethane	71-55-6	200	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,2,3-Trichlorobenzene	87-61-6	- -	µg/L	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,2,3-Trichloropropane	96-18-4	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,2,4-Trichlorobenzene	120-82-1	70	µg/L	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,2,4-Trimethylbenzene	95-63-6	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,2-Dibromo-3-chloropropane	96-12-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,2-Dichlorobenzene	95-50-1	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	540-59-0	- -	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,3-Dichlorobenzene	541-73-1	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,4-Dichlorobenzene	106-46-7	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
2-Chlorotoluene	95-49-8	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
4-Chlorotoluene	106-43-4	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Bromobenzene	108-86-1	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Bromochloromethane	74-97-5	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Bromodichloromethane	75-27-4	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	56-23-5	5	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	75-69-4	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	75-71-8	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Dibromomethane	74-95-3	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Methylene Chloride	75-09-2	5	µg/L	NA	NA	NA	NA	NA	2 U	0.37 J	0.5 U	0.5 U	0.5 U	0.18 J	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Hexachlorobutadiene	87-68-3	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Isopropylbenzene	98-82-8	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
m-Xylene & p-Xylene	ARC-mpXy	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA
Naphthalene	91-20-3	- -	µg/L	NA	NA	NA	NA	NA	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
n-Butylbenzene	104-51-8	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
N-Propylbenzene	103-65-1	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
o,p-Xylene	.36777-61-.	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
o-Xylene	95-47-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA
sec-Butylbenzene	135-98-8	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Styrene	100-42-5	100	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
tert-Butylbenzene	98-06-6	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Tetrachloroethene	127-18-4	5	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	1330-20-7	10,000	µg/L	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	1.0 U
Inorganics																					
Chromium	7440-47-3	0.1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.012	0.005 U	0.005 U
Lead	7439-92-1	0.015	mg/L	0.003 U	0.005 U	0.005 U	0.009	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U

Table 9
Summary of Private Well Groundwater Analytical Results
Former TRW Ramsey Site
Sullivan, Missouri

Location ID: Date Collected: Sampling Area:	CAS Number	FEDERAL MCLs	Units	LOC 246 06/25/09 Private Wells	LOC 246 06/23/10 Private Wells	LOC 246 05/19/11 Private Wells	LOC 246 06/26/12 Private Wells	LOC 246 06/04/13 Private Wells	LOC 246 06/09/14 Private Wells	LOC 246 06/16/15 Private Wells	LOC 246 06/01/16 Private Wells	LOC 246 06/21/17 Private Wells	LOC 246 02/26/19 Private Wells
Volatile Organics													
1,1,1,2-Tetrachloroethane	630-20-6	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	200	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	7	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	- -	µg/L	NA	NA	NA	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	70	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	106-93-4	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	540-59-0	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	95-49-8	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	106-43-4	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	56-23-5	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	75-69-4	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	75-71-8	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	70	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	74-95-3	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	75-09-2	5	µg/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Hexachlorobutadiene	87-68-3	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m-Xylene & p-Xylene	ARC-mpXy	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Propylbenzene	103-65-1	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o,p-Xylene	.36777-61-	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135-98-8	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	100	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	127-18-4	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	71-43-2	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	100	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	700	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	1330-20-7	10,000	µg/L	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
Inorganics													
Chromium	7440-47-3	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U
Lead	7439-92-1	0.015	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.005 U

Notes:
µg/L = micrograms per liter
CAS = Chemical Abstract Service
MCL = maximum contaminant level
NA = Not applicable
ND = Not detected
Bold/Shade = Exceedance of federal MCLs
[ ] = Duplicate Sample

Qualifiers:
U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J = Indicates an estimated value.