Fourth Five-Year Review Report

for the

Big D Campground Superfund Site

Kingsville, Ashtabula County, Ohio

Prepared By:

United States Environmental Protection Agency

Region 5

Chicago, Illinois

Approved by:

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Date:

4/16/2014

Cover Photograph: Conneaut Creek adjacent to the Big D Campground Superfund site located in Kingsville, Ohio (November 14, 2013).

(Photograph by Howard Caine)

Five-Year Review Report

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LIST OF ACRONYMS

AOC	Administrative Order on Consent
ARARs	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COCs	Constituents of Concern
DAT	2,4 diaminotoluene
DCA	Dichloroethane
DCB	Dichlorobenzene
DCE	Dichloroethene
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FS	Feasibility Study
FYR	Five-Year Review
GAC	Granulated Activated Carbon
ICs	Institutional Controls
MCB	Monochlorobenzene
MCLs	Maximum Contaminant Limits
MEA	Monoethanolamine
MNA	Monitored Natural Attenuation
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OEPA	Ohio Environmental Protection Agency
ORP	Oxidation Reduction Potential
OSWER	Office of Solid Waste and Emergency Response
PCE	Perchloroethylene or perchloroethene or tetrachloroethene
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
PRPs	Potentially Responsible Parties
RAO	Remedial Action Objective
RD/RA	Remedial Design/Remedial Action
ROD	Record of Decision
RPM	Remedial Project Manager
SI	Site Investigation
SOW	Statement of Work
TBC	To Be Considered
TCA	Trichloroethane
TCE	Trichloroethylene
TDI	Toluene diisocyanate
UAO	Unilateral Administrative Order
UU/UE	Unlimited Use or Unrestricted Exposure
VC	Vinyl Chloride
VOC	Volatile Organic Compound

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Executive Summary

The U.S. Environmental Protection Agency (EPA), in consultation with Ohio EPA (OEPA), has completed its fourth Five-Year Review (FYR) at the Big D Campground ("Big D") Superfund site located in Kingsville, Ashtabula County, Ohio. The purpose of this FYR is to review site information to determine if the remedy is and will continue to be protective of human health and the environment. Completion of the fourth FYR at the Big D site was triggered by the completion of the third FYR report on April 23, 2009.

The Big D site is a former sand and gravel quarry and is located in Kingsville, Ashtabula County, Ohio, approximately 2.5 miles south of Lake Erie and 50 miles northeast of Cleveland, Ohio. The site is located near residential areas and is south of Creek Road, north of Conneaut Creek, and west of and adjacent to the former Big D Campground. The southern portion of the site contains a small, capped landfill that had accepted hazardous and non-hazardous wastes for disposal when the quarry was operating. Wastes in the landfill contaminated site soil and groundwater with volatile organic compounds (VOCs) and heavy metals including barium, chromium, and lead.

In 1989, EPA issued a Record of Decision (ROD) that identified the selected remedial actions for the Big D site, including source material excavation and on-site incineration, groundwater collection and treatment, and long-term groundwater monitoring. On-site incineration of source materials was completed in 1995. The groundwater remedy was completed in 1997 and operated until February 2000 when it was shut down to allow for evaluation of a monitored natural attenuation (MNA) approach. The MNA evaluation will be completed by April 2015.

EPA has divided the site into two operable units (OUs), groundwater (OU1) and source material (OU2). The OU1 remedy is protective of human health and the environment in the short-term because no one is drinking contaminated groundwater and institutional controls (ICs) are in place to prevent groundwater use. However, in order for the remedy to be protective in the long term, the following actions need to be taken: complete the evaluation of MNA as a treatment option. If EPA determines that MNA is a viable remedy for reaching the groundwater cleanup standards, a decision document to alter the originally-selected groundwater remedial action to MNA will be completed. If EPA determines that MNA is not a viable remedy, then the groundwater treatment system will be reactivated and operated to achieve the groundwater cleanup goals.

The OU2 remedy is protective of human health and the environment because the source materials have been incinerated and residual contaminants are contained in the landfill, thus, and no unacceptable exposures exist. ICs are in place to prevent disturbance of the landfill cap.

Site-wide, the remedial actions are protective of human health and the environment in the short-term. However, in order for the remedy to be protective in the long term, a decision must be made by EPA as to the most viable remedy for reaching the groundwater cleanup standards within a reasonable time period and the operation of that remedy to achieve the groundwater cleanup goals.

This FYR report will be placed in the site files and local information repositories for the Big D Campground Superfund site at the following locations and will be available for viewing during normal business hours:

Kingsville Public Library
6006 Academy Street
Kingsville, OH 44048

U.S. EPA Region 5 Records Center
77 West Jackson Boulevard – 7th Floor
Chicago, IL 60604

Because hazardous substances, pollutants, or contaminants remain in place at the Big D site above levels that allow for unlimited use and unrestricted exposure (UU/UE), EPA plans to conduct a fifth FYR at the site within five years of the completion of this FYR report.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: Big D Campground		
EPA ID: OHD 980 611 735		
Region: 5	State: Ohio	City/County: Kingsville/Ashtabula
SITE STATUS		
NPL Status: Final		
Multiple OUs? Yes	Has the site achieved construction completion? Yes	
REVIEW STATUS		
Lead Agency: U.S. EPA Region 5		
Author name (Remedial Project Manager): Howard Caine		
Author affiliation: U.S. EPA Region 5		
Review period: April 2013 – April 2014		
Date of Site inspection: November 14, 2013		
Type of review: Statutory		
Review number: 4		
Triggering action date: April 23, 2009		
Due date (five years after triggering action date): April 23, 2014		

Five-Year Review Summary Form (continued)

Issues/Recommendations				
OU(s) without Issues/Recommendations Identified in the Five-Year Review:				
OU: 02				
Issues and Recommendations Identified in the Five Year Review:				
OU(s): 01 Groundwater operable unit	Issue Category: Remedy Performance			
	Issue: Evaluation to determine if monitored natural attenuation (MNA) is a viable groundwater cleanup option for the Big D Campground site.			
	Recommendation: EPA, in conjunction with OEPA, should make a determination if MNA is a viable groundwater cleanup option based on recent groundwater monitoring data.			
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party	Milestone Date
No	Yes	EPA	OEPA	April 30, 2015

Protectiveness Statement(s)
Operable Unit: 01 *Protectiveness Determination:* Short-term Protective
Protectiveness Statement: The OU1 remedy is protective of human health and the environment in the short-term because no one is drinking contaminated groundwater and institutional controls (ICs) are in place to prevent groundwater use. However, in order for the remedy to be protective in the long term, the following actions need to be taken: complete the evaluation of MNA as a treatment option. If EPA determines that MNA is a viable remedy for reaching the groundwater cleanup standards, a decision document to alter the originally-selected groundwater remedial action to MNA will be completed. If EPA determines that MNA is not a viable remedy, then the groundwater treatment system will be reactivated and operated to achieve the groundwater cleanup goals.
Operable Unit: 02 *Protectiveness Determination:* Protective
Protectiveness Statement: The OU2 remedy is protective of human health and the environment because the source materials have been incinerated and residual contaminants are contained in the landfill, thus, and no unacceptable exposures exist. ICs are in place to prevent disturbance of the landfill cap.
Site-wide Protectiveness Statement
Operable Unit: 00 *Protectiveness Determination:* Short-term Protective
Protectiveness Statement: The remedial actions are protective of human health and the environment in the short-term. However, in order for the remedy to be protective in the long term, a decision must be made by EPA as to the most viable remedy for reaching the groundwater cleanup standards within a reasonable time period and the operation of that remedy to achieve the groundwater cleanup goals.

Fourth Five-Year Review Report

Big D Campground Site
Kingsville, Ashtabula County, Ohio

I. Introduction

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) prepared this FYR report pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121 and the National Contingency Plan (NCP). CERCLA 121 states:

> *"If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews."*

EPA interpreted this requirement further in the NCP; 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii), which states:

> *"If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such actions no less often than every five years after the initiation of the selected remedial action."*

EPA conducted the fourth FYR on the remedy implemented at the Big D Campground (Big D) site in Kingsville, Ashtabula County, Ohio. EPA is the lead agency for developing and implementing the remedy for the site. Ohio EPA (OEPA), as the support agency representing the State of Ohio, has reviewed all supporting documentation and provided input to EPA during the FYR process. The Remedial Project Manager (RPM) conducted the fourth FYR at the Big D site from April 2013 through April 2014. This report documents the results of the FYR.

The triggering action for this statutory review is the completion date of the previous FYR, April 23, 2009. The FYR is required due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

II. Progress Since the Last Review

This is the fourth FYR report for the Big D site. No further remedial action (RA) or enforcement actions have taken place since EPA completed the previous FYR report in 2009. The 2009 FYR report found the remedy to be protective in the short-term and determined that long-term protectiveness would not be achieved until the groundwater cleanup standards are met and effective ICs are implemented (see Table 1, below). The 2009 FYR report also made several recommendations for follow-up actions as noted in Table 2 (next page). One recommendation was that EPA should complete its evaluation of MNA as a potential groundwater remedy at the site. Completion of the MNA evaluation is now planned for April 2015.

In September 2009, EPA determined that the Big D site met the Site-wide Ready-for-Anticipated Use (SWRAU) measure. The SWRAU determination requirements are: 1) all cleanup goals in the Record(s) of Decision or other remedy decision document(s) have been achieved for any media that may affect current and reasonably anticipated future land uses, so that there are no unacceptable risks and 2) all institutional or other controls required in the Record(s) of Decision or other remedy decision document(s) have been put in place.

Table 1: Protectiveness Determinations/Statements from the 2009 FYR Report

OU #	Protectiveness Determination	Protectiveness Statement
01	Short-Term Protective	The remedial actions are protective of human health and the environment in the short-term. However, in order for the remedy to be protective in the long term, a decision must be made by EPA as to the most viable remedy for reaching the groundwater cleanup standards within a reasonable time period and the operation of that remedy to achieve the groundwater cleanup goals.
02	Protective	
Site-wide	Short-Term Protective	

Table 2: Status of Recommendations from the 2009 FYR Report

OU #	Issue	Recommendations/ Follow-up Actions	Party Responsible	Oversight Party	Original Milestone Date	Current Status	Completion Date (if applicable)
1	Evaluate MNA to see if it is a viable remedy for groundwater.	EPA to complete its evaluation of MNA data submitted by Olin	EPA	OEPA	October 2009	Ongoing	N/A
1	The existing ICs are being evaluated. A review of the ICs is needed to assure that the remedy is functioning as intended with regard to the ICs and to ensure effective procedures are in-place for long-term stewardship at the site.	Olin completed the IC study and EPA will review it for completeness	PRP	EPA/OEPA	July 2009	Completed	June 2009
1	Long-term stewardship must be assured, which includes maintaining and monitoring effective ICs.	Prepare IC plan to incorporate results of IC study and plan for additional activities as needed, for IC implementation and long-term stewardship	EPA	OEPA	April 2010	Completed	March 2010

Recommendation 1

In 2010, Big D site potentially responsible party (PRP) Olin Corporation (Olin) submitted a MNA Demonstration Report to EPA for review. EPA subsequently documented its review findings in a report dated May 2012. (An extensive discussion of EPA's findings is provided in Attachment A of this FYR report.) Generally, EPA concluded that although some attenuation of contaminants seems to be occurring, additional data should be collected for further evaluation. Olin has recently submitted more groundwater data to EPA for review. Completion of the MNA evaluation is now planned for April 2015.

Recommendations 2 and 3

In 2009, EPA conducted an evaluation of ICs and determined that the existing deed restrictions at the site were legally enforceable and should be grandfathered under Ohio's Uniform Environmental Covenant Act (UECA), Ohio Revised Code (ORC) Section 5301.85(C). This determination was based upon information Olin provided to EPA in November 2008. Upon EPA request, Olin provided additional site ICs information for review in March 2010. Attachment B of this FYR report contains the 2010 Olin submittal, which contains information on governmental controls, a communications plan, mapping, title work for individual parcels, and planned development.

Remedy Implementation Activity

System Operations/Operation and Maintenance

Olin periodically conducts site operation and maintenance (O&M) on the landfill cap (e.g., repairing animal holes, maintaining the vegetative cover) and ensures site security by inspecting the site and maintaining the site fence.

Institutional Controls

Institutional controls (ICs) are required at the site to ensure the protectiveness of the remedy. ICs are non-engineered instruments, such as administrative and/or legal controls, that help minimize the potential for exposure to contamination and protect the integrity of the remedy. Compliance with ICs is required to assure long-term protectiveness for any areas which do not allow for unlimited use or unrestricted exposure (UU/UE).

Restrictive easements were placed on the properties overlying the source area and contaminant plume, as required in the ROD, to prohibit installation or use of drinking water wells in any of the three aquifers present at the site.

Site institutional controls are listed in Table 3, below.

Table 3: Summary of Planned and/or Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Landfill Cover	Yes	Yes	270060004803 270060004800	Olin to have full and unrestricted site access; prohibited from making any changes to surface contours; prohibited from conducting interfering activities; prohibited from drilling wells or extracting groundwater; prohibited from excavating the former Olin project site (270060004800); prohibited from any excavation on the Exclusion Area at the Northwest corner of the property; prohibited from any excavating below a depth of 12 feet on the remainder of 270060004803, except that there shall be no limit on excavating on the property south of Conneaut Creek; commercial development or residential development on the property North of Conneaut Creek is prohibited; Owner of 270060004803 may construct for his personal use or residential dwelling at the area of highest elevation along Creek Road; existing fences on 270060004800 are to be maintained by the Owner as is in order to restrict the presence of anyone not involved in administering the Administrative Order or	Grandfathered deed restriction under Ohio's UECA, June 11, 2009

				CERCLA remedy, prohibited from erecting any building or structure unless approved by Olin or EPA as a necessary component of the Administrative Order or CERCLA remedy.	
Residential Properties	Yes	Yes	Numerous Property Numbers (see Attachment B)	Residential properties are required to have no use of well water and are prohibited from excavating below an agreed-upon depth.	Grandfathered deed restriction under Ohio's UECA, June 11, 2009

In 2009, EPA conducted an evaluation of ICs and determined that the existing deed restrictions at the site were legally enforceable and should be grandfathered under Ohio's Uniform Environmental Covenant Act (UECA), Ohio Revised Code (ORC) Section 5301.85(C). This determination was based upon information Olin provided to EPA in November 2008. Upon EPA request, Olin provided additional site ICs information for review in March 2010. Attachment B of this FYR report contains the 2010 Olin submittal, which contains information on governmental controls, a communications plan, mapping, title work for individual parcels, and planned development. A summary of the restrictions for each property is provided in Attachment D.

Long-term Stewardship: Long-term protectiveness at the site requires compliance with use restrictions to assure the remedy continues to function as intended.

In addition, EPA determined that Big D met the Sitewide Ready-for-Anticipated Use (SWRAU) GPRA Measure on September 4, 2009.

III. Five-Year Review Process

Administrative Components

EPA notified OEPA and representatives of Olin of the initiation of the Big D site FYR by letter (see Attachment E) dated April 26, 2013. The review team included EPA Remedial Project Manager (RPM) Howard Caine and Andrew Kocher, OEPA. James Cashwell of Olin provided assistance.

From April 2013 to April 2014, the review team reviewed historical data and documents, visited and inspected the site, and prepared the report. Howard Caine, EPA, and Andrew Kocher, OEPA, completed the site inspection on November 13, 2013 (see Attachment F). James Cashwell of Olin participated in the site inspection.

Community Notification

EPA notified the community that it was beginning the site FYR via a display advertisement in the Ashtabula *Star Beacon* on May 20, 2013 (see Attachment G).

Document Review

The RPM reviewed site documents for this FYR including the ROD, annual reports submitted by Olin, the 2009 FYR report, and other information and correspondence concerning the Big D Campground site.

Data Review

Groundwater Monitoring

Olin collects groundwater monitoring samples on a semi-annual basis. Water samples are collected from 19 monitoring wells during the spring sampling event and from 25 monitoring wells and 3 surface water locations during the fall sampling event. The samples are collected using low-flow sampling techniques and then analyzed for the constituents of concern (COCs) and for natural attenuation parameters. The field sampling parameters are: dissolved oxygen, iron (II), oxidation reduction potential (ORP), pH, specific conductance, temperature, and turbidity. The laboratory sampling parameters are VOCs, carbon dioxide, chloride, total organic carbon, ethylene, methane, nitrate, sulfate, sulfide total alkalinity and hydrogen. Groundwater level measurements are also performed. Sampling is conducted in accordance with the EPA-approved quality assurance project plan (January 2000).

Groundwater monitoring data from the 2010, 2011 and 2012 sampling events is included in Attachment H. The surface water data for the most recent event shows that the contaminants were not detected. Overall, the data indicate that the contaminated groundwater trends are stable and the contaminant plumes remain within the deed restricted area of the site.

Olin submitted a MNA Demonstration Report to EPA for review on February 26, 2010. This report also included information on the 2010 Semi-Annual Groundwater Monitoring Results. Attachment A to this FYR report contains a discussion of the results.

Olin submitted Semi-Annual Groundwater Monitoring Results reports on December 29, 2011 for groundwater samples from April 26 through 29, 2010 and September 27 through October 1, 2010; on December 21, 2012 for groundwater samples collected from April 30 through May 4, 2011 and September 24 through September 28, 2011; and on December 30, 2013 for groundwater samples collected from April 30 through May 4, 2012 and September 24 through September 28, 2012. The data from the 2010, 2011, and 2012 sampling events indicate that the concentrations of constituents of concern (COCs) are consistent with the previous sampling events conducted from 2000 to 2011. Preliminary data results indicate that site specific COCs were not detected in monitoring well MW54-S, which demonstrates that the vinyl chloride plume is bound in the northwest portion of the site. Monitoring well MW54-S will continue to be monitored during future sampling events.

Olin submitted a long-term monitoring plan to EPA in July 2012. The plan calls for a reduction in the number of monitoring wells and the number of analytes. EPA has not commented on the long-term monitoring plan to date, but plans to do so after it makes its determination whether MNA is a viable option at the Big D site.

Private Drinking Water Monitoring

No drinking water wells were sampled during the previous five years. All residents within the deed restricted property are currently being supplied with municipal water.

Site Inspection

The site inspection was conducted by RPM Howard Caine and Andrew Kocher, OEPA Site Coordinator, on November 14, 2013. James Cashwell representing Olin Corporation also participated.

EPA and OEPA inspected the water treatment building, the top of the landfill and its cover, monitoring wells and piezometers, and the residential areas and Conneaut Creek, including the location of MW-54SRX. The cover was found to be in good condition. All observed groundwater monitoring wells were locked and were found to be in good condition. New signs prohibiting trespassing and advising of security patrols were present. The fence was intact and in good condition. Fence gates are equipped with locks.

OEPA performed a Periodic Compliance Inspection at the Big D site on May 3, 2012. Upon inspection, OEPA recommended that the fence locks be lubricated and locked and that Olin mow and clear brush on the landfill to maintain the integrity of the cap. This inspection revealed no significant observations or problems.

OEPA performed a Periodic Compliance Inspection at the Big D site on May 16, 2013, and recommended that a few more warning signs be placed on the fence along Conneaut Creek and that Olin mow and clear brush on the landfill to maintain the integrity of the cap. This inspection revealed no significant observations or problems. The new signs were observed during the FYR site inspection on November 14, 2013.

Interviews

James Cashwell of Olin provided information for this FYR during the site inspection on November 14, 2013. Mr. Cashwell provided a tour of the site and answered EPA and OEPA questions concerning remedy performance. Mr. Cashwell felt that the groundwater data indicates that MNA is working at the site.

IV. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

Yes. A review of the relevant documents and the results of the FYR site inspection indicate that the remedy is functioning as intended by the ROD. Major remedy construction (source area

excavation, incineration on-site, disposal of treated material and backfilling on-site) was successfully completed in 1995. Materials consolidated on-site, including incineration treatment residuals, are adequately contained beneath the vegetated cover. Access controls and ICs are currently effective in preventing exposure to on-site covered materials and contaminated groundwater. The groundwater treatment system that was constructed remains shut down while EPA evaluates the viability of MNA as a cleanup option for groundwater. The groundwater monitoring data indicates that the contaminant plumes are stable and remain within the deed restricted area.

An IC Study has been performed by Olin and upon review EPA has found that adequate and enforceable ICs are in place, including prohibitions on: (1) use of groundwater; (2) excavation activities; (3) disturbance of the cap; and (4) any other activities or actions that might interfere with the implemented remedy. No activities were observed that would have violated the institutional controls. The cap and the surrounding area were undisturbed, and no new uses of groundwater were observed at the site.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy still valid?

Yes. There have been no changes in the physical conditions of the site that would affect the protectiveness of the selected remedy. There have been no changes in the Applicable or Relevant and Appropriate Requirements (ARARs) or "To Be Considered" (TBCs) requirements that would affect the protectiveness of the remedy.

There has not been any change in the use of the property during the last five years. There have been no changes in land use near the site, nor are changes expected in the near future. There have been no newly-observed species or ecological settings.

There have been no changes in the human and ecological exposure assumptions or the toxicity data that were used in the risk assessment at the time of the remedy selection that would affect the protectiveness of the remedy. There has been no change in the standardized risk assessment methodology that would affect the protectiveness of the remedy. The remedial action objectives used at the time of remedy selection are still valid.

Question C: Has any other information come to light that could call into question the protectiveness of the remedies?

No. There is no other information that calls into question the protectiveness of the remedy.

Summary of Technical Assessment:

The Big D site remedy is functioning as intended by the ROD, except that the groundwater treatment system has been shut down since February 2000 to evaluate the effectiveness of MNA for groundwater cleanup. Groundwater monitoring data indicate that the contaminant plumes are stable and remain within the deed restricted area. There have been no changes in the physical conditions of the site or changes in property use that would affect the protectiveness of the

remedy. There have been no changes in the exposure assumptions or toxicity factors for the contaminants of concern that were used in the baseline risk assessment at the time of remedy selection; and there have been no changes to the standardized risk assessment methodology that could affect the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

V. Issues/Recommendations and Follow-up Actions

Table 4 lists the issues, recommendations and follow-up actions for the site.

Table 4: Issues and Recommendations/Follow-up Actions

OU #	Issue	Recommendations/ Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness? (Y/N)	
						Current	Future
1	Complete the evaluation of MNA as a viable option for groundwater cleanup.	EPA, in consultation with OEPA, should make a determination whether MNA is a viable option based on the information provided by Olin.**	EPA	OEPA	April 2015	No	Yes

**If EPA determines that MNA is a viable remedy for reaching the groundwater cleanup standards, it will issue a decision document to alter the originally-selected groundwater remedial action to MNA. If EPA determines that MNA is not a viable groundwater remedial action to meet the groundwater cleanup goals in a reasonable amount of time, then Olin will reactivate the groundwater treatment system and operate and maintain it.

In addition, the following is an activity identified during this FYR to be completed that does not affect current nor future protectiveness:

Olin submitted a long-term monitoring plan to EPA in July 2012. The plan calls for a reduction in the number of monitoring wells and the number of analytes. EPA has not commented on the long-term monitoring plan to date, but plans to do so after it makes its determination concerning the viability of MNA at the Big D Campground site.

VI. Protectiveness Statement

Protectiveness Statement(s)	
Operable Unit:	*Protectiveness Determination:*
OU1	Short-term Protective
Protectiveness Statement:	
The OU1 remedy is protective of human health and the environment in the short-term because no one is drinking contaminated groundwater and institutional controls (ICs) are in place to prevent groundwater use. However, in order for the remedy to be protective in the long term, the following actions need to be taken: complete the evaluation of MNA as a treatment option. If EPA determines that MNA is a viable remedy for reaching the groundwater cleanup standards, a decision document to alter the originally-selected groundwater remedial action to MNA will be completed. If EPA determines that MNA is not a viable remedy, then the groundwater treatment system will be reactivated and operated to achieve the groundwater cleanup goals.	

Operable Unit:	*Protectiveness Determination:*
OU2	Protective
Protectiveness Statement:	
The OU2 remedy is protective of human health and the environment because the source materials have been incinerated and residual contaminants are contained in the landfill, thus, and no unacceptable exposures exist. ICs are in place to prevent disturbance of the landfill cap.	

Site-wide Protectiveness Statement
Protectiveness Determination: Short-term Protective
Protectiveness Statement: The remedial actions are protective of human health and the environment in the short-term. However, in order for the remedy to be protective in the long term, a decision must be made by EPA as to the most viable remedy for reaching the groundwater cleanup standards within a reasonable time period and the operation of that remedy to achieve the groundwater cleanup goals.

VII. Next Five-Year Review

EPA will complete the fifth FYR at the Big D site five years from the signature date of this report.

APPENDIX A: Existing Site Information

A. Site Chronology

Table 1: Chronology of Site Events

Event	Date
Dumping of waste products	1964-76
Preliminary investigations and enforcement actions	1982
Site proposed for National Priorities List (NPL)	December 1982
Site became final on the NPL	September 8, 1983
Notice letters sent to PRPs	April 1985
Notice and DRAFT Statement of Work (SOW) for Remedial Investigation/Feasibility Study (RI/FS) sent to PRPs	November 1985
Negotiations to conduct RI/FS with PRPs begin	December 1985
RI/FS began	May 5, 1986
RI/FS completed	September 29, 1989
Final RI/FS and Proposed Plan were released for Public Comment	July 28, 1989
ROD signed for source excavation and incineration	September 29, 1989
Public comment period ended	August 26, 1989
Special notice sent for Remedial Design/Remedial Action (RD/RA) negotiations issued to PRPs	September 30, 1989
Explanation of Significant Differences (ESD) signed modifying the pump and treatment system	May 5, 1993
Excavation completed	October 8, 1993
Remedial Design completed	March 25, 1994
Remedial Action started	May 11, 1994
Remedial Action completed	March 30, 1995
Preliminary Closeout Report completed	May 9, 1995
First Five-Year Review Report	September 30, 1999
Revised Proposal for MNA began	November 24, 1999
Shutdown of Pump and Treat System to Commence MNA Study	February 1, 2000
Revised Proposal for MNA extension granted	April 25, 2002
Second Five-Year Report	August 24, 2005
Sitewide Ready-for-Anticipated Use (SWRAU)	September 4, 2009
Third Five-Year Review Report	April 23 2009

B. Background

Physical Characteristics

The Big D Campground (Big D) site is located in Kingsville, Ashtabula County, Ohio, approximately 2.5 miles south of Lake Erie and 50 miles northeast of Cleveland, Ohio. The site is located south of Creek Road, north of Conneaut Creek, and west of and adjacent to the former Big D Campground. Residences are located 500 feet to the north and northwest. The site contains a landfill area approximately 1.2 acres in size. The landfill is approximately 20 feet thick and is located on the southern side of the site. The land slopes sharply towards Conneaut Creek approximately 50 feet to the south of the southern edge of the landfill (Figure 1 (Attachment I)).

Land and Resource Use

The Big D Campground site was initially operated as a sand and gravel quarry. The current land use for the surrounding area is residential and recreational. Conneaut Creek is used for fishing and swimming. It is anticipated that these land uses will continue into the future. The site is currently fenced and the incinerated waste and soils are contained within the fenced area under a landfill cap.

The groundwater aquifer at the site is currently not used as a drinking water source and PRP Olin Corporation (Olin) has acquired the groundwater rights of the surrounding property owners. Additionally, Olin has placed deed restrictions on these off-site properties to prohibit the use of groundwater both currently and in the future. The dominant groundwater flow direction is to the north away from Conneaut Creek.

History of Contamination

The Big D Campground site was initially operated as a sand and gravel quarry. Between 1964 and 1976 (during the time the quarry was in operation), approximately 2.8 acres of the site were operated as a landfill and accepted hazardous and non-hazardous material.

Known hazardous wastes disposed in the landfill at the site included residues from toluene diisocyanate (TDI) production, toluene diisocyanate, chlorobenzene, and diamoinotoluene. In addition to the known hazardous wastes, other wastes of undocumented type and quantity were disposed of in the landfill. Available information suggests that these wastes included drummed halogenated and non-halogenated solvents, caustics, and oily substances.

Initial Response

EPA conducted site investigations between 1982 and 1988 and identified drums containing halogenated and non-halogenated solvents, caustic, and oily wastes, bulk TDI, TDI residue contaminated with monochlorobenzene and carbon tetrachloride, monoethylamine, and contaminated soil. The initial estimate of volume of hazardous materials was 28,000 cubic yards. Groundwater was found to be contaminated with volatile organic compounds (VOCs) and heavy metals including barium, chromium, and lead.

EPA began a fund-financed RI in late 1986 and completed it in mid-1988. The final RI/FS and Proposed Plan were released for public comment on July 28, 1989.

The RI concluded that the waste buried in the landfill had caused soil and groundwater contamination. The extent of groundwater/soil contamination presented in the RI was based on information collected from nine well clusters (MW01 through MW09) with deep and shallow monitoring wells and their respective soil borings, six off-site residential wells, a soil gas survey, and groundwater modeling. As a result of the investigations, EPA issued a Record of Decision (ROD) in 1989 that identified remedial actions for contaminated soil and groundwater.

Basis for Taking Action

Organic compounds were detected in shallow wells screened in the water table aquifer, deep wells screened in the confined bedrock aquifer, and in wells along Conneaut Creek screened in the alluvial overbank and semi-confined bedrock aquifers. No contamination was found in the confined bedrock aquifer. No organic compounds attributable to site activities were detected in the off-site residential wells sampled. Surface water samples from Conneaut Creek indicated that no chemicals of concern (COCs) were present above action levels. Chlorobenzene was the only organic compound detected in surface water samples from Conneaut Creek; however, all detections were below action levels. No sediment contamination attributable to site activities was detected.

Contaminants of Concern

The contaminants of concern included:

Metals: barium, beryllium, chromium, lead and nickel.

Organic Compounds: 2,4-diaminotoluene (DAT), 1,2-dichlorobenzene (*o*-DCB), 1,4-dichlorobenzene (*p*-DCB), *trans*-1,2-dichloroethene (*trans*-DCE), tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride (VC) and monochlorobenzene (MCB).

Of the 13 indicator chemicals, the most prevalent in soil and groundwater at the Big D site are TCE, DCA, DCE, PCE, 1,1,1-trichloroethane (TCA), and MCB. Of these, TCE is currently the primary contaminant of concern.

Metals are no longer a concern at the site. Groundwater monitoring continues at the site and is focused on DAT, MCB, PCE, TCE, DCE, DCA, TCA and VC.

Exposure Pathways

The primary exposure pathway was future ingestion of groundwater by residents. Ecological impacts to aquatic life in Conneaut Creek were evaluated, but only slight impacts were noted. Ambient Water Quality criteria were not exceeded based on sampling results.

C. Remedial Actions

Remedy Selection

The ROD identified three main remedial actions: 1) source material excavation and incineration followed by placement and backfilling of the ash; 2) groundwater collection and treatment; and 3) groundwater monitoring (i.e., long-term performance monitoring). MCB, PCE, TCE, DCE and VC were the primary contaminants present in the groundwater; all other contaminants were detected only in isolated locations and did not appear to be significant. The water table aquifer is the primary aquifer of concern and the contamination migrating north from the former landfill is of particular concern.

Remedial action objectives include: prevent exposure to contaminated groundwater.

Groundwater clean-up standards for the site were specified in the ROD and the Administrative Order on Consent (AOC). The AOC was issued to perform the Remedial Design (RD) and the Remedial Action (RA) at the Big D site on March 23, 1990. The cleanup standards were based on a future groundwater use scenario and were set: 1) not to exceed maximum contaminant levels (MCLs) under the federal Safe Drinking Water Act and 2) below concentrations that pose a cumulative Hazard Index of 1 and/or cumulative excess lifetime cancer risk of $1x10^{-6}$ due to ingestion of contaminated groundwater. Table 5 in the ROD (not attached) lists the risk-based clean-up goals for the COCs at the site and lists the constituents that are monitored as part of the long-term performance monitoring of the existing groundwater collection and treatment system.

The selected groundwater treatment remedy prescribed that:

- Groundwater from the water table aquifer would be collected using two interceptor trenches.
- Groundwater from the alluvial overbank aquifer, the semi-confined bedrock aquifer, and confined bedrock aquifer would be collected with extraction wells.
- Collected groundwater from the trenches and wells was to be treated on-site with a granular activated carbon (GAC) system and then discharged to Conneaut Creek.

During implementation, the groundwater treatment remedy was modified in a May 5, 1993 ESD to the following:

- The use of active groundwater pumping by extraction wells in the water table aquifer, and an approximate 500-foot long artificial recharge trench.
- The passive collection of water from the alluvial overbank aquifer and semi-confined bedrock aquifer from a 600-foot trench.
- The sampling of the confined bedrock aquifer on an annual basis.

Remedy Implementation

The following items discuss the implementation of each aspect of the remedial action.

1. RD/RA Work Plan: A Work Plan, developed in accordance with the ROD, addressed all activities to be completed as part of the site RD/RA.

2. Fencing: Throughout operations, fencing was maintained around the remedial activities. The final fence alignment encloses the former landfill and the groundwater treatment facility.

3. Deed Restrictions: Olin tabulated the owners of the properties where the groundwater rights had been purchased from the owners. Documentation was submitted to EPA in 2008-2010. An attached table provides the Signatory to the Deed; the Current Owner; Address; Parcel ID number; and the Deed Restriction Summary. The table further states that: all property owners are on city water; existing groundwater wells within the plume were abandoned; and all deed restrictions are stamped and dated by the Records of the

County Record of Ashtabula County, State of Ohio; and have been verified as to being in force and will continue to be in force should the property transfer (see Attachment D).

4. Source Area Excavation: A total of 93,219 tons of materials were excavated from the former landfill and incinerated. This resulted in an excavated area of approximately 2.7 acres with nominal dimensions of 230 feet wide by 510 feet long and 18 feet deep. The completed excavation was surveyed prior to backfill on October 8, 1993.

   Confirmation soil samples were collected and analyzed for tetrachloroethene, monochlorobenzene, 1,2-dichlorobenzene, and 1,4-dichlorobenzene.

5. On-site Incineration: The incinerator trial burn was conducted from September 24 through 28, 1992, at which time interim burn approval was received from EPA. Interim burn continued until February 1993 when approval of the Trial Burn Report was received from EPA, after which full production burn commenced. During the trial burn, ash was tested in accordance with Confirmation of Incinerator Ash Delistability Plan. The combination of the trial burn exercise and the periodic sample analysis of the ash as required in the Incinerator Delistability Plan confirmed that the ash was delistable. Consequently, EPA allowed the placement of the ash back in the landfill. Wastes excavated from the former landfill were incinerated and the ash was sampled prior to backfill. Results were reported periodically throughout operations.

   The Remedial Action Implementation Report was submitted to the EPA in February 1995. In a letter dated March 30, 1995, EPA approved the Remedial Action Implementation Report, signifying that remedial action was complete for the on-site incineration portion of the remedy.

6. On-site Material Disposal and Backfilling: The excavated area was backfilled with ash and covered with clean fill and topsoil and then vegetated.

7. Water Table Aquifer Groundwater Collection System: The selected remedy for the water table aquifer consisted of two interceptor trenches; one at the downgradient edge of the contaminant plume and one at the north end of the source area. Groundwater monitoring wells were to be installed north of each interceptor trench to monitor for any contamination bypassing the trenches. Subsequently, Olin designed a modified groundwater extraction system including the use of active groundwater pumping through pump out wells in the water table aquifer, and an approximate 500 foot long artificial recharge trench. This design change was submitted and approved by EPA and OEPA in the 1993 ESD.

   Eight extraction wells were installed within nine feet of the original design location as described in the Final Design Documents. Ten monitoring wells were selected as perimeter monitoring wells to be sampled quarterly to demonstrate that no contamination has migrated beyond the perimeter delineated by these monitoring wells.

Nine piezometers were added to the network of existing wells to provide groundwater elevation data. The potable water recharge system, supplied by city water, was installed at the north side of the excavation. Water level electrodes in Piezometer PZ10 (which is located central to the recharge system) control the water level within the potable water recharge system.

8. Alluvial Overbank Aquifer and Semi-Confined Bedrock Aquifer Groundwater Collection System: The ROD remedy for the alluvial overbank and semi-confined bedrock aquifers consisted of using extraction wells to recover groundwater. However, an interceptor trench approximately 710 feet long was installed adjacent to Conneaut Creek. Water accumulating in the trench is extracted by Wet Well 01 (WW01) and was sent to the groundwater treatment system. Three nested monitoring well pairs (one each completed in the alluvial overbank aquifer and the semi-confined bedrock aquifer) were installed downgradient of the interceptor trench to monitor groundwater. This design change was submitted and approved by EPA and OEPA in the ESD.

9. Confined Bedrock Aquifer Groundwater Collection System: The selected remedy consisted of using extraction wells to collect contaminated groundwater from the confined bedrock aquifer. However, analytical data collected during RD demonstrated that no site-related contamination was present in the confined bedrock aquifer, thereby negating the need for extraction wells. Annual monitoring of the confined bedrock aquifer is conducted. This design change was approved by EPA and OEPA in the ESD.

10. On-Site Groundwater Treatment: All groundwater was processed through the existing treatment plant and the effluent sampled in accordance with the final design. A treatability study was performed to demonstrate regulatory and statutory compliance prior to design of the groundwater treatment plant. The initial treatment system consisted of metals removal, air stripping, and GAC polish treatment. A letter from EPA, dated November 20, 1997, approved modifying the system to exclude the metals treatment step.

11. Treated Groundwater Discharge to Conneaut Creek: An 8-inch polyvinyl chloride pipe conveyed treated water to a discharge point north of Conneaut Creek when the treatment plant was in operation. All water discharged from the water treatment plant complied with all applicable discharge requirements.

12. Groundwater and Surface Water Monitoring: Groundwater samples are collected semi-annually. Samples are collected from 19 monitoring wells during the spring sampling event. Samples are collected from 25 monitoring wells and 3 surface water locations during the fall sampling event. The monitoring wells are sampled for natural attenuation parameters. Samples are collected using low-flow sampling techniques. The field sampling parameters are: dissolved oxygen, iron (II), oxidation reduction potential (ORP), pH, specific conductance, temperature and turbidity. The laboratory sampling parameters are volatile organic compounds (VOCs), carbon dioxide, chloride, total organic carbon, ethylene, methane, nitrate, sulfate, sulfide total alkalinity and hydrogen. Surface water sampling is collected annually. Sampling is done in accordance with the January 2000 Quality Assurance Project Plan.

Initial Monitored Natural Attenuation Evaluation

Between June 1996 and March 1997, Olin conducted an investigation to evaluate alternative groundwater remedies at the site, including monitored natural attenuation (MNA). EPA's *Draft Interim Final OSWER Monitored Natural Attenuation Policy* (OSWER Directive 9200.4-17, November 18, 1997) was used as guidance for this effort.

Olin submitted a proposal to EPA in October 1999 suggesting a "demonstration project" be performed to evaluate MNA as an alternative groundwater remedy. As a part of this project, the existing pump and treatment system was shut down in February 2000. The collection of groundwater data, specifically aimed at evaluating MNA, started in the spring of 2000 and continues to date. Samples were collected from 18 monitoring wells and analyzed for VOCs and geochemical natural attenuation parameters. Four rounds of data were collected over an initial two-year period to determine if MNA could achieve the groundwater remedial action objectives. Due to site complexity, the MNA evaluation was extended past the initial two-year timeframe. Olin continues to collect MNA monitoring well sampling data to further evaluate whether the (1) contaminant plumes are remaining stable and within deed restricted properties, (2) results for the demonstration program are consistent with the modeling predictions, and (3) evidence collected during the demonstration program supports MNA as a viable groundwater cleanup alternative.

Attachment A

EPA Interim Evaluation of MNA

EPA reviewed the MNA Demonstration Report and documented its findings in a report in May 2012. An extensive discussion of EPA's findings is provided below.

EPA's 2012 report concluded:

- there is direct and indirect evidence that biodegradation of chlorinated aliphatics is occurring,
- there is no direct evidence of biodegradation of MCB, but its mass and plume footprint area appear to be stable and within the IC or deed-restricted area,
- there is a pronounced seasonal variability in water levels, concentrations, and degradation activity at the site,
- the trans-1,2 isomer of DCE has been accumulating near PW-03,
- TCE mass is decreasing (based on seasonal trend analysis), and as a whole its plume is not migrating,
- other COCs exhibit stable overall plume locations and stable mass,
- the area of the VC plume exceeding the MCL of 2 ug/L has not contracted as anticipated in the MNA demonstration proposal,
- future data reports need to properly perform seasonal Mann-Kendall, or other approved seasonally adjusted statistical method of trend analysis, to review the data,
- arguments in the 2010 MNA Report that well-by-well concentration trends are not useful, yet that mass trends derived from those well-by-well concentrations are useful, do not hold water. Both have value,
- internal plume dynamics north-northwest of the landfill, as revealed by concentration trends at individual wells, raise concerns that VC is migrating from MW-49-S toward or across the IC boundary near MW-54-S,
- the construction details of MW-54S, which was installed in 2006, suggest that it may not obtain samples representative of the most pervious portion of the basal sand,
- if EPA determines that the groundwater extraction system, or a portion thereof, needs to be reactivated, then water injected at the landfill should be oxygen-deficient and reconfigurations of the system should be considered, and
- the active pump-and-treat time-to-cleanup estimate was 180 years and the MNA estimate was 200 years. The VC plume has, after 10 years of MNA demonstration, not contracted as predicted. The concentrations of other COCs has not decreased to the extent predicted in 1999, though generally they are within an order of magnitude; no predictions for MCB or trans-1,2-DCE were made. This is *prima facie* evidence that (1) the actual MNA time-to cleanup will be longer than anticipated and (2) parent source materials for the plumes-PCE, TCE and MCB-continue to exist and their depletion is necessary before further progress toward cleanup is significant. There is no updated estimate for the amount of time needed for depletion.

EPA recommended in its review report that:

1) MW-54-S should be supplemented or replaced by a monitoring well that samples the most pervious part of the basal sand at that map location,
2) ICs and deed-restrictions should remain in place, be enforced, and be verified in writing or a routine basis,
3) based on future results from the supplemental monitoring near MW-54-S, an active remedy and/or expansion of the IC and deed-restricted area may be needed to address the area north-northwest of MW-49-S,
4) monitoring should continue on at minimum a semi-annual schedule for heads, COCs, and key MNA parameters. Manganese should be added to the list of analytes,
5) reports containing data, analyses, and interpretations (including correct analyses of monitoring data accounting for seasonal effects) should be regularly submitted. EDDs should be submitted on a timely schedule,
6) statistical analyses of trends need to be properly performed and reported. A seasonal approach, where warranted, should be used. It is suggested that a procedure be proposed and reviewed in advance of the next report, so that report production is streamlined,
7) reports and analyses (see recommendation 5)) should be independently reviewed on a periodic basis,
8) accumulation and migration of VC and trans-1,2-DCE, in particular, should be watched,
9) migration of MCB in the area roughly between MW-34-S and MW-54-S should be watched,
10) a strategy should be developed to increase the destruction of VC,
11) a contingency plan (or a planning protocol) and schedule should be put in-place, and
12) because of the long-term commitment necessary for an MNA remedy, there must be flexibility to modify these recommendations based on field observations, and sufficient resources must be committed.

Discussion

It should be noted that Olin replaced MW-54-S with MW-54-SRX on November 7, 2011. No COCs have been observed in the new well. Olin reviews ICs annually and notifies the residents that have an IC on their property of what is required in the IC. Olin continues to perform semi-annual groundwater sampling and submits the data to EPA and OEPA on an annual basis. Olin continues to monitor the accumulation and migration of all the plumes.

Monitoring wells at the site have been monitored semi-annually since March 2000 as part of a monitored Natural Attenuation (MNA) demonstration project to evaluate the efficacy of MNA as a protective long-term remedy for the site in place of groundwater extraction and treatment. The data collected during the period covered by this report are consistent with those reported for previous sampling events. In 2006, an additional monitoring well, well MW54-S, was installed to the northwest of well MW49-S in order to verify that vinyl chloride had not migrated beyond the deed-restricted boundary of the site. The well was installed with EPA and OEPA concurrence and has been sampled semi-annually since installation. Site-specific constituents of concern (COCs) have not been detected in this well since it was installed. The boring log for well MW54-S indicated a zone just above the top of the screen (10 foot screen) that contained sand and gravel fragments. EPA and OEPA requested installation of an additional well in the

immediate vicinity of well MW54-S, yet with a longer screen (20 foot screen) to verify that vinyl chloride had not migrated beyond well MW54-S in this sand seam without being detected. The new well MW54-SRX was installed, developed, and sampled in November 2011 in accordance with a monitoring plan submitted to and approved by EPA and OEPA. Well MW54-S was abandoned in place in accordance with the same referenced plan. OEPA was on-site during the installation of well MW54-SRX and concurred with the screen location. Validated data collected in 2011, 2012, and 2013 from well MW54-SRX indicate that no site-specific COCs have been detected. A report documenting the installation of the new wells, abandonment of the old well, and the validated data from the new well was provided.

Olin has since submitted additional data in support of MNA as a viable option. EPA is reviewing this information and plans to complete its evaluation by April 2015.

Attachment B

3855 NORTH OCOEE STREET SUITE 200, CLEVELAND, TN 37312
OFFICE: (423) 336-4000 FAX: (423) 336-4166

March 30, 2010

Mr. Howard Caine
Remediation Project Manager
USEPA – Region 5
77 West Jackson Blvd.
Mail Stop SR-6J
Chicago, IL 60604-3590

Subject: **Response to USEPA Comments**
Institutional Control Study
Big D Campground Site

Dear Howard:

This letter presents our response to your June 11, 2009 comments on the Institution Control Study submitted to you on November 11, 2008 as part of the fourth five-year Record of Decision Effectiveness review for the Big D Campground Site. All referenced attachments are provided on the enclosed Compact Disc. Your comment will be presented followed by our response.

1. ***Governmental Controls***: *The IC Study stated, "To Olin's knowledge, there are no current governmental controls (ordinances, statutes, or otherwise provided by Kingsville Township, Ashtabula County, or the State of Ohio) that enforces the proprietary controls currently in place at the site." We feel Olin needs to investigate this further. For example, Section 3701-28-03 of the Ohio Administrative Code (Ohio Department of Health) provides that there shall be no construction of a private water system without a permit. These regulations are usually administered by the applicable County Department of Health. There may be other regulations that are IC related and need to be followed by Olin. Olin needs to investigate the government controls and modify the report based on you findings.*

Olin Response: We have reviewed the Ohio Administrative Code and did not find any other governmental controls that would enforce the proprietary restrictions placed by us on properties at the Big D site. We also discussed the well permitting process with the Ashtabula County Health Department (Health Department) and were told that environmental impacts would be considered in review of private well system permit applications. We provided the Health Department information relating to our proprietary restrictions and their representative has agreed to accept these into their files and review them if a private water system application was submitted. We were informed by the

Health Department that there has been no such permit applications submitted in recent history.

2. ***Communications Plan****: Olin should prepare and implement a Communications Plan for both the Governmental Controls and Proprietary Easements. Based on the IC Study, it appeared that many of the residents did not know that their properties were restricted. Also, many of the residents were not home when contacted which could have resulted in a greater number of people not knowing about the Deed Restrictions on the property. We realize that Olin did mail copies of the Deed Restriction to all the residents after the interview process; however, we need some assurance that the property occupants and the property owners are really aware of these restrictions. The communications to the property owners under the new Plan need to clearly and simply explain the nature of the restricted activity.*

Olin Response: Our Communications Plan is provided as Attachment A to this letter.

3. ***Mapping****: We appreciate the detail that was given to Parcel Map provided by Olin in Attachment A (of the IC Study). We would like to get a Parcel Map(s) with the most recent groundwater plume boundary for all the contaminants as well. This can be done on one map or several maps; whichever produces the best demonstration of t e plume boundaries in relationship to the restricted properties.*

Olin Response: The requested plume/boundary maps are provided as Attachment B to this letter.

4. ***Title Work for Individual Parcels:*** *U.S. EPA needs sufficient information to ensure that other recorded restrictions do not impact the environmental restrictions for he parcels. This information includes assurances based on surveys and/or mapping of the individual parcels showing where contamination exists versus easement rights and certification that the Title Work was examined by a Real Estate Attorney. Additionally, there may not be current conflicts between the contaminated groundwater and the utility easements; the easements themselves have to be examined for the potential rights that are given to utilities (i.e., a utility installing piping at a depth that would impact contaminated groundwater). Olin needs to directly compare the existing easements at each property with the environmental restrictions placed by you to identify any potential conflicts.*

Olin Response: The requested summary and Attorney certification is provided as Attachment C to this letter. As you will note, there are existing utility easements associated with properties on which we've placed proprietary controls limiting use of environmental media. Specifically, our proprietary controls limit use of groundwater, and in those cases where excavation is limited, the restricted depth of excavation is beyond 12 feet below ground surface. To our knowledge, none of our proprietary controls have been breached by area utilities and given the depth of excavation limits that we have imposed on the subject properties, potential future breaches are unlikely.

5. ***Planned Development***: *The IC Study is silent on planned development in the area. Olin should check with the city and/or county planning commission or building department to see if there are any plans to redevelop the area.*

Olin Response: We have spoken to a representative of the Kingsville Township Clerk's office as well as the Ashtabula County Permit writer for private well systems in Kingsville and have been informed that there is now no anticipated development in the area surrounding the Big D site.

Should you have any questions and/or comments regarding the information provided herein, please contact me at 423.336.4012 or jmcashwell@olin.com.

Sincerely,

OLIN CORPORATION

James M. Cashwell
Senior Associate Environmental Specialist

Attachments

Cc: Cynthia Draper (MACTEC Engineering and Consulting, Inc.)

2010 Institutional Control Communications Plan
Big D Campground Site

North Kingsville, Ohio, Ashtabula County

Purpose of this Plan:

To provide a framework for Olin Corporation to verify that residents in the vicinity of the Big D Campground Superfund site are aware of institutional controls that have been placed on their property deeds as appropriate and to communicate Olin's propriety controls associated with the Big D site with local/County government.

Goal of this Plan:

To ensure that local homeowners are aware of the restrictive covenants that are associated with their properties such that the purpose of their implantation continues to be met.

Action:

Once per year, Olin Corporation will conduct a deed review to determine if any of the properties with Olin-imparted restrictive covenants have changed ownership. If one of the properties with restrictive covenants is determined to have changed hands during the annual cycle, Olin Corporation will mail a description of the restrictive covenants placed on the respective property deeds to the new owners. A contact number will also be provided for said residents in case questions arise following this mailing.

Olin Corporation will also mail reminders to affected homeowners of the environmental restrictions that have been placed on their respective deeds in advance and in preparation for each of the forthcoming Five Year Remedy Reviews.

EXTENT OF TRANS-1,2-DICHLOROETHENE PLUME OCTOBER 2009

FIGURE: 3

JOB NO. 6107100023

MACTEC

MACTEC Engineering and Consulting, Inc.
3200 TOWN POINT DRIVE, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

OLIN CORPORATION
BIG D CAMPGROUND

PREPARED BY/DATE SLW 3/1/2010

CHECKED BY/DATE KPW 3/1/2010

Map Document (G:\Projects_GIS\Projects2006\olin_big_D\mxds\Parcel_Plume_Overlay\parcel_plume_overlay_tdce1009.mxd)
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EXTENT OF CIS-1,2-DICHLOROETHENE PLUME OCTOBER 2009

FIGURE: 4

JOB NO. 6107100023

MACTEC

MACTEC Engineering and Consulting, Inc.
3200 TOWN POINT DRIVE, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

OLIN CORPORATION
BIG D CAMPGROUND

PREPARED BY/DATE SLW 3/1/2010

CHECKED BY/DATE KPW 3/1/2010

Map Document: (G:\Projects_GIS\Projects2006\olin_big_D\mxds\Parcel_Plume_Overlay\parcel_plume_overlay_cdce1009.mxd)
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EXTENT OF MONOCHLOROBENZENE PLUME OCTOBER 2009

FIGURE: 6

JOB NO. 6107100023

MACTEC

MACTEC Engineering and Consulting, Inc.

3200 TOWN POINT DRIVE, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

OLIN CORPORATION
BIG D CAMPGROUND

PREPARED BY/DATE SLW 3/1/2010

CHECKED BY/DATE KPW 3/1/2010

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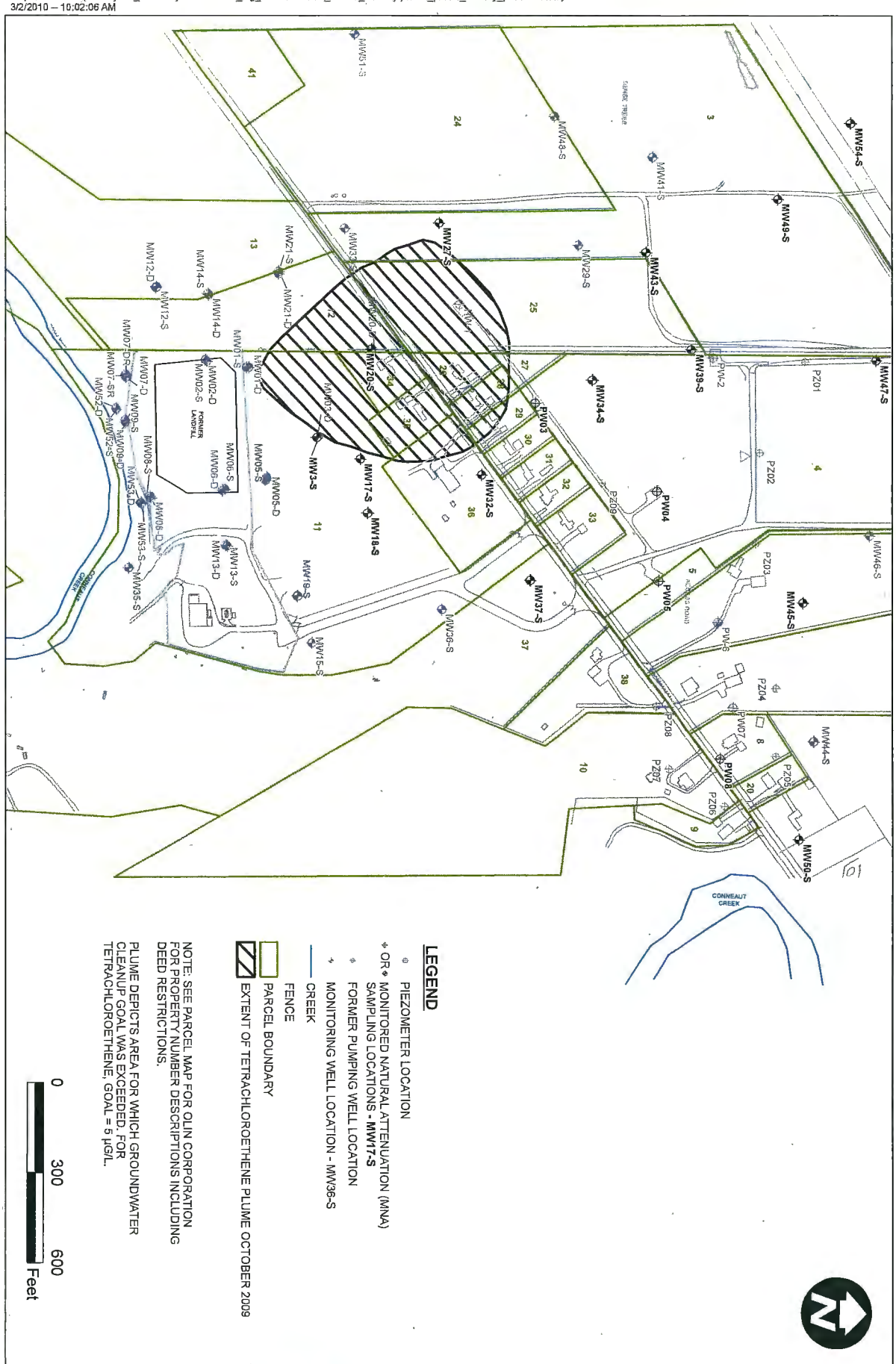

LEGEND

- PIEZOMETER LOCATION
- MONITORED NATURAL ATTENUATION (MNA) SAMPLING LOCATIONS - **MW17-S**
- FORMER PUMPING WELL LOCATION
- MONITORING WELL LOCATION - MW36-S
- CREEK
- FENCE
- PARCEL BOUNDARY
- EXTENT OF TETRACHLOROETHENE PLUME OCTOBER 2009

NOTE: SEE PARCEL MAP FOR OLIN CORPORATION FOR PROPERTY NUMBER DESCRIPTIONS INCLUDING DEED RESTRICTIONS.

PLUME DEPICTS AREA FOR WHICH GROUNDWATER CLEANUP GOAL WAS EXCEEDED. FOR TETRACHLOROETHENE, GOAL = 5 µG/L.

0 300 600 Feet

N

OLIN CORPORATION BIG D CAMPGROUND	MACTEC MACTEC Engineering and Consulting, Inc. 3200 TOWN POINT DRIVE, SUITE 100 KENNESAW, GEORGIA 30144 (770) 421-3400	EXTENT OF TETRACHLOROETHENE PLUME OCTOBER 2009 JOB NO. 6107100023 FIGURE: 1

PREPARED BY/DATE SLW 3/1/2010 CHECKED BY/DATE KPW 3/1/2010

EXTENT OF TRICHLOROETHENE PLUME OCTOBER 2009

FIGURE: 2

JOB NO. 6107100023

MACTEC

MACTEC Engineering and Consulting, Inc.
3200 TOWN POINT DRIVE, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

OLIN CORPORATION
BIG D CAMPGROUND

PREPARED BY/DATE SLW 3/1/2010

CHECKED BY/DATE KPW 3/1/2010

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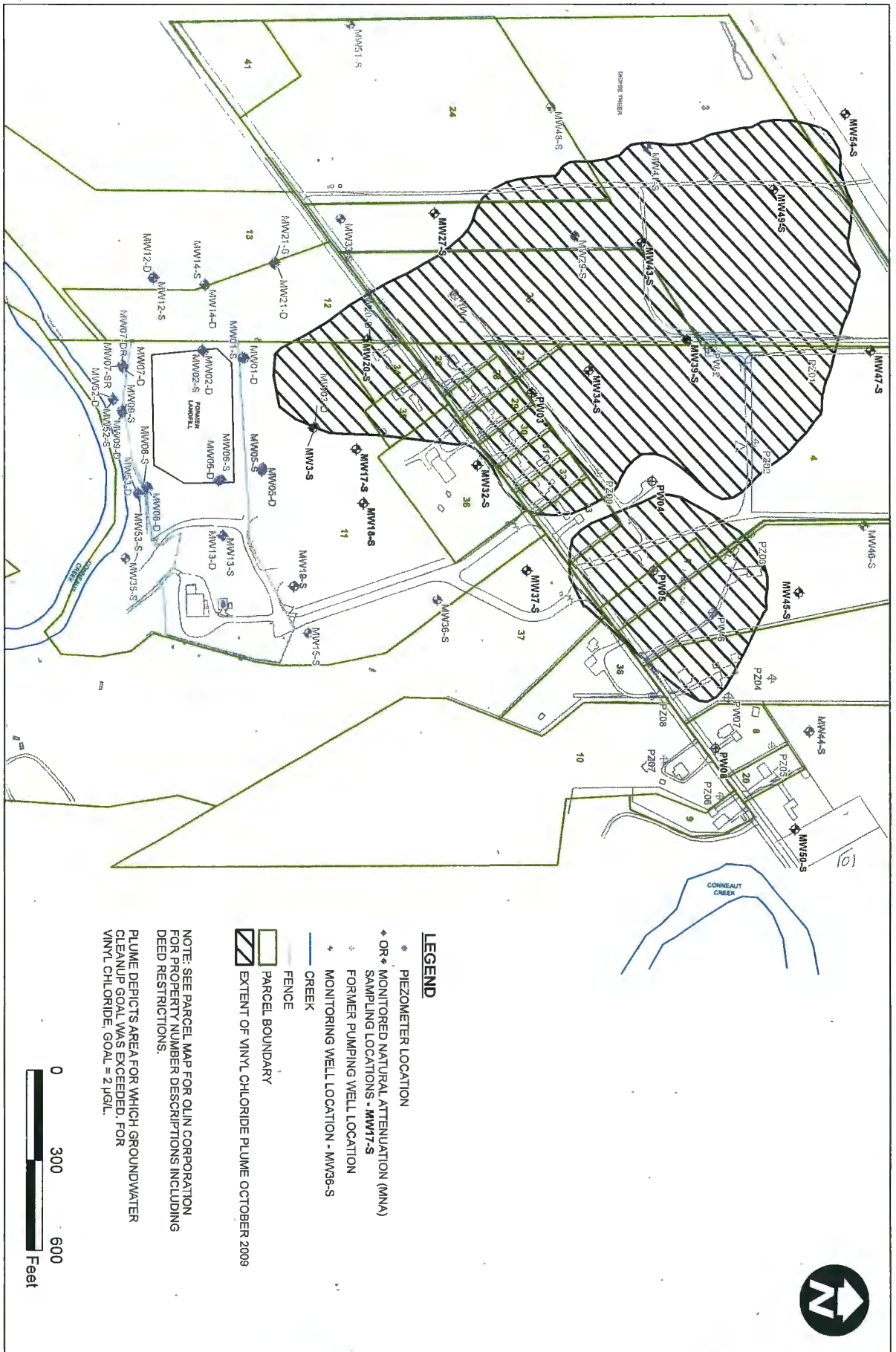

LEGEND

- PIEZOMETER LOCATION
- OR ◆ MONITORED NATURAL ATTENUATION (MNA) SAMPLING LOCATIONS - **MW17-S**
- FORMER PUMPING WELL LOCATION
- MONITORING WELL LOCATION - MW36-S
- CREEK
- FENCE
- PARCEL BOUNDARY
- EXTENT OF VINYL CHLORIDE PLUME OCTOBER 2009

NOTE: SEE PARCEL MAP FOR OLIN CORPORATION FOR PROPERTY NUMBER DESCRIPTIONS INCLUDING DEED RESTRICTIONS.

PLUME DEPICTS AREA FOR WHICH GROUNDWATER CLEANUP GOAL WAS EXCEEDED. FOR VINYL CHLORIDE, GOAL = 2 µG/L.

0 300 600
Feet

N

OLIN CORPORATION
BIG D CAMPGROUND

MACTEC
MACTEC Engineering and Consulting, Inc.
3200 TOWN POINT DRIVE, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

EXTENT OF
VINYL CHLORIDE PLUME
OCTOBER 2009

JOB NO. 6107100023 FIGURE: 5

PREPARED BY/DATE SLW 3/1/2010 CHECKED BY/DATE KPW 3/1/2010

Schnader
ATTORNEYS AT LAW
1935 —— 75 YEARS —— 2010

March 26, 2010

Keith E. Whitson
Direct Dial: (412) 577-5220
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Mr. James Cashwell, PE
Senior Associate, Environmental Remediation
Olin Corporation
3855 N. Ocoee Street
Suite 200
Cleveland, TN 37312

Re: Big D Campground Superfund Site
Institutional Control Study

Dear Mr. Cashwell,

Olin Corporation ("Olin") has asked Schnader Harrison Segal and Lewis, LLP to review certain title materials associated with a number of parcels of real property located in Kingsville Township, Ashtabula County, Ohio known as the Big D Campground Site. Olin previously performed certain environmental remediation activities on a number of parcels in this area and entered into restrictive covenant agreements with the property owners.

I certify that my partner, Deborah A. Rouse, is a real estate attorney with this law firm. Ms. Rouse examined thirty (30) title reports that were provided by Olin, together with copies of certain recorded restrictive covenants, rights of way, easements and related agreements attached thereto. The title reports were prepared by Chicago Title Insurance Company between November 3, 2008 and November 7, 2008. A report summarizing certain provisions of these title reports and other documents is attached to this letter. Ms. Rouse found that many of the easements and rights of way were granted to utility companies in the first half of the Twentieth Century. Our scope of work was limited to reviewing the documents provided by Olin and identifying relevant provisions therein and did not include making any judgments, opinions or findings based on that review.

Please contact Ms. Rouse or me if you have any questions with regard to the report. It has been a pleasure working with you.

Very truly yours,

Keith E. Whitson

KEW:gr
Enclosure
cc: Deborah A. Rouse, Esquire

Olin Big D Campground
Summary of Recorded Access Rights, Land Use Restrictions and Easements
March 26, 2010

Parcel: 27-006-00-041-01(Tract 27) -- In plume area
Owner: Sarah E. Patterson[5]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	**Summary of Rights Granted Olin**	**Recorded Document**	**Summary of Rights Granted Others**
Ruth Ann Reed Declaration of Right of Way, Easement and Restrictive Covenant 10/14/1993 Vol. 69, pg. 9592	Easement, varying in width from approximately 3' to 10' wide, granted to Olin for, *inter alia*, (i) ingress and egress; and (ii) drilling, construction, maintenance, repair, operation and monitoring of wells, pumping systems and piping systems. [6] Owner is permitted to traverse the surface of the Easement Area provided that Owner does not unreasonably interfere with the operation, repair and maintenance of the piping system. Owner agrees to: No construction or intrusive construction below a depth of 2 feet in the easement area and 20 feet elsewhere. No installation or use of water wells. Restricts use of entire parcel.	Communications System Easement to Ohio Telephone and Telegraph 2/6/1946 Vol. 293, pg. 270	Construct, operate, maintain, replace and remove communications systems…upon, over and under an unspecified strip of land one rod wide and right of access and egress associated therewith.
Ruth Ann Reed Amendment to Declaration of Right of Way, Easement and Restrictive Covenant 10/3/1994 Vol. 77, pg. 4447	Reduces limitation on excavation or intrusive construction to a depth of 2 feet in the easement area and 10 feet elsewhere.		

Parcel: 27-006-00-043-00 (Tract 29) - In plume area.
Owner: Barbara S. Pease, Robert E. Tinker, Kenneth A. Tinker & David G. Tinker (Harold A Tinker reserves a life estate)[9]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	**Summary of Rights Granted Olin**	**Recorded Document**	**Summary of Rights Granted Others**
Marion L. Fillinger Declaration of Restrictive Covenant 11/14/1993 Vol. 69, pg. 9646	No excavation construction or intrusive construction below a depth of 20 feet. No installation or use of water wells. Restricts use of entire parcel. No Olin Easement granted.[10]	Communications System Easement to Ohio Telephone and Telegraph 2/6/1946 Vol. 293, pg. 270	Construct, operate, maintain, replace and remove communications systems…upon, over and under an unspecified strip of land one rod wide and right of access and egress associated therewith.
Marion L. Fillinger Amendment to Declaration of Restrictive Covenant 10/5/1994 Vol. 77, pg. 4431	Reduces limitation on excavation or intrusive construction to a depth of 12 feet.		

Olin Big D Campground
Summary of Recorded Access Rights, Land Use Restrictions and Easements
March 26, 2010

Parcel: 27-006-00-045-00 (Tract 31) - In plume area.
Owner: Charles R. & Sharon D. Dewey[14]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	**Summary of Rights Granted Olin**	**Recorded Document**	**Summary of Rights Granted Others**
Cynthia K. Girdler Declaration of Restrictive Covenant 10/14/1993 Vol. 69, pg. 9664	No excavation or intrusive construction below a depth of 20 feet. No installation or use of water wells. Restricts use of entire parcel. No Olin Easement granted.[15]	Communications System Easement to Ohio Telephone and Telegraph 2/6/1946 Vol. 293, pg. 270	Construct, operate, maintain, replace and remove communications systems…upon, over and under an unspecified strip of land one rod wide and right of access and egress associated therewith.
Cynthia K. Girdler Amendment to Declaration of Restrictive Covenant 10/5/1994 Vol., 77, pg. 4437	Reduces limitation on excavation or intrusive construction to a depth of 15 feet.		

Parcel: 27-006-00-046-01 (Tract 33) – In plume area.
Owner: Tamara Stewart (Land Contract Interest to Janet Schmerer in Vol. 286, pg. 1714-Assignment to Tamara Stewart Vol. 326, pg. 0558)[18]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	**Summary of Rights Granted Olin**	**Recorded Document**	**Summary of Rights Granted Others**
Joseph & Glenna Rodebaugh and Dexter & Jennifer J. Au Declaration of Restrictive Covenant 10/5/1994 Vol. 77, pg. 4461	No excavation or intrusive construction below a depth of 10 feet. No installation or use of water wells. Restricts use of entire parcel. No Olin Easement granted.[19]	Communications System Easement to Ohio Telephone and Telegraph 2/6/1946 Vol. 293, pg. 270	Construct, operate, maintain, replace and remove communications systems…upon, over and under an unspecified strip of land one rod wide and right of access and egress associated therewith.
		Road and Utility Easement 10/30/1982 Vol. 18, pg. 1240 (prior deed)	Easement over the southerly 25' of the real property as described in the deed for road and utility purposes[20]

Parcel: 27-006-00-048-00 (Tract 11) – In plume area
Owner: Olin Corporation can Chlor Alkai, Inc. (V-W-90-C-56 by USEPA attached to deed.)[23]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	**Summary of Rights Granted Olin**	**Recorded Document**	**Summary of Rights Granted Others**
Todd E. and Karen M. Bruckmann Declaration of Restrictive Covenant 10/5/1994 Vol. 77, pg. 4468	No excavation or intrusive construction below a depth of 4 feet within 500 feet of the Olin property line. No extraction of ground water within 500 feet of Olin property line.	Utility Pole Easement to Charles A. Dreslinski 8/16/1996 Vol. 17, pg. 5532 (reserved in granting deed)	Maintenance of existing utility pole lines.
Olin Corporation Declaration of Covenant to Restrict Use of Property 12/19/1995 Vol. 86, pg. 1766 Environmental Protection Agency Administrative Order 4/27/1990 Vol. 51, pg. 137 Environmental Protection Agency Administrative Order 12/17/1990 Vol. 92, pg. 8900	Declaration of Restrictive Covenant cites restrictions in Administrative Order, restrictions set forth in Vol. 59, pg. 501 (which was not attached.) Restrictions are generally described as follows: Owner shall be prohibited and shall prevent others from: making any changes to surface contours which might affect the existing surface water drainage. Conducting any activities that might interfere with Olin's obligations to perform its remedial activities. drilling of wells or the extraction of groundwater. any excavation on the former Olin project site (Parcel 1) as shown in Vol. 15, pg. 125. any excavation on the Exclusion Area at the Northwest corner of the property.	Pipeline Right of Way To Collingswood Exploration[24] 3/21/1985 Vol. 28, pg. 3395 Assignment of Right of Way to J.P. White 4/30/1985 Vol. 28, pg. 9485 Assignment of Right of Way to Mark Resources (no date provided) Vol. 30, pg. 1801	Unknown

Parcel: 27-006-00-048-01 (Tract 36) – In plume area
Owner: George F. II & Ann M. Ferl[25]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	**Summary of Rights Granted Olin**	**Recorded Document**	**Summary of Rights Granted Others**
Charles A. Dreslinski Declaration of Restrictive Covenant 2/6/1995 Vol. 79, pg. 7952	No excavation or intrusive construction below a depth of 12 feet. No installation or use of water wells. Restricts use of entire parcel. No Olin Easement granted.[36]	Utility Pole Easement to Charles A. Dreslinski 8/16/1996 Vol. 17, pg. 5532 (reserved in granting deed)	Maintenance of existing utility pole lines.

Topographic and Planometric Survey 12/19/1995 Vol. 86, pg. 1765 Plat Vol. 15, pg. 125 (None of the above documents attached.)	excavating below a depth of 12 feet on the remainder of Parcel II, except that there shall be no limit on excavating on the property south of Conneaut Creek. from erecting any building or structure unless approve by Olin or USEPA as a necessary component of the Administrative Order or CERCLA remedy. Commercial development or residential development on the property North of Conneaut Creek is prohibited. Owner of Parcel II may construct for his personal use a residential dwelling at the area of highest elevation along Creek Road. Existing fences on Parcel I are to be maintained by the Owner as is in order to restrict the presence of anyone not involved in administering the Administrative Order or CERCLA remedy.		

Olin Big D Campground
Summary of Recorded Access Rights, Land Use Restrictions and Easements
March 26, 2010

Parcel: 27-006-00-050-00 (Tract 34) – In plume area.
Owner: Joseph A. and Michelle Powell[32]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	**Summary of Rights Granted Olin**	**Recorded Document**	**Summary of Rights Granted Others**
Bernice E. Spice Declaration of Restrictive Covenant, 10/14/1993 Vol. 69, pg. 9670 (Signature Page Not in Title Report)	No excavation or intrusive construction below a depth of 20 feet. No installation or use of water wells. Parcel description varies from that contained in deed. Restricts use of entire parcel. No Olin Easement granted.[33]	NONE	NONE
Bernice E. Spice Amendment to Declaration of Restrictive Covenant 10/5/1994 Vol. 77, pg. 4451	Reduces limitation on excavation or intrusive construction to a depth of 12 feet.		

Parcel: 27-007-00-011-00 (Tract 10) -- Not in plume area.
Owner: Ralph L. & Candice K. Owens[37]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	Summary of Rights Granted Olin	Recorded Document	Summary of Rights Granted Others
Barbara E. English & Nellie E. Porter Declaration of Restrictive Covenant 10/14/1993 Vol. 69, pg. 9682	No excavation or intrusive construction below a depth of 20 feet. No installation or use of water wells. Restricts use of entire parcel. No Olin Easement granted.[38]	NONE	NONE
Barbara E. English & Nellie E. Porter Amendment to Declaration of Restrictive Covenant 10/5/1994 Vol. 77, pg. 4445	Reduces limitation on excavation or intrusive construction to a depth of 15 feet.		

Parcel: 27-007-00-012-01 (Tract 7) – In plume area.
Owner: James S. & Lorie A. Francis[41]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	**Summary of Rights Granted Olin**	**Recorded Document**	**Summary of Rights Granted Others**
Arlin M. and Connie A. Vines Declaration of Right of Way, Easement and Restrictive Covenant 10/14/1993 Vol. 69, pg. 9619	Easement, varying in width from approximately 3' to 10' wide, granted to Olin for, *inter alia*, (i) ingress and egress; and (ii) drilling, construction, maintenance, repair, operation and monitoring of wells, pumping systems and piping systems.[42] Owner is permitted to traverse the surface of the Easement Area provided that Owner does not unreasonably interfere with the operation, repair and maintenance of the piping system. Owner agrees to: No construction or intrusive construction below a depth of 2 feet in the easement area and 20 feet elsewhere. No installation or use of water wells. Restricts use of entire parcel. There is an illegible handwritten addendum.	Communications System Easement to Ohio Telephone and Telegraph 2/6/1946 Vol. 293, pg. 270 (Title Report indicates recording date as 1/10/1946)	Construct, operate, maintain, replace and remove communications systems…upon, over and under an unspecified strip of land one rod wide and right of access and egress associated therewith.
James S. Francis & Lori A. Francis Amendment to Declaration of Right of Way, Easement and Restrictive Covenant 10/5/1994 Vol. 77, pg. 4432	Reduces limitation on excavation or intrusive construction to a depth of 2 feet in the easement area and to 15 feet within 500 feet of the center line of Creek Road.		

Olin Big D Campground
Summary of Recorded Access Rights, Land Use Restrictions and Easements
March 26, 2010

Parcel: 27-007-00-012-03 (Tract 4) – In plume area.
Owner: Olin Corporation [48]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	**Summary of Rights Granted Olin**	**Recorded Document**	**Summary of Rights Granted Others**
NONE No Restrictive Covenants are noted in the Title Report. Parcel Map indicates that pursuant to a survey, there are limited areas in which soil excavation and ground water use are restricted.	(Document on Olin website indicates that this parcel is restricted as follows: Within 250 feet of Creek Road, no extraction of groundwater and no excavation below a depth of 13 feet. Between 250 feet and 1000 feet of Creek Road, no extraction of groundwater and no excavation below a depth of 10 feet. Beyond 1000 feet of Creek Road, no restrictions.)	Communications System Easement to Ohio Telephone and Telegraph 2/6/1946 Vol. 293, pg. 270	Construct, operate, maintain, replace and remove communications systems...upon, over and under an unspecified strip of land one rod wide and right of access and egress associated therewith.
		Notice of Order and Judgment Affecting Interest in Real Property ("Settlement Corridor Easement")[49] 5/6/2005 Vol. 334, pg. 1760	Notice ordering Owner to transfer an easement to Class Corridor, LLC and attaching order and judgment. *See*, Title Report for Parcel 27-011-00-023-01 (Tract 3) which includes a portion of this document, which portion indicates that the Notice and Order is being recorded pursuant to a certain "Order and Judgment" issued by the Court.[50] Title Report for Parcel 27-011-023-01 also indicates that a certain "Supplemental Final Order and Judgment", was recorded at Vol. 401, pg. 419 which appears to provide additional information about the rights conferred by the Court.[51]
		Title Report includes Vol. 77, pg 3809 "FIO", which references a number of other easements on property, which were not attached.	

Parcel: 27-007-00-014-00 (Tract 20) – Not in plume area.
Owner: Loren M. & Carol L. Sowry[54]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	**Summary of Rights Granted Olin**	**Recorded Document**	**Summary of Rights Granted Others**
Loren M. & Carol L. Sowry Declaration of Restrictive Covenant 1014/1993 Vol. 69, pg. 9640	No excavation construction or intrusive construction below a depth of 20 feet. No installation or use of water wells. Appears to restrict use of entire parcel. No Olin Easement granted.[55]	Telephone and Telegraph Easement to Ohio Telephone and Telegraph 10/17/1927 Vol. 293, pg. 479	Construct, operate and maintain lines of telephone and telegraph...upon, over and under an unspecified strip of land, including on private property.
		Right of Way To North Eastern Oil & Gas 11/4/1926 Vol. 293, pg. 46	Right of way to lay, maintain, operate and remove a pipeline for the transportation of gas on, over and through the property ..."as it is now laid in the public road on these premises."

Parcel: 27-011-00-023-00 (Tract 41) -- Not in plume area.
Owner: Chad & Romana K. Kendzerski[57]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	Summary of Rights Granted Olin	Recorded Document	Summary of Rights Granted Others
Estate of Alma Miller a/k/a Jennie Miller Declaration of Right of Way Easement and Restrictive Covenant 3/2/1994 Vol. 72, pg. 5241	Easement, varying in width from approximately 3' to 10' wide, granted to Olin for, *inter alia*, (i) ingress and egress; and (ii) drilling, construction, maintenance, repair, operation and monitoring of wells, pumping systems and piping systems. [58] Owner is permitted to traverse the surface of the Easement Area provided that Owner does not unreasonably interfere with the operation, repair and maintenance of the piping system. Owner agrees to: No construction or intrusive construction below a depth of 2 feet in the easement area and 20 feet elsewhere. No installation or use of water wells. Description appears to be for a larger overall parcel.	Telephone and Telegraph Easement to Ohio Telephone and Telegraph 10/10/1927 Vol. 293, pg. 478	Construct, operate and maintain lines of telephone and telegraph...upon, over and under an unspecified strip of land, including on private property.

Olin Big D Campground
Summary of Recorded Access Rights, Land Use Restrictions and Easements
March 26, 2010

Parcel: 27-011-00-023-03 (Tract 24) – In plume area.
Owner: Fred & Vincent Miller [63]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
Recorded Document	Summary of Rights Granted Olin	Recorded Document	Summary of Rights Granted Others
Fred Miller Declaration of Restrictive Covenant 10/14/1993 Vol. 69, pg. 9628	No excavation construction or intrusive construction below a depth of 20 feet. No installation or use of water wells. Appears to restrict use of entire parcel. No Olin Easement granted. [64]	Telephone and Telegraph Easement to Ohio Telephone and Telegraph 10/10/1927 Vol. 293, pg. 478 (Title report states recording date as 10/18/2008)	Construct, operate and maintain lines of telephone and telegraph...upon, over and under an unspecified strip of land, including on private property.
Fred Miller Amendment to Declaration of Restrictive Covenant 3/8/1995 Vol. 80, pg. 2341	No excavation construction or intrusive construction below a depth of 4 feet.	Ingress and Egress Easement 1/11/1993 Vol. 65, pg. 1863	Ingress and egress easement for benefit of adjacent parcel, as defined in greater detail in the document.

Olin Big D Campground
Summary of Recorded Access Rights, Land Use Restrictions and Easements
March 26, 2010

Parcel: 27-011-00-024-00 (Tract 13)
Owner: Todd E. & Karen M. Bruckman[67]

Access Rights and/or Land Use Restrictions Granted to Olin		Rights and/or Restrictions Granted to Others	
corded Document	Summary of Rights Granted Olin	Recorded Document	Summary of Rights Granted Others
Todd E. & Karen M. Bruckman Declaration of Right of Way, Easement and Restrictive Covenant 3/2/1994 Vol. 72, pg. 5253	Easement approximately 6' wide and 11' long granted to Olin to accommodate a groundwater collection system and to enter onto the easement area to construct, maintain and repair such system. No construction or intrusive construction below a depth of 2 feet in the easement area.	Telephone and Telegraph Easement to Ohio Telephone and Telegraph 10/10/1927 Vol. 293, pg. 478	Construct, operate and maintain lines of telephone and telegraph...upon, over and under an unspecified strip of land, including on private property.
Todd E. & Karen M. Bruckman Declaration of Restrictive Covenant 10/5/1994 Vol. 77, pg. 4468	No excavation construction or intrusive construction below a depth of 4 feet 500 feet from Olin property line. No extraction of groundwater within 500 feet of Olin property line.	Agreement for Open Ditch To Owner of adjacent parcel. 5/1/1933 Vol. 324, pg. 334	Immediate construction of ditch east of the line of division of the parcels commencing 1000 feet north of Creek Road and extending to Creek Road and construction of culvert to south side of Creek Road, together with certain maintenance obligations. (Easement is between parcels 27-011-00-024-01, 7-011-00-024-01 and 27-001-00-022-02.)

NOTES

[1] Unless otherwise noted, this review is based on (i) title examination materials prepared by Chicago Title Insurance Company during the period between November 3, 2008 and November 7, 2008 for each of the above parcels; (ii) drawing entitled " Parcel Map for Olin Corporation" prepared by HLS and stamped as "Received Nov 11 2008 Environmental Remediation"; and (iii) a set of six (6) drawings prepared by MATEC Engineering and Consulting, Inc. and noted as "Prepared by SLW 3/1/2010" and describing the extent of certain plumes. All of the foregoing described materials were furnished by Olin Corporation. This review is subject to any errors and omissions in or between such documents. No additional research of any kind was undertaken as part of this review.

[2] Property owner named in the applicable title report.

[3] 9/12/2001, Vol.173, pg. 104. Title examination period is from 5/19/1931 to 11/5/2008.

[4] Location of easement is to be indicated on a map to be prepared by a licensed surveyor and recorded. A copy of the map was not provided.

[5] 9/12/2001, Vol.173, pg. 104. Title examination period is from 5/19/1931 to 11/5/2008.

[6] Location of easement is to be indicated on a map to be prepared by a licensed surveyor and recorded. A copy of the map was not provided.

[7] 11/29/2006, Vol. 393, pg. 2535. Title examination period from 5/19/1931 to 11/4/2008.

[8] Declarations of Restrictive Covenants contain recitals stating that "*Olin is required by the USEPA to enter upon Owner's Premises for the purposes of investigation, remediation, and monitoring...*". Eight parcels include a specific grant of easement.

[9] 11/29/2006, Vol. 393, pg. 2535. Title examination period is from 5/19/1931 to 11/4/2008.

[10] Declarations of Restrictive Covenants contain recitals stating that "*Olin is required by the USEPA to enter upon Owner's Premises for the purposes of investigation, remediation, and monitoring...*". Eight parcels include a specific grant of easement.

[23] 5/11/1998, Vol. 103, pg. 2958. Title Examination period is from 8/18/1958 to 11/3/2008.

[24] Pipeline Right of Way To Collingswood Exploration, Assignment of Right of Way to J.P. White, Assignment of Right of Way were not included in the title report. All information provided is based on title report cover letter and Parcel Map.

[25] 8/16/1996, Vol. 90, pg. 4833. Title Examination period from 8/18/1958 to 11/3/2008.

[26] Declarations of Restrictive Covenants contain recitals stating that "*Olin is required by the USEPA to enter upon Owner's Premises for the purposes of investigation, remediation, ond monitoring...*". Eight parcels include a specific grant of easement

[27] 5/11/1998, Vol. 103, pg. 2958. (Note that Parcel Map cites 12/17/1996 Vol. 92, pg. 8900).

[28] Pipeline Right of Way To Collingswood Exploration, Assignment of Right of Way to J.P. White, Assignment of Right of Way were not included in the title report. All information provided is based on title report cover letter and Parcel Map.

[29] 9/28/ 2001, Vol. 175, pg. 405. Title Examination period from 8/18/1958 to 11/3/2008.

[30] Declarations of Restrictive Covenants contain recitals stating that "*Olin is required by the USEPA to enter upon Owner's Premises for the purposes of investigation, remediation, and monitoring...*". Eight parcels include a specific grant of easement

[31] Parcel Map for 26-006-00-049-00 cites Amendment to Restrictive Covenant as filed at Vol. 77, page 4433.

[32] 9/ 16/ 2004, Vol. 311, pg. 1377. Title Examination period from 5/27/1955 to 11/3/2008.

[33] Declarations of Restrictive Covenants contain recitals stating that "*Olin is required by the USEPA to enter upon Owner's Premises for the purposes of investigation, remediation, and monitoring...*". Eight parcels include a specific grant of easement

[34] 2/4/2005, Vol. 325, pg. 1636. Title Examination period from 8/10/1964 to 11/7/2008.

[48] 8/8/1994, Vol. 76, pg. 4402, rerecorded Vol. 77, pg. 7803, Title Examination period from 5/19/1931 to 11/3/1008.

[49] "Order and Judgment" referenced in document as "Exhibit A" was not attached.

[50] Order and Judgment was not attached to title report.

[51] Supplemental Final Order and Judgment not attached.

[52] 12/5/2000, Vol. 144, pg 967. Title Examination period from 5/26/1960 to 11/3/2008.

[53] Location of easement is to be indicated on a map to be prepared by a licensed surveyor and recorded. A copy of the map was not provided.

[54] 10/26/1964, Vol. 644, pg. 384. Title Examination period from 5/26/1960 to 11/3/2008. Not found on Parcel Map.

[55] Declarations of Restrictive Covenants contain recitals stating that "*Olin is required by the USEPA to enter upon Owner's Premises for the purposes of investigation, remediation, and monitoring...*". Eight parcels include a specific grant of easement

[56] 4/24/1972, Vol. 708, pg. 746. Title examination period from 5/26/1960 to 11/3/2008.

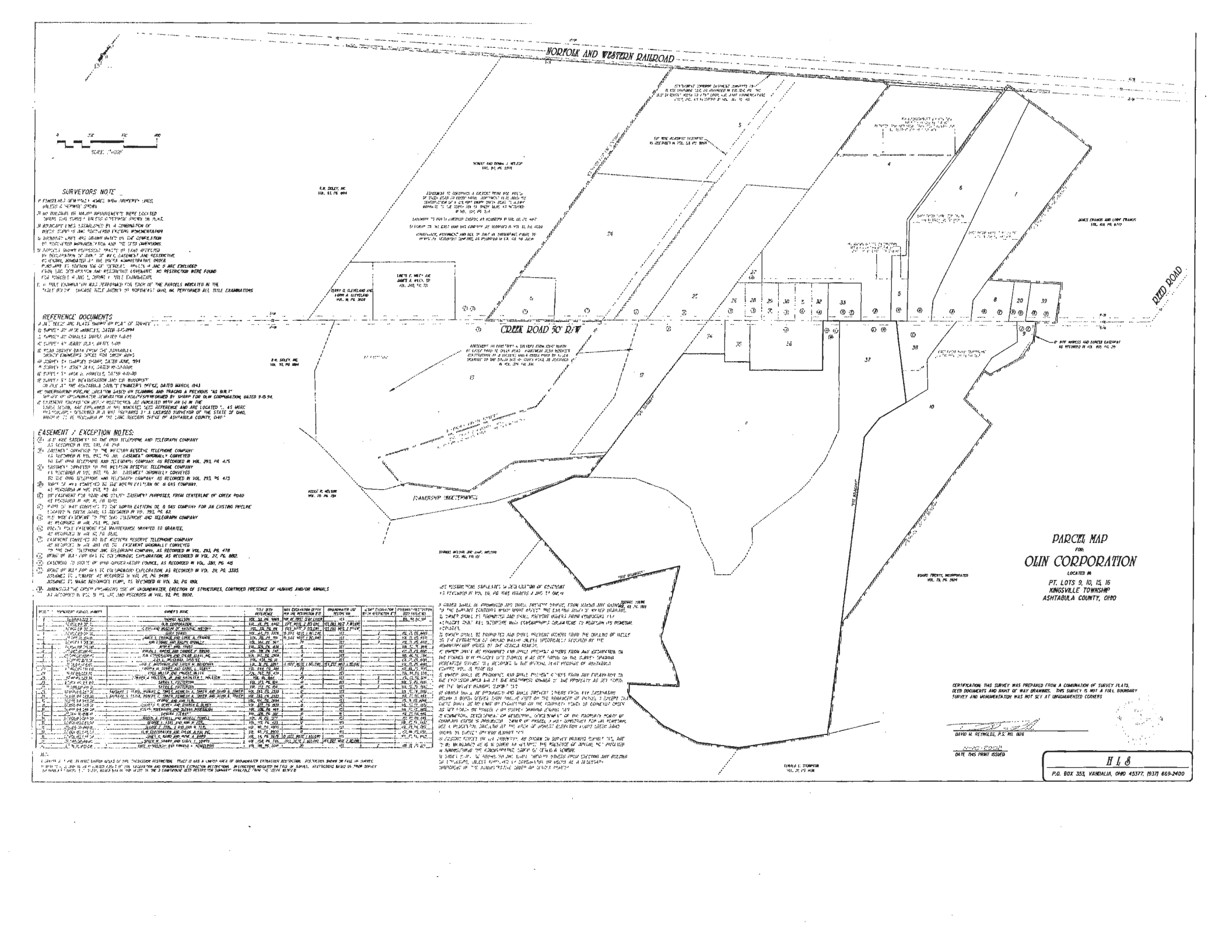
[57] 1/28/2002, Vol. 189, pg. 2041. Title Examination period 5/6/1943 to 11/7/2008.

[58] Location of easement is to be indicated on a map to be prepared by a licensed surveyor and recorded. A copy of the map was not provided.

[59] 12/14/1990, Vol. 53, pg. 9869. Title Examination period from 5/4/1943 to 11/7/2008.

[60] Declarations of Restrictive Covenants contain recitals stating that "*Olin is required by the USEPA to enter upon Owner's Premises for the purposes of investigation, remediation, and monitoring...*". Eight parcels include a specific grant of easement

[61] "Order and Judgment" referenced in document as "Exhibit A" was not attached.


NORFOLK AND WESTERN RAILROAD
CREEK ROAD 50' R/W
REID ROAD
SCALE: 1"=400'
SURVEYORS NOTE
REFERENCE DOCUMENTS
EASEMENT / EXCEPTION NOTES:
PARCEL MAP
FOR
OLIN CORPORATION
LOCATED IN
PT. LOTS 9, 10, 15, 16
KINGSVILLE TOWNSHIP
ASHTABULA COUNTY, OHIO
CERTIFICATION: THIS SURVEY WAS PREPARED FROM A COMBINATION OF SURVEY PLATS, DEED DOCUMENTS AND RIGHT OF WAY DRAWINGS. THIS SURVEY IS NOT A FIELD BOUNDARY SURVEY AND MONUMENTATION WAS NOT SET AT UNMONUMENTED CORNERS
DAVID M. REYNOLDS, P.S. NO. 7826
DATE THIS PRINT ISSUED
H L S
P.O. BOX 353, VANDALIA, OHIO 45377, (937) 669-2400

Attachment C

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

SR-6J

June 11, 2009

James M. Cashwell, PE
Senior Associate - Environmental Remediation
Olin Corporation
3855 N. Ocoee Street
Suite 200
Cleveland, TN 37312

Re: Big D Campground Superfund Site
Institutional Control Study

Dear Mr. Cashwell:

The U.S. Environmental Protection Agency ("EPA") has reviewed the Institutional Control (IC) Study you submitted on November 11, 2008. We have reviewed your Deed Restrictions and find them legally enforceable, and should be grandfathered under Ohio's Uniform Environmental Covenant Act (UECA), Ohio Revised Code (ORC) Section 5301.85(C). We have the following comments on the IC Study:

1. **Governmental Controls**. The IC Study stated, "To Olin's knowledge, there are no current governmental controls (ordinances, statutes, or otherwise provided by either Kingsville Township, Ashtabula County, or the State of Ohio) that enforces the proprietary controls currently in place at the site." We feel Olin needs to investigate this further. For example, Section 3701-28-03 of the Ohio Administrative Code (Ohio Department of Health) provides that there shall be no construction of a private water system without a permit. These regulations are usually administered by the applicable County Department of Health. There may be other regulations that are IC related and need to be followed by Olin. Olin needs to investigate the government controls and modify the report based on your findings.
2. **Communications Plan**. Olin should prepare and implement a Communications Plan for both the Governmental Controls and Proprietary Easements. Based on the IC Study, it appeared that many of the residents did not know that their properties were restricted. Also, many of the residents were not home when contacted which could have resulted in a greater number of people not knowing about the Deed Restrictions on the property. We realize that Olin did mail copies of the Deed Restrictions to all the residents after the interview process; however,

we need some assurance that the property occupants and property owners are really aware of these restrictions. The communication to the property owners under the new Plan need to clearly and simply explain the nature of the restricted activity.

3. **Mapping**. We appreciate the detail that was given to Parcel Map provided by Olin in Attachment A. We would like to get a Parcel Map(s) with the most recent groundwater plume boundary for all the contaminants as well. This can be done on one map or several maps; whichever produces the best demonstration of the plume boundaries in relationship to the restricted properties.
4. **Title Work for Individual Parcels**. U.S. EPA needs sufficient information to ensure that other recorded restrictions do not impact the environmental restrictions for the parcels. This information includes assurances based on surveys and/or mapping of the individual parcels showing where contamination exists versus easement rights and certification that the Title Work was examined by a Real Estate Attorney. Additionally, there may not be current conflicts between the contaminated groundwater and the utility easements; the easements themselves have to be examined for the potential rights that are given to utilities (i.e., a utility installing piping at a depth that would impact contaminated groundwater). Olin needs to directly compare the existing easements at each property with the environmental restrictions placed by you to identify any potential conflicts.
5. **Planned Development**. The IC Study is silent on planned development in the area. Olin should check with the city and/or county planning commission or building department to see if there are any plans to redevelop the area.

If you have any questions on our comments, please contact me at 312 353 9685 or by email at caine.howard@epa.gov. You may also contact Rick Nagle, Associate Regional Counsel, at 312 353 8222 or by email at nagle.richard@epa.gov. We look forward to your response.

Sincerely,

Howard Caine
Remedial Project Manager
Superfund Division

cc: Andrew Kocher, Ohio EPA
Rick Nagle, ORC, (C-14J), via email

Attachment D

Big D Campground Deed Restriction Summary

Signatory to Deed Restriction	Current Property Owner	Address	Parcel ID #	Deed Restriction Summary
Baird, James G. & Irene A.	Baird, James G. & Irene A	3740 Creek Road	270060004700	By Agreement entered into on 11/1/93: Owner agreed to no use of groundwater and no excavation below a depth of 20 feet. By Amendment entered into on 6/2/94: Owner agreed to no excavation below 15 feet.
Bruckman, Todd E. & Karen M.	Bruckman, Todd E. & Karen M.	3607 Creek Road 3630 Creek Road	270110002400 270110002401	By Agreement entered into on 6/2/94: Owner agreed to no use of well water and no excavation below a depth of 4 feet. No extraction of groundwater within 500 feet of Olin property line
Dreslinski, Charles A.	Ferl, George	3678 Creek Road	270060004801	By Agreement entered into on 1/19/95: Owner agreed to no use of well water and no excavation below a depth of 12 feet.
English, Barbara (owner) & Porter, Nellie E. (life tenant)	English, Robyn	3780 Creek Road	270070001100	By Agreement entered into on 8/26/93: Owner agreed to no use of well water and no excavation below a depth of 20 feet. By Amendment entered into on 6/2/94: Owner agreed to no excavation below 15 feet.
Fillinger, Marion L.	Tinker, Harold A & Virginia	3661 Creek Road	270060004300	By Agreement entered into on 8/10/93: Owner agreed to no use of well water and no excavation below a depth of 20 feet. By Amendment entered into on 6/2/94: Owner agreed to no excavation below 12 feet.

Big D Campground Deed Restriction Summary

Signatory to Deed Restriction	Current Property Owner	Address	Parcel ID #	Deed Restriction Summary
Girdler, Cynthia K.	Bulfinch, Charles E & Barbara	3681 Creek Road	270060004500	By Agreement entered into on 8/22/93: Owner agreed to no use of well water and no excavation below a depth of 20 feet. By Amendment entered into on 5/16/94: Owner agreed to no excavation below 15 feet.
Gromley, Martha L.	Gromely, Ralph & Ann	3767 Creek Road	270070001300	By Agreement entered into on 8/10/93: Owner agreed to no use of well water and no construction below 2 feet in the easement area and 20 feet elsewhere. By Amendment entered into on 5/6/94: Owner agreed to no excavation below 2 feet in the easement area and 15 feet elsewhere.
Leardi, Vito A. & Jo Ann D.	Howard, Albert & Stern, Dianne	3782 Creek Road	270070001000	By Agreement entered into on 9/8/93: Owner agreed to no use of well water and no excavation below 20 feet. By Amendment entered into on 6/8/94: Owner agreed to no excavation below 15 feet.
McGinnis, Carl & Hazel G.	Ferl, George	3654 Creek Road	27006004801	By Agreement entered into on 8/19/93: Owner agreed to no use of well water and no excavation below a depth of 20 feet. By Amendment entered into on 5/5/94: Owner agreed to no excavation below 12 feet.

Big D Campground Deed Restriction Summary

Signatory to Deed Restriction	Current Property Owner	Address	Parcel ID #	Deed Restriction Summary
Miller, Fred	Miller, Fred	3567 Creek Road	270110002303	By Agreement entered into on 7/8/93: Owner agreed to no use of well water and no excavation below a depth of 20 feet.. By Amendment entered into on 2/22/95: Owner agreed to no excavation below 4 feet.
Rodebaugh, Joseph & Glenna	Rodebaugh, Joseph & Glenna	3691 Creek Road	270060004600	By Agreement entered into on 7/29/94: Owner agreed to no use of well water and no excavation below a depth of 10 feet.
Reed, Ruth Ann	Patterson, Sarah	3641 Creek Road	270060004100	By Agreement entered into on 10/4/93: Owner agreed to no use of well water and no excavation below a depth of 2 feet in the easement area and 20 feet elsewhere. By Amendment entered into on 5/7/94: Owner agreed to no excavation below 2 feet in the easement area and 10 feet elsewhere.
Rodebaugh, Joseph & Glenna (Owners) and Au, Dexter and Jennifer (purchasers under a land contract)	Au, Dexter L. & Jennifer J.	3701 Creek Road	270060004601	By Agreement entered into on 7/29/94: Owner agreed to no excavation below a depth of 10 feet and no use of well water.
Sowry, Lorren M. & Carol L.	Sowry, Lorren M. & Carol L.	3783 Creek Road	270070001500	By Agreement entered into on 7/26/93: Owner agreed to no excavation below a depth of 20 feet and no use of well water.

Big D Campground Deed Restriction Summary

Signatory to Deed Restriction	Current Property Owner	Address	Parcel ID #	Deed Restriction Summary
Sowry, Gary	Sowry, Gary	3741 Creek Road	270070001202	By Agreement entered into on 8/9/93: Owner agreed to no use of well water and no excavation below a depth of 2 feet in the easement area and 20 feet elsewhere. By Amendment entered into on 5/7/94: Owner agreed to no excavation below 2 feet in the easement area and 15 feet elsewhere.
Spice, Bernice F.	Abbey, Mary & Walker, Charles	3640 Creek Road	270060005000	By Agreement entered into on 8/30/93: Owner agreed to no use of well water and no excavation below a depth of 20 feet. By Amendment entered into on 5/27/94: Owner agreed to no excavation below 12 feet.
Tinker, Harold A. & Virginia	Tinker, Harold A. & Virginia	3651 Creek Road	270060004200	By Agreement entered into on 8/30/93: Owner agreed to no use of well water and no excavation below a depth of 20 feet.. By Amendment entered into on 5/13/94: Owner agreed to no excavation below 12 feet.
Tscherne, Michele & Artman, Olive	Ferl, George	3671 Creek Road	270060004400	By Agreement entered into on 10/3/96: Owner agreed to no use of well water and no excavation below a depth of 12 feet.

Big D Campground Deed Restriction Summary

Signatory to Deed Restriction	Current Property Owner	Address	Parcel ID #	Deed Restriction Summary
Miller, Estate of Alma/a/k/a Jennie	Holstein, Edward J Jr & Kathleen F	3623 Creek Road	270110002399	By Agreement entered into on 10/18/93: Owner agreed to no use of well water and no excavation below 2 feet in the easement area and 20 feet elsewhere. Olin agreed to insure and indemnify its work.
	Nelson, Thomas	Vacant land north of Creek Road	270110002202 270110002301	By Agreement entered into on 9/22/05: Owner agrees to mine or conduct other activities on the property only from the surface to the first clay layer and agrees not to penetrate the clay layer until Owner is notified by Olin or USEPA that the contamination existent below the first clay layer has been removed and that the property may be mined thereafter, which may occur first. Owner shall be prohibited and shall prevent other from the installation or use of water wells on the property until Olin or USEPA to do so. Owner agrees to allow existing monitoring wells to remain on the property until Olin or USEPA have indicated their written approval to do so.

Big D Campground Deed Restriction Summary

Signatory to Deed Restriction	Current Property Owner	Address	Parcel ID #	Deed Restriction Summary
Vines, Arlan M. & Connie A.	Francis, James S. Lorie A	3749 Creek Road	270070001201	By Agreement entered into on 8/9/93: Owner agreed to no use of well water and no excavation below a depth of 2 feet in the easement area and 20 feet elsewhere. In a 5/17/94 Amendment to the Vines Agreement: Owner agreed to no excavation below 2 feet in the easement area and no excavation below 15 feet elsewhere.
Rodebaugh, Joesph & Glenna	Rodebaugh, Joesph & Glenna	Vacant land	270070001200	Owner agreed to: Within 250 feet of Creek Road, no extraction of groundwater and no excavation below a depth of 13 feet. Between 250 feet and 1000 feet of Creek Road, no extraction of groundwater and no excavation below a depth of 10 feet. Beyond 1000 feet of Creek Road, no restrictions
Olin Corporation		Vacant land north of Creek Road – area with gated access	27007001203	Owner agreed to: Within 250 feet of Creek Road, no extraction of groundwater and no excavation below a depth of 13 feet. Between 250 feet and 1000 feet of Creek Road, no extraction of groundwater and no excavation below a depth of 10 feet.. Beyond 1000 feet of Creek Road, no restrictions

Big D Campground Deed Restriction Summary

Signatory to Deed Restriction	Current Property Owner	Address	Parcel ID #	Deed Restriction Summary
Andrew Dreslinski (Big D Campground) – Parcel 2 (Old Campground) Olin Corporation – Big D Campground -Parcel I Treatment Plant and former disposal area	Andrew Dreslinski (Big D Campground) – Parcel 2 Olin Corporation – Big D Campground -Parcel I	3700 Creek Road	270060004803 270060004800	Olin shall have full and unrestricted access to the property for the purpose of conducting all required remedial activities by the Administrative Order or CERCLA. Owner shall be prohibited and shall prevent others form making any changes to surface contours which might affect the existing surface water drainage. Owner shall be prohibited and shall prevent others from conducting any activities that will interfere with Olin's obligations to perform its remedial activities. Owner shall be prohibited and shall prevent other from the drilling of wells or the extraction of groundwater. Owner shall be prohibited and shall prevent others from any excavation on the former Olin project site (Parcel I). Owner shall be prohibited and shall prevent others from any excavation on the Exclusion Area at the Northwest corner of the property. Owner shall be prohibited and shall prevent others from any excavating below a depth of 12 feet on the remainder of Parcel II, except that there shall be no limit on excavating on the property south of Conneaut Creek. Commercial development or residential development on the property North of Conneaut Creek is prohibited. Owner of

Big D Campground Deed Restriction Summary

				Parcel II may construct for his personal use a residential dwelling at the area of highest elevation along Creek Road. Existing fences on Parcel I are to be maintained by the Owner as is in order to restrict the presence of anyone not involves in administering the Administrative Order or CERCLA remedy. Owner shall be prohibited and prevent other from erecting any building or structure unless approve by Olin or USEPA as a necessary component of the Administrative Order or CERCLA remedy.

- All property owners are on city water
- Existing groundwater wells within the plume were abandoned.
- Reference, Records of the County Record of Ashtabula County, State of Ohio
- All deed restrictions are stamped and dated by the Records of the County Record of Ashtabula County, State of Ohio; and have been verified as to being in force today, and will continue to be in force should the property transfer.

Attachment E

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
SR-6J

April 26, 2013

Andrew Kocher
Site Coordinator Geologist
Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087

Re: Notification of Five Year Review Start for the Big D Campground Superfund Site

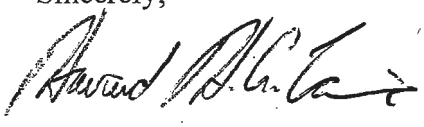
Dear Mr. Kocher:

This letter is to confirm that U.S. EPA Region 5 (EPA) and the Ohio Environmental Protection Agency (Ohio EPA) has begun the process of the Five Year Review for the Big D Campground Superfund site (Big D Campground). EPA will lead the Big D Campground Five Year Review. A Statutory Five Year Review will be conducted at the site as required by Section 121 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

The Five Year Review for Big D Campground is due on April 23, 2014 and since there are several topics to be covered in the Review, it is appropriate that EPA and Ohio EPA provide key parties with at least a six month notification so that we can begin the necessary coordination activities. Necessary activities include such matters as notifying the public of the Five Year Review process and accepting public input, gathering data in order to summarize performance of site hazardous substance and key contaminant treatment devices, arranging for site visits and inspections to review remediation and operation and maintenance functions, develop any pertinent recommendations, etc. I will contact you in the near future to schedule the site visit.

I look forward to working with the Ohio EPA and Olin Corporation in compiling the Five Year Review report for Big D Campground. If you have any questions, please feel free to contact me at 312 353 9685 or via email at caine.howard@epa.gov.

Sincerely,



Howard Caine
Remedial Project Manager
U.S. EPA Region 5

cc: B. Eleder, Five Year Review Coordinator (SR-6J), via email
K. Adler, Section Chief (SR-6J), via email
S. Pastor, Community Involvement Coordinator (P-19J), via email
R. Nagle, Associate Regional Counsel (C-14J), via email
J. Cashwell, Olin Corporation

Attachment F

United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

Date: April 10, 2014

Site Visit: Big D Campground, Kingsville, Ohio

From: Howard Caine, RPM

To: File

Introduction and Purpose

The United States Environmental Protection Agency (U.S. EPA) Region 5 conducted a Site Visit as part of the Five-Year Review at Big D Campground. The Site was toured and paperwork was reviewed. The Site Visit took place on November 14, 2013.

Participants

Howard Caine, U.S. EPA

Andrew Kocher, Ohio Environmental Protection Agency, (Ohio EPA)

James Cashwell, Olin Corporation (Olin)

Inspection

On-Site Documents & Records Verified

The O&M Documents, Site Specific Health and Safety Plan, and O&M records were available on-site. OSHA Training Records are kept at the Olin office since the site is primarily not staffed. Groundwater monitoring records are mailed to U.S. EPA and Ohio EPA on an annual basis.

O&M Costs

The O&M is performed by the PRP. Olin also uses the services of Amec E&I. O&M cost records were not available on-site and Olin does not provide these costs since the site is a PRP lead site. The Site appeared to be operating normally and no unanticipated or unusually high O&M costs were reported.

Access and Institutional Controls

Fencing around the Site appeared to be adequate and intact. New signs were also placed on the fence around the Site. The fence to the Site is locked.

There was no evidence of vandalism or trespassing; land use changes on-site; and land use changes off-site.

General Site Conditions

The roads appeared to be maintained. The Site appeared to be in adequate shape.

Landfill Covers

Landfill Surface
There was no evidence of settlement, cracking, erosion, holes, bulges, water damage or slope instability in the landfill cover. The landfill cover is comprised of grass.

Benches
The landfill benches appeared to be adequate and there was no evidence of bypassing, breaching or overtopping.

Letdown Channels
The landfill is not equipped with letdown channels.

Cover Penetrations

Monitoring Wells
The monitoring wells that were observed were properly locked and secured, are routinely sampled and were in good condition.

Gas Collection and Treatment
This Site does not have a gas collection and treatment system.

Cover Drainage Layer
This Site does not have a cover drainage layer.

Detention/Sedimentation Ponds
This Site does not have detention/sedimentation ponds.

Retaining Walls
This Site does not have retaining walls.

Perimeter Ditches/Off-Site Discharge
This Site does not have perimeter ditches or off-site discharge

Vertical Barrier Walls

This Site does not have vertical barrier walls.

Groundwater/Surface Water Remedies

The pump and treat system was shutdown in February 2000 to commence a Monitored Natural Attenuation (MNA) Study. The MNA Study is continuing.

Monitoring Data

The monitoring data is routinely submitted on-time and is of acceptable quality. The groundwater suggests that the groundwater plume is effectively contained. U.S. EPA Region 5 is reviewing the data to determine if MNA is occurring at the site.

Attachments

Five-Year Review Site Inspection Checklist
Site Photographs

Photo 1: Treatment Building

Photo 2: Site Fence

Photo 3: New fence sign

Photo 4: Another style of fence sign

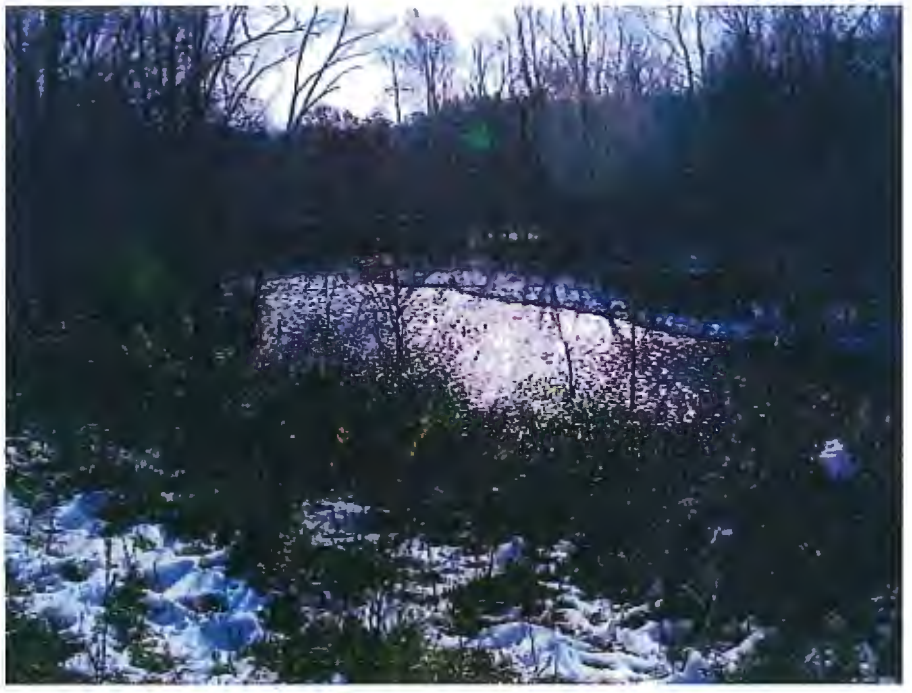


Photo 5: Conneaut Creek

Photo 6: Groundwater monitoring well by Conneaut Creek

Photo 7: Fence along Conneaut Creek; residence in background

Photo 8: Conneaut Creek

Photo 9: Landfill Cover

Photo 10: Landfill Cover

Photo 11: Landfill Cover

Photo 12: Creek Road from Big D Campground

Photo 13: Groundwater monitoring well MW54-SRX

Please note that "O&M" is referred to throughout this checklist. At sites where Long-Term Response Actions are in progress, O&M activities may be referred to as "system operations" since these sites are not considered to be in the O&M phase while being remediated under the Superfund program.

Five-Year Review Site Inspection Checklist (Template)

(Working document for site inspection. Information may be completed by hand and attached to the Five-Year Review report as supporting documentation of site status. "N/A" refers to "not applicable.")

I. SITE INFORMATION	
Site name: BIG D CAMPGROUND	**Date of inspection:** NOV 14 2013
Location and Region: KINGSVILLE, OH/REGION 5	**EPA ID:**
Agency, office, or company leading the five-year review: US EPA REGION 5	**Weather/temperature:** SUNNY MID-30s

Remedy Includes: (Check all that apply)

- Landfill cover/containment ✓
- Access controls ✓
- Institutional controls ✓
- Groundwater pump and treatment
- Surface water collection and treatment
- Other _____
- Monitored natural attenuation ✓
- Groundwater containment
- Vertical barrier walls

Attachments: Inspection team roster attached Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** JAMES CASHWELL _____ _____
   Name Title Date
   Interviewed at site at office by phone Phone no. _____
   Problems, suggestions; Report attached _____

2. **O&M staff** _____ _____ _____
   Name Title Date
   Interviewed at site at office by phone Phone no. _____
   Problems, suggestions; Report attached _____

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency OHIO EPA
Contact ANDREW HOCHER _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; Report attached _____

4. **Other interviews** (optional) Report attached.

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1.	**O&M Documents**			
	O&M manual	Readily available	Up to date	N/A
	As-built drawings	Readily available	Up to date	N/A
	Maintenance logs	Readily available	Up to date	N/A
	Remarks			
2.	**Site-Specific Health and Safety Plan**	Readily available	Up to date	N/A
	Contingency plan/emergency response plan	Readily available	Up to date	N/A
	Remarks			
3.	**O&M and OSHA Training Records**	Readily available	Up to date	N/A
	Remarks NOT KEPT ON-SITE			
4.	**Permits and Service Agreements**			
	Air discharge permit	Readily available	Up to date	N/A
	Effluent discharge	Readily available	Up to date	N/A
	Waste disposal, POTW	Readily available	Up to date	N/A
	Other permits	Readily available	Up to date	N/A
	Remarks			
5.	**Gas Generation Records**	Readily available	Up to date	N/A
	Remarks			
6.	**Settlement Monument Records**	Readily available	Up to date	N/A
	Remarks			
7.	**Groundwater Monitoring Records**	Readily available	Up to date	N/A
	Remarks SUBMITTED TO USGS/OEPA			
8.	**Leachate Extraction Records**	Readily available	Up to date	N/A
	Remarks			
9.	**Discharge Compliance Records**			
	Air	Readily available	Up to date	N/A
	Water (effluent)	Readily available	Up to date	N/A
	Remarks			
10.	**Daily Access/Security Logs**	Readily available	Up to date	N/A
	Remarks NO ON-SITE DAILY			

IV. O&M COSTS

1. **O&M Organization**

State in-house — Contractor for State
PRP in-house — Contractor for PRP
Federal Facility in-house — Contractor for Federal Facility
Other_____

2. **O&M Cost Records**

Readily available — Up to date — PRP-lead... NOT PROVIDED
Funding mechanism/agreement in place
Original O&M cost estimate_____ Breakdown attached

Total annual cost by year for review period if available

From_____ To_____ _____ Breakdown attached
Date Date Total cost
From_____ To_____ _____ Breakdown attached
Date Date Total cost
From_____ To_____ _____ Breakdown attached
Date Date Total cost
From_____ To_____ _____ Breakdown attached
Date Date Total cost
From_____ To_____ _____ Breakdown attached
Date Date Total cost

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: None Reported

V. ACCESS AND INSTITUTIONAL CONTROLS — Applicable — N/A

A. Fencing

1. **Fencing damaged** — Location shown on site map — Gates secured — N/A
Remarks Good Condition

B. Other Access Restrictions

1. **Signs and other security measures** — Location shown on site map — N/A
Remarks Present

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented — Yes (No) N/A
Site conditions imply ICs not being fully enforced — Yes (No) N/A

Type of monitoring (*e.g.*, self-reporting, drive by) _____
Frequency _____
Responsible party/agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.

Reporting is up-to-date — (Yes) No N/A
Reports are verified by the lead agency — (Yes) No N/A

Specific requirements in deed or decision documents have been met — (Yes) No N/A
Violations have been reported — Yes (No) N/A
Other problems or suggestions: Report attached

_____
_____
_____
_____

2. **Adequacy** (ICs are adequate) ICs are inadequate N/A
Remarks _____
_____
_____

D. General

1. **Vandalism/trespassing** Location shown on site map (No vandalism evident)
Remarks _____
_____

2. **Land use changes on site** (N/A)
Remarks _____
_____

3. **Land use changes off site** (N/A)
Remarks _____
_____

VI. GENERAL SITE CONDITIONS

A. Roads Applicable N/A

1. **Roads damaged** Location shown on site map (Roads adequate) N/A
Remarks _____
_____

B. Other Site Conditions

Remarks_____

_____

_____

_____

_____

_____

VII. LANDFILL COVERS Applicable N/A

A. Landfill Surface

1. **Settlement** (Low spots) Location shown on site map (Settlement not evident)
   Areal extent_____ Depth_____
   Remarks_____
   _____

2. **Cracks** Location shown on site map (Cracking not evident)
   Lengths_____ Widths_____ Depths_____
   Remarks_____
   _____

3. **Erosion** Location shown on site map (Erosion not evident)
   Areal extent_____ Depth_____
   Remarks_____
   _____

4. **Holes** Location shown on site map (Holes not evident)
   Areal extent_____ Depth_____
   Remarks_____
   _____

5. **Vegetative Cover** (Grass) (Cover properly established) No signs of stress
   Trees/Shrubs (indicate size and locations on a diagram)
   Remarks_____
   _____

6. **Alternative Cover (armored rock, concrete, etc.)** (N/A)
   Remarks_____
   _____

7. **Bulges** Location shown on site map (Bulges not evident)
   Areal extent_____ Height_____
   Remarks_____
   _____

8. **Wet Areas/Water Damage** (Wet areas/water damage not evident)
   - Wet areas — Location shown on site map — Areal extent_____
   - Ponding — Location shown on site map — Areal extent_____
   - Seeps — Location shown on site map — Areal extent_____
   - Soft subgrade — Location shown on site map — Areal extent_____

   Remarks_____

9. **Slope Instability** Slides — Location shown on site map (No evidence of slope instability)
   Areal extent_____
   Remarks_____

B. Benches Applicable N/A

(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** — Location shown on site map — (N/A or okay)
   Remarks_____

2. **Bench Breached** — Location shown on site map — (N/A or okay)
   Remarks_____

3. **Bench Overtopped** — Location shown on site map — (N/A or okay)
   Remarks_____

C. Letdown Channels Applicable (N/A)

(Channel lined with erosion control ~~mats, riprap~~, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** — Location shown on site map — No evidence of settlement
   Areal extent_____ Depth_____
   Remarks_____

2. **Material Degradation** — Location shown on site map — No evidence of degradation
   Material type_____ Areal extent_____
   Remarks_____

3. **Erosion** — Location shown on site map — No evidence of erosion
   Areal extent_____ Depth_____
   Remarks_____

4. **Undercutting** Location shown on site map No evidence of undercutting
Areal extent_____ Depth_____
Remarks_____

5. **Obstructions** Type_____ No obstructions
Location shown on site map Areal extent_____
Size_____
Remarks_____

6. **Excessive Vegetative Growth** Type_____
No evidence of excessive growth
Vegetation in channels does not obstruct flow
Location shown on site map Areal extent_____
Remarks_____

D. Cover Penetrations Applicable N/A

1. **Gas Vents** Active Passive
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance
(N/A)
Remarks_____

2. **Gas Monitoring Probes**
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance (N/A)
Remarks_____

3. **Monitoring Wells** (within surface area of landfill)
(Properly secured/locked) (Functioning) (Routinely sampled) (Good condition)
Evidence of leakage at penetration Needs Maintenance N/A
Remarks_____

4. **Leachate Extraction Wells**
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance N/A
Remarks NOT IN USE DUE TO MNA STUDY

5. **Settlement Monuments** Located Routinely surveyed N/A
Remarks_____

E. Gas Collection and Treatment Applicable (N/A)

1. **Gas Treatment Facilities**
   Flaring Thermal destruction Collection for reuse
   Good condition Needs Maintenance
   Remarks_____

2. **Gas Collection Wells, Manifolds and Piping**
   Good condition Needs Maintenance
   Remarks_____

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
   Good condition Needs Maintenance N/A
   Remarks_____

F. Cover Drainage Layer Applicable (N/A)

1. **Outlet Pipes Inspected** Functioning N/A
   Remarks_____

2. **Outlet Rock Inspected** Functioning N/A
   Remarks_____

G. Detention/Sedimentation Ponds Applicable (N/A)

1. **Siltation** Areal extent_____ Depth_____ N/A
   Siltation not evident
   Remarks_____

2. **Erosion** Areal extent_____ Depth_____
   Erosion not evident
   Remarks_____

3. **Outlet Works** Functioning N/A
   Remarks_____

4. **Dam** Functioning N/A
   Remarks_____

H. Retaining Walls Applicable (N/A)

1. **Deformations** Location shown on site map Deformation not evident
   Horizontal displacement_____ Vertical displacement_____
   Rotational displacement_____
   Remarks_____

2. **Degradation** Location shown on site map Degradation not evident
   Remarks_____

I. Perimeter Ditches/Off-Site Discharge Applicable (N/A)

1. **Siltation** Location shown on site map Siltation not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Vegetative Growth** Location shown on site map N/A
   Vegetation does not impede flow
   Areal extent_____ Type_____
   Remarks_____

3. **Erosion** Location shown on site map Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Discharge Structure** Functioning N/A
   Remarks_____

VIII. VERTICAL BARRIER WALLS Applicable (N/A)

1. **Settlement** Location shown on site map Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Performance Monitoring** Type of monitoring_____
   Performance not monitored
   Frequency_____ Evidence of breaching
   Head differential_____
   Remarks_____

IX: GROUNDWATER/SURFACE WATER REMEDIES Applicable (N/A) MNA STUDY

A. Groundwater Extraction Wells, Pumps, and Pipelines Applicable N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
   Good condition All required wells properly operating Needs Maintenance N/A
   Remarks_____

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   Good condition Needs Maintenance
   Remarks_____

3. **Spare Parts and Equipment**
   Readily available Good condition Requires upgrade Needs to be provided
   Remarks_____

B. Surface Water Collection Structures, Pumps, and Pipelines Applicable (N/A)

1. **Collection Structures, Pumps, and Electrical**
   Good condition Needs Maintenance
   Remarks_____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   Good condition Needs Maintenance
   Remarks_____

3. **Spare Parts and Equipment**
   Readily available Good condition Requires upgrade Needs to be provided
   Remarks_____

C. Treatment System Applicable (N/A)

1. **Treatment Train** (Check components that apply)
   - Metals removal — Oil/water separation — Bioremediation
   - Air stripping — Carbon adsorbers
   - Filters_____
   - Additive (*e.g.*, chelation agent, flocculent)_____
   - Others_____
   - Good condition — Needs Maintenance
   - Sampling ports properly marked and functional
   - Sampling/maintenance log displayed and up to date
   - Equipment properly identified
   - Quantity of groundwater treated annually_____
   - Quantity of surface water treated annually_____

   Remarks_____

2. **Electrical Enclosures and Panels** (properly rated and functional)
   N/A — Good condition — Needs Maintenance

   Remarks_____

3. **Tanks, Vaults, Storage Vessels**
   N/A — Good condition — Proper secondary containment — Needs Maintenance

   Remarks_____

4. **Discharge Structure and Appurtenances**
   N/A — Good condition — Needs Maintenance

   Remarks_____

5. **Treatment Building(s)**
   N/A — Good condition (esp. roof and doorways) — Needs repair
   Chemicals and equipment properly stored

   Remarks_____

6. **Monitoring Wells** (pump and treatment remedy)
   Properly secured/locked — Functioning — Routinely sampled — Good condition
   All required wells located — Needs Maintenance — N/A

   Remarks_____

D. Monitoring Data

1. Monitoring Data
   (Is routinely submitted on time) — Is of acceptable quality

2. Monitoring data suggests:
   (Groundwater plume is effectively contained) — Contaminant concentrations are declining

D. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

Properly secured/locked Functioning Routinely sampled Good condition
~~All required wells located~~ Needs Maintenance N/A

Remarks_____

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.). SEE REPORT

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

SEE REPORT

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

SEE REPORT

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

SEE REPORT

Attachment G

AUSTINBURG REHAB ROYAL COURT

Photos byWARREN DILLAWAY / Star Beacon

GENEVA ADAMS, (top left), was crowned 2013 Prom Queen and Andrew Dragon, (top right), was crowned 2013 Prom King at Austinburg Nursing and Rehab Center Friday evening.

ROAD CLOSINGS

ASHTABULA TOWNSHIP — Sill Road will be closed for railroad repair at the CSX Railroad crossing between Middle Road and Route 20 Wednesday through May 28.

LENOX TOWNSHIP — East Union Road will be closed for culvert replacement .2-mile south of Allen Comp Road Tuesday through June 7.

WINDSOR TOWNSHIP — South Windsor Road between Cox and Fletcher roads will be closed for road widening 8 a.m. to 3:30 p.m. daily through July 31.

DORSET TOWNSHIP — Marrian Road will be closed for bridge replacement .7-mile west of Russell Road through Friday.

Tornadoes level homes in Okla., hit other states

By SEAN MURPHY
Associated Press

EDMOND, Okla. — One of several tornadoes that touched down Sunday in Oklahoma turned homes in a trailer park near Oklahoma City into splinters and rubble and sent frightened residents along a 100-mile corridor scurrying for shelter.

The tornadoes that touched down in Oklahoma, Kansas and Iowa were part of a massive, northeastward-moving storm system that stretched from Texas to Minnesota.

At least four separate tornadoes touched down in central Oklahoma late Sunday afternoon, including the one near the town of Shawnee, 35 miles southeast of Oklahoma City, that laid waste to much of a mobile home park.

Reports of injuries in that tornado strike couldn't immediately be confirmed, as getting into the area was made difficult by the overturned tractor-trailers that forced the closure of a section of Interstate 40.

Dozens of homes were damaged by the other tornadoes that touched down in Oklahoma, but emergency officials had no immediate reports of injuries caused by any of them, including the first of the afternoon that hit Edmond, a suburb north of Oklahoma City, before making its way toward Tulsa, 90 miles to the northeast.

In Wichita, Kan., a tornado touched down near Mid-Content Airport on the city's southwest side shortly before 4 p.m., knocking out power to thousands of homes and businesses but bypassing the most populated areas of Kansas' biggest city.

There were also two reports of tornadoes touching down in Iowa Sunday night, including one near Huxley, about 20 miles north of Des Moines, and one in Grundy County, which is northeast of Des Moines, according to the Des Moines Register. There were no immediate reports of major damage or injuries.

In Oklahoma, aerial television news footage showed homes that appeared to have suffered significant damage northeast of Oklahoma City.

The Storm Prediction Center had been warning about severe weather in the region since Wednesday, and on Friday, it zeroed in on Sunday as the day the storm system would likely pass through.

2 FBI agents killed during training exercise

By AUSTIN BOGUES
MCT

VIRGINIA BEACH, Va. - Two FBI agents died Friday in an apparent off-shore training exercise.

The agency's website identified the officers as Special Agent Christopher Lorek and Special Agent Stephen Shaw. They were members of the FBI's elite Hostage Rescue Team, which is part of the Critical Incident Response Group based at Quantico, Va.

The FBI was mum Sunday as to the cause of the deaths.

"We mourn the loss of two brave and courageous men," said FBI Director Robert S. Mueller, in a statement released on Sunday.

"Like all who serve on the Hostage Rescue Team, they accept the highest risk each and every day, when training and on operational missions, to keep our nation safe. Our hearts are with their wives, children and other loved ones who feel their loss most deeply. And they will always be part of the FBI family."

The FBI said Lorek, 41, first joined the agency in 1996. He is survived by a wife and two daughters, who are 11 and 8. Shaw, 40, joined the agency in 2005 and is survived by a wife, a 3-year-old daughter and 1-year-old son.

Attachment H

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW3-S																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (ug/L)		(DF = 500)	(DF = 200)		(DF = 100)	(DF = 10)	(DF = 8.33)		(DF = 5.6)	(DF = 1.67)	(DF = 2)	(DF = 1.43)	(DF=10)	(DF = 2.5)	(DF = 14.29)	(DF = 2.5)	(DF=9.09)	(DF = 2)	(DF = 10)
Monochlorobenzene	NS	**11000**	**5000**	(0.68)	**2100**	**3100** (DF = 100)	**2600** (DF=83)	**3.2**	**1800** (DF=56)	**490** (DF=17)	**1900** (DF=20)	**510** (DF=14)	**2700** (DF=100)	**900** (DF=25)	**3500** (DF=143)	**820** (DF=25)	**3700** (DF=91)	**660** (DF=20)	**3400** (DF=100)
Chloroethane	NS	<1000	<400	<1	<100	<10	<8.3	<1.0	<5.6	<1.7	<2.0	< 1.4 UL	<10	<2.5 UJ	<14	<2.5	<9.1	<2.0	<10 UJ
cis-1,2-Dichloroethene	NS	<250	<100	<0.5	<50	**11**	**5.7**	<0.50	**7.2**	(2.3)	**3.3**	**1.0**	**6.0**	**2.2**	**7.2**	**3.1**	**10.0**	**1.6**	(9.4)
trans-1,2-Dichloroethylene	NS	<250	<100	<0.5	<50	<5.0	<4.2	<0.50	<2.8	<0.84	<1.0	< 0.72	<5.0	<1.2	<7.1	<1.2	<4.5	<1.0	<10
1,1-Dichloroethylene	NS	<500	<200	<1	<100	<10	<8.3	<1.0	<5.6	<1.7	<2.0	< 1.4	<10	<2.5	<14	<2.5	<9.1	<2.0	<10
Tetrachloroethylene	NS	<500	<200	<1	<100	<10	<8.3	<1.0	<5.6	<1.7	<2.0	< 1.4 UL	<10	<2.5	<14	<2.5	<9.1	<2.0	<10
Trichloroethylene	NS	<500	<200	(0.19)	<100	(6.8)	(6.1)	(0.30)	**5.7**	(2.5)	**4.9**	1.4	(6.1)	(2.0)	(4.2)	(2.1)	(5.1)	(1.0)	(6.9)
Vinyl Chloride	NS	<1000	<400	<1	<100	<10	(3.4)	<1.0	(2.8)	(0.69)	**2.1**	(0.48)	(2.5)	(1.1)	<14	(0.96)	(4.7)	(0.63)	(3.0)
Field Parameters																			
Temperature (deg. C)	NS	14.00	8.20	11.80	10.79	8.91	12.65	11.2	13.26	10.08	11.73	10.95	13.21	10.80	13.70	10.98	12.46	9.94	12.4
Specific Conductance (µS/cm) [+]	NS	1100	570	600	730	759	602	357	557	535	842	536	613	611	1732	909	1074	1742	1177
Dissolved Oxygen (mg/L)[§]	NS	*1.70*	*1.92*	*1.60*	*4.17*	1.31	2.63	*8.60*	1.53	2.17	1.18	3.57	2.2	3.2	0.85	4.34	0.42	3.88	0.94
pH (std. Units)	NS	7.3	7.2	8.0	6.9	7.10	6.25	7.31	7.02	6.93	7.04	7.25	7.07	7.24	6.93	7.12	6.95	7.11	7.16
ORP (mV)[§]	NS	*-27*	*191*	*10*	*-3.6*	61.2	39.2	195	28.1	78.8	-25.9	-25.4	-27.6	74.4	-31.5	-42.9	-49.2	-21.1	-24.4
Turbidity (NTU)	NS	31.0	14.0	102.0	0.0	0.0	9.4	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iron II (mg/L)	NS	NS	NS	NS	NS	0.4	0.2	0.0	0.0	0.0	0.4	1.2	0.2	0.0	1.4	0.1	1.4	0.6	0.8
Geochemical Natural Attenuation Parameters (mg/L)												(DF = 14.29)							
Total Organic Carbon[++]	NS	NS	NS	NS	NS	4	3	2	3	3	5	3	4	3	6	2	5	3	4
Chloride	NS	NS	NS	NS	NS	61.6 JB	46.2	11.1	23.1	28.5	154	24.2	19.1	18.5	296	69.7	168 (DF=5)	63.0	145
Nitrate	NS	NS	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.60	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	146	123	42.1	84.5	61.4	63.6	72.9	64.2	66.3	121	85.1	136	79.9	96.6
Total Alkalinity	NS	NS	NS	NS	NS	300	280	230	290	270	300	280	280	290	400	310	330	290	310
Total Sulfide	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0
Carbon Dioxide	NS	NS	NS	NS	NS	35	23 J	6.4	28	19	28	17	28	21	45	23	43	28	50
Methane	NS	NS	NS	NS	NS	0.057	0.037	<0.0010	0.046	0.021	0.030	0.015	0.055	0.017	0.046	0.0066	0.06	0.0516	0.026
Ethylene	NS	NS	NS	NS	NS	0.0030	0.0051	<0.0010	0.0020	<0.0010	0.0036	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.006	0.0007	0.000664
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	0.86	1.2	5.6	13	1.3	1.7	1.8	0.8	1.6	1.3	0.8

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

UL = Undetected, reporting limit possibly biased low based upon QC data

UJ = Undetected, reporting limit is inaccurate or imprecise

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW17-S																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)	(DF=5)	(DF = 3.33)	(DF = 2.5)	(DF = 2.0)	(DF = 3.3)														
Monochlorobenzene	**150**	**37**	**46**	**53**	**31**	**16**	**14**	**15**	**15**	**14**	**6.0**	**6.7**	**8.9**	**8.2**	**5.1**	**6.1**	**3.5**	**2.9**	**3.3**
Chloroethane	<10	(1.7)	<5	<2.0	<3.3	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0 UJ
cis-1,2-Dichloroethene	**5.7**	**20**	**9.9**	**23**	**6.4**	**3.4**	**5.1**	**5.2**	**4.6**	**4.3**	**3.9**	**3.3**	**4.0**	**3.2**	**4.0**	**4.1**	**3.0**	**3.0**	**4.2**
trans-1,2-Dichloroethylene	<2.5	(0.37)	<1.2	<1.0	<1.7	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<2.5	<3.3	<2.5	<2.0	<3.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	(0.71)	<3.3	<2.5	<2.0	<3.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene	**32**	**89**	**100**	**39**	**92**	**39**	**29**	**28**	**23**	**21**	**14**	**16**	**16**	**16**	**13**	**19**	**7.8**	**18**	**14**
Vinyl Chloride	<10	1.4	(0.98)	<2.0	<3.3	(0.83)	(0.44)	(0.68)	(0.28)	(0.3)	(0.35)	(0.26)	(0.68)	(0.31)	(0.33)	<1.0	(0.46)	(0.25)	(0.23)
Field Parameters																			
Temperature (deg. C)	11.10	16.20	9.70	12.90	12.26	10.34	13.23	11.94	12.18	10.25	11.44	11.99	12.55	11.98	13.79	11.40	13.29	10.64	11.58
Specific Conductance (µS/cm)[+]	1200	920	530	440	**760**	543	595	565	549	617	521	584	587	630	643	720	544	599	634
Dissolved Oxygen (mg/L)[§]	0.20	*2.04*	*2.54*	*2.90*	*0.56*	0.13	0.62	0.70	0.58	0.50	0.43	0.55	1.91	0.76	3.40	0.58	0.90	0.86	1.62
pH (std. Units)	7.4	7.3	7.4	7.8	6.9	7.29	6.57	7.19	7.00	7.07	7.22	7.32	7.22	7.19	7.17	7.13	7.00	7.09	7.26
ORP (mV)[§]	144	*114*	*151*	*69*	*114*	38.4	383	117	57.7	63.1	38.1	160.6	39.8	58.2	97.7	13.6	66.2	151.9	73.9
Turbidity (NTU)	0.0	0.0	0.0	9.0	0.0	6.0	14.0	0.0	2.4	1.1	6.1	10.4	0.0	0.0	0.0	0.0	0.0	0.0	9.8
Iron II (mg/L)	NS	NS	NS	NS	NS	0.0	NS	0.0	0.0	0.0	NS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	NS	NS	NS	NS	NS	<1	<1	1	<1	2	1	1	<1	1	1	1	1	<1	1
Chloride	NS	NS	NS	NS	NS	44.2 JB	54.8	44.8	22.8	21.3	21.2	33.5	20.1	15.9	17.7	26	23.1	19.1	19.3
Nitrate	NS	NS	NS	NS	NS	<0.50	0.79	0.98	0.50	0.59	< 0.50	0.64	0.51	0.61	<0.50	0.60	<0.50	0.6	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	<0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	157	142	137	105	94.3	85.5	116	77.1	64.8	62.1	79.6	66.8	61.6	58.9
Total Alkalinity	NS	NS	NS	NS	NS	230	250	270	290	310	270	270	270	300	290	290	250	290	290
Total Sulfide	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	1.8	<1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	NS	NS	NS	NS	NS	17	15 J	20	14	21	17	16	21	22	22	27	17	36	23.5
Methane	NS	NS	NS	NS	NS	0.0014	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	< 0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.006	(0.00031)	0.000554
Ethylene	NS	NS	NS	NS	NS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	< 0.0010	< 0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	2.2	1.6	1.5	0.88	1.1	0.84	16	1.5	1.5	1.7	1.0	2.0	1.6	1.2

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

UJ = Undetected, reporting limit is inaccurate or imprecise

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW18-S																	
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (ug/L)	(DF=8.33)		(DF = 2.5)	(DF = 2.5)															
Monochlorobenzene	**210**	**1.6**	**58**	**58**	<1	(0.71)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	(0.49)	<1.0	<1.0
Chloroethane	<17	<2	<5	<2.5	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0 UJ
cis-1,2-Dichloroethene	(1.3)	<0.5	(0.84)	**1.3**	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<4.2	<0.5	<1.2	<1.2	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<8.3	<1.0	<2.5	<2.5	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	(1.0)	<1.0	<2.5	<2.5	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene	(5.3)	<1.0	(1.8)	(1.5)	<1	(0.66)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<17	<2.0	<5	<2.5	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Field Parameters																			
Temperature (deg. C)	11.1	15.9	8.94	12.4	11.5	7.58	13.66	13.93	12.78	10.31	10.20	12.52	12.18	11.24	12.90	11.67	12.35	11.15	11.81
Specific Conductance (µS/cm) [4]	1600	1600	720	170	980	686	876	763	910	764	705	859	770	957	892	984	662	1640	745
Dissolved Oxygen (mg/L)[5]	0.30	*0.49*	*2.41*	*4.88*	*0.70*	0.38	0.35	0.52	0.48	0.50	0.41	0.30	4.34	0.76	0.81	0.66	0.76	0.58	0.75
pH (std. Units)	7.55	7.20	7.20	7.60	6.92	7.11	6.66	6.87	6.89	6.98	7.06	7.08	7.06	7.05	7.05	6.97	6.99	7.02	7.11
ORP (mV)[5]	27	*34*	*196*	*52*	*78*	34.5	74.2	123	44.6	-64.8	-12.7	23.6	-41.7	19.2	-19.5	-41.3	-15.8	45.9	-20.9
Turbidity (NTU)	0.0	18.2	2.0	0.0	0.0	1.1	11.1	5.0	2.1	0	2.6	2.7	0	35.1	0.0	0.0	5.0	0.0	0.0
Iron II (mg/L)	NS	NS	NS	NS	NS	0.4	0.6	0.0	0.0	0.8	0.3	0.0	0.2	0.0	0.4	0.2	0.1	0.8	0.2
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	NS	NS	NS	NS	NS	1 JB	<1	<1	<1	1	2	1	<1	<1	1	1	1	<1	1
Chloride	NS	NS	NS	NS	NS	70.3	90.3	62.4	51.1	56.2	40.9	64.1	45.1	59.7	39.1	56.6	55.4	46.2	32.4
Nitrate	NS	NS	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	<0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	113	285 (DF = 2)	187	200	169	175	173	123	256	121	168	151	130	83.8
Total Alkalinity	NS	NS	NS	NS	NS	280	260	280	280	290	360	330	290	290	310	310	280	290	290
Total Sulfide	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	NS	NS	NS	NS	NS	31	24 J	29	23 J	24	25	28	27	29	29	36	31	40	34
Methane	NS	NS	NS	NS	NS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	(0.0003)	(0.000224)
Ethylene	NS	NS	NS	NS	NS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.4	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

UJ = Undetected, reporting limit is inaccurate or imprecise

[4] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[5] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW20-S																	
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	2/19/2003[#]	8/3/2003[#]	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (ug/L)	(DF=250)	(DF = 313)	(DF = 200)	(DF = 500)	(DF = 167)	(DF = 20)	(DF = 25)	(DF = 12.5)	(DF = 25)	(DF = 16.67)	(DF = 6.67)	(DF = 16.67)	(DF=20)	(DF = 14.29)	(DF = 33.3)	(DF = 12.5)	(DF=25)	(DF=14.29)	(DF=33.33)
Monochlorobenzene	**5500**	**7500**	**4700**	**15000**	**4000**	**8500** (DF=500)	**7800** (DF=250)	**4500** (DF=125)	**4700** (DF=250)	**4900** (DF=167)	**6000** (DF=67)	**5000** (DF=167)	**5300 J** (DF=200)	**3500** (DF=143)	**8900** (DF=333)	**3400** (DF=125)	**9400** (DF=250)	**4100** (DF 143)	**9000** (DF=333)
Chloroethane	<500	<620	<400	<500	<170	<20 JL	<25	<12	<25	<17 UJ	<6.7	< 17	<20	<14 UJ	<33	<12	<25	<14	<33 UJ
cis-1,2-Dichloroethene	(35)	(41)	(59)	(140)	(42)	67 JL	65	41	84	62	73	70	86	64	92	55	140	72	110
trans-1,2-Dichloroethylene	< 120	<160	<100	<250	<83	<20 JL	<12	<6.2	<12	<8.3	(1.5)	< 8.3	<10	(2.6)	<17	<6.2	(5.3)	<7.1	< 33
1,1-Dichloroethylene	<250	<310	<200	<500	<170	<20 JL	<25	<12	<25	<17	<6.7	< 17	<20	<14	<33	<12	<25	<14	<33
Tetrachloroethylene	(56)	<310	<200	(150)	(39)	55 JL (DF = 500)	60 (DF=250)	25 J	73	63	39	44 J	39 J	67	77 J	67	110	84	140
Trichloroethylene	(120)	(160)	(140)	(330)	(120)	150 JL	150	89	190	140	160	150	150	140	210	130	300	180	290
Vinyl Chloride	<500	<620	<400	<500	<170	21 JL (DF = 500)	(17) J	(10)	(18) J	(14)	15	(12)	(10)	(8.8)	(9.3)	(5.4)	(11)	(6.6)	(8.8)
Field Parameters																			
Temperature (deg. C)	10.1	13.9	9.10	13.4	11.01	9.99	12.52	10.67	14.44	10.14	10.10	11.27	13.11	11.04	13.71	10.18	13.47	10.18	13.04
Specific Conductance (µS/cm)[+]	1100	940	740	800	830	1340	1221	561	1108	1104	1024	1190	1347	1182	1999	1350	1822	1387	2070
Dissolved Oxygen (mg/L)[§]	0.10	*2.32*	*1.83*	*4.70*	*0.70*	0.17	0.46	3.56	1.15	0.50	0.68	0.90	3.29	1.88	2.05	1.43	0.59	1.5	1.39
pH (std. Units)	7.83	7.00	7.30	6.80	6.82	7.03	6.73	7.12	6.85	6.96	6.93	7.03	6.94	7.05	6.88	7.12	6.79	6.94	7.00
ORP (mV)[§]	158	*18*	*164*	*150*	*54*	76.4	36.9	114	43	-97.5	-6.9	4.5	-11.4	-16	13.2	-27	-4	-24.6	15.4
Turbidity (NTU)	0.0	0.0	9.0	0.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iron II (mg/L)	0.5	ND	1.0	ND	ND	0.2	0.2	0.0	NS	0.6	0.2	0.0	0.2	0.2	0.1	0.0	0.2	0.4	0.1
Geochemical Natural Attenuation Parameters (mg/L)												(DF = 166.67)							
Total Organic Carbon[++]	3	17	3	4	5	3	3	2	3	3	4	4	3 J	3	7	4	6	4	7
Chloride	94	140	188	212	156	330 (DF = 5)	284 (DF = 2)	201	273 J (DF = 2)	221	237	536 J	251 J	152 J	304	258	407 (DF=5)	301 (DF=2)	333
Nitrate	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	148	63	118	160	123	166 JL (DF = 5)	146 J	105	162	222	234	417 J	220	177 J	385	204	439 (DF=5)	320	357
Total Alkalinity	210	220	230	170	250	230	210	170 J	220	230	220	310	250	220 J	350	270	320	290	330
Total Sulfide	<0.5	<1	< 1	<1	<1	1.2	5.0 J	<1.0	<1.0 UJ	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	14	15	17	23	17	26	18 J	14	27	21	22	21	30	20	48	27	53	46	65 J
Methane	0.0015	0.0031	0.0044	0.024	0.0054	0.0075	0.0060	0.0030 J	0.0070	0.0089	0.0056	0.0078	0.0072	0.0079	0.012	0.015	0.059	0.040	0.0101 J
Ethylene	0.007	0.010	0.003	0.008	<0.001	0.0051	0.0038	0.0016	0.0024	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.011	<0.0010	(0.000351)	0.000105 J
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	0.83	0.67	1.80	0.80	1.3	5.6	1.1	1.4	3.1	1.5	1.1	1.5	0.85	15 J

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J Estimated quantitation based upon QC data

ND = Analyte not detected

JL = Estimated quantitation; possibly biased low based upon QC data

UJ = Undetected, reporting limit is inaccurate or imprecise

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

[#] Values given reflect the greater of the original field sample or the duplicate

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW27-S																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)			(DF = 5)																
Monochlorobenzene	**28**	<1 *	**110**	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<2	<2 *	<10	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<0.5	<0.5 *	(1.6)	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.5	<0.5 *	<2.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1	<5	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	(0.17)	<1	<5	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0
Trichloroethylene	(0.29)	<1 *	(3.3)	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<2	<2 *	<10	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Field Parameters																			
Temperature (deg. C)	8.9	16.4	5.2	11.6	10.4	6.32	15.02	7.73	16.86	8.07	12.80	8.72	16.02	11.64	15.01	7.62	14.73	6.36	13.09
Specific Conductance (µS/cm) [+]	90	660	90	700	140	120	107	100	139	91	111	98	116	126	167	83	192	285	159
Dissolved Oxygen (mg/L)[§]	*10.5*	*1.8*	*1.1*	*1.4*	*2.9***	0.87	*9.50*	*12.31*	*9.15*	10.96	10.34	11.2	8.9	8.25	9.72	12.3	9.24	12.6	9.5
pH (std. Units)	5.78	6.1	7.70	6.5	5.24	5.73	5.45	5.57	5.54	5.12	5.63	5.74	5.63	5.74	5.83	6.85	6.82	5.76	5.77
ORP (mV)[§]	255	*176*	*184*	*168*	*297*	301	384	242	216	353	429.2	282.1	250.9	216.8	229.8	180.1	144.8	205.2	236.7
Turbidity (NTU)	0	0	0	11	3**	0.1	7.4	3.1	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iron II (mg/L)	NS	NS	NS	NS	NS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	NS	NS	NS	NS	NS	1 JB	<1	<1	<1	2	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1
Chloride	NS	NS	NS	NS	NS	2.5 JB	4.2	7.8	3.9	4.8	5.2	2.5	2.9	21.6	11.1	<1.0	10.6	<1.0	10.1
Nitrate	NS	NS	NS	NS	NS	16.8 (DF = 2)	6.3	8.6	10.1 E	5.7	7.1	9.6 J	6.6	10.4	7.4	3.6	2.5	8.5	8.3
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	<0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	9.4	14.3	13.2	13.6	15.2	15.2	15.9	26.2	31.8	11.1	14.1	13.5	8.9	9.5
Total Alkalinity	NS	NS	NS	NS	NS	8.1	13	9.5	13 JH	12	10	17	11	16	13	8.1	11	7.3	11
Total Sulfide	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	NS	NS	NS	NS	NS	8.4	23 J	21	18 J	18	18	12	22	17	23	13	36	21	26
Methane	NS	NS	NS	NS	NS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Ethylene	NS	NS	NS	NS	NS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JH = Estimated quantitation; possible biased high based on QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

E = Estimated result because concentration exceeds the calibration range.

UJ = Undetected, reporting limit is inaccurate or imprecise

* samples collected on 12/11/00

** Indicates that this data point was measured during a supplimental sampling event conducted in August 2002.

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW32-S																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (ug/L)																			
Monochlorobenzene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	(1.0)	(1.2)	<2	<1	(0.49)	(0.73) J	(0.42)	<1.0	(0.59)	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	(0.17)	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene	(0.42)	(0.22)	(0.35)	<0.22	(0.28)	<1.0	<1.0	(0.28)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	**8.9**	**14**	<2	<1	**14**	**20**	**14**	**4.5**	**6.3**	**2.6**	**1.5**	**2.1**	**1.2**	<1.0	**1.3**	**1.1**	<1.0	<1.0	<1.0
Field Parameters																			
Temperature (deg. C)	10.9	18.1	6.5	15.0	12.9	11.00	11.90	10.57	13.76	11.03	10.58	12.19	11.98	11.98	12.49	11.25	10.87	10.4	10.97
Specific Conductance (µS/cm)[+]	700	560	360	770	590	535	493	518	728	582	483	668	735	667	689	805	598	865	783
Dissolved Oxygen (mg/L)[§]	4.7	*6.9*	*6.5*	*4.0*	*3.2*	1.00	5.16	4.59	3.78	3.46	2.99	4.94	4.33	3.97	3.65	5.81	3.61	5.16	4.54
pH (std. Units)	7.6	6.5	7.20	7.6	6.68	7.19	6.50	6.74	6.42	6.80	7.09	6.92	7	7.09	7.01	6.84	7.02	6.78	7.01
ORP (mV)[§]	212	*151*	*173*	*92*	*113*	144	236	127	84.6	92.8	25.2	90.8	37.1	35.5	39.3	10.2	24.6	149.2	26.7
Turbidity (NTU)	73	69	75	23	100	6.6	18.2	5.2	0.0	6.7	12.6	8.7	0.7	0.0	7.8	1.2	38.6	2.1	2.1
Iron II (mg/L)	ND	ND	ND	ND	ND	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	<1	2	<1	<1	6	1 JB	<1	<1	<1	2	1	1	<1	1	1	<1	2	<1	1
Chloride	77.1	44.6	27.6	19.3	74	36.1 JB (DF = 5)	87.3 JB	96.5	149	70.0	67.0	116	115	58.9	65.7	123	95.9	125	93.9
Nitrate	2.2	2.9 R	2.7	2.3	1.6	1.2	1.2	1.5	1.9	2.6	2.4	2.8	3.1	4.0	2.3	2.8	1.7	2.4	1.8
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	<0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	78.2	72.4	45.5	45.4	55.7	43.5 JB (DF = 5)	48.1 JB	45.3	49.8	45.3	36.8	55.5	37.0	33.7	36.8	38.7	35.9	34.2	34.6
Total Alkalinity	220	210	200	190	220	190	170	190	210	210	210	210	220	220	220	200	210	200	220
Total Sulfide	<0.5	<1	<1	<1	<1	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Carbon Dioxide	28	22	21	17.95	27	26	28 J	35	27 J	15	16	26	29	19	26	31	15	52	39
Methane	0.002	<0.001	<0.001	<0.001	<0.001	0.0011	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Ethylene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

R = Rejected data due to the testing of the sample outside of the required sample holding time.

UJ = Undetected, reporting limit is inaccurate or imprecise

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW34-S																	
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04 (Aug-04 confirmation)	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (ug/L)	(DF = 5)				(DF = 33.33)	(DF = 1.67)	(DF = 2.86)	(DF = 2.86)	(DF = 3.3)	(DF = 4)	(DF = 2)	(DF = 4)	(DF=6.67)	(DF = 6.25)	(DF=8.33)	(DF=5.0)	(DF=4.0)	(DF=10)	(DF=7.14)
Monochlorobenzene	<5	<1	<1	<1	**230**	**250** E	**550** (DF=29)	**880 {960}** (DF=28.6)	**1100** (DF=33)	**1300** (DF=40)	**1700** (DF=20)	**1500** (DF=40)	**2400** (DF=67)	**2200** (DF=63)	**2400** (DF=83)	**1600** (DF=50)	**1200** (DF=40)	**2900** (DF=100)	**2700** (DF=71.4)
Chloroethane	(2.3)	(0.41)	<2	<1	<33	(1.6) J	(1.2)	(1.3) {<3.3}	(1.1)	<4.0	(0.64)	< 4.0 UL	<6.7	<6.2 UJ	<8.3	<5.0	<4.0	<10	<7.1 UJ
cis-1,2-Dichloroethene	**190**	**18**	**13**	**11**	**1000**	**730** E	**790** (DF=29)	**700 {530}** (DF=28.6)	**540** (DF=33)	**360**	**450** (DF=20)	**340** (DF=40)	**390** (DF=67)	**240**	**380** (DF=83)	**230** (DF=50)	**220** (DF=40)	**300**	**360** (DF=71.4)
trans-1,2-Dichloroethylene	**3.3**	<0.5	<0.5	<0.5	(7)	**24**	**8.3**	**15 {10}**	**12**	**11**	**9.7**	**5.8**	**14**	**9.2**	**5.9**	**3.2**	(1.6)	(3.4)	4.2 JQ
1,1-Dichloroethylene	<5	<1	<1	<1	<33	**4.6**	**4.5**	**4.3 {7.1}**	**6.1**	**4.5**	**6.7**	**4.1**	(5.1)	(3.2)	(6.2)	(3.5)	**4.3**	(4.4)	4.2 JQ
Tetrachloroethylene	<5	<1	<1	<1	<33	<1.7	<1.0	<2.9 {<3.3}	<3.3	<4.0	<2.0	< 4.0 UL	<6.7	<6.2	<8.3	<5.0	<4.0	<10	<7.1
Trichloroethylene	**17**	(0.59)	<1	<1	**370**	**460** E	**550** (DF=29)	**610 {490}** (DF=28.6)	**640** (DF=33)	**480**	**500** (DF=20)	**420** (DF=40)	**440** (DF=67)	**340** (DF=63)	**330**	**190**	**50**	**200**	**160**
Vinyl Chloride	**41**	**3.0**	**8.2**	(0.93)	**110**	**57**	**33** (DF=29)	**25 {22}**	**24**	**17**	**35**	**13** J	**30**	**13**	**29**	**7.5**	**64**	**13**	**22**
Field Parameters																			
Temperature (deg. C)	10.7	15	7.10	13.8	14.06	10.08	12.61	11.39 (13.24)	13.13	10.27	10.78	11.48	12.78	11.74	12.19	11.60	11.57	11.14	11.64
Specific Conductance (µS/cm)*	610	570	290	650	760	716	526	554 (583)	603	614	553	554	589	707	696	638	537	1191	681
Dissolved Oxygen (mg/L)[§]	0.5	*5.6*	*4.4*	*1.0*	*1.3*	0.20	0.57	0.38 (1.46)	0.56	0.50	0.28	0.60	2.18	0.49	0.48	0.49	0.31	0.39	0.29
pH (std. Units)	7.65	8.2	8.00	7.6	7.01	7.75	6.59	7.06 (7.26)	7.13	7.2	7.36	7.42	7.35	7.32	7.31	7.32	7.2	7.3	7.33
ORP (mV)[§]	211	*119*	*172*	*180*	*-59*	-57.6	-87.1	24.3 (-72.1)	-61.6	-95.6	-108	-48.1	-129.8	-68.4	-106.8	-72.4	-157.6	-43.1	-107.5
Turbidity (NTU)	0.0	16.0	29.0	0.0	214.0	0.0	6.3	0 .0 (0)	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iron II (mg/L)	0.5	ND	ND	1	0.7	1.4	1.6	0 .0 (NS)	1.0	0.8	1.4	0.8	1.2	0.8	1.8	0.0	3.4	1.2	2.8
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	2	2	<1	<1	**5**	2 JB	2	1	1	2	2	1	1	1	2	1	2	1	2
Chloride	63.1	41.2	43.6	53.6	95.4	93.2 JB	81.8	77.0	66.3	66.6	59.8	50.4	48.9	55.6	50.3	43.6	48.7	49.7	51.6
Nitrate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50	<0.50	<0.50 UJ	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	46.2	40.6	36	35.8	72.6	63.9 JB (DF=5)	75.4	87.7	81.5	83.7	95.3	64.1	60.2	72.1	72.0	59.9	58.4	69.9	68.1
Total Alkalinity	250	200	190	190	260	240	240	240	250	240	250	230	220	230	230	220	220	230	230
Total Sulfide	<0.5	<1	<1	<1	<1	1.8	<1.0	<1.0	1.5	<1.0	<1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	11	3.6	4.2	4.87	19	18	15 J	17	15	11	11	9.3	12	11	12	11	17	20	21
Methane	0.009	0.003	0.002	0.006	0.0043	0.0054	0.0024	0.0024	0.0028	0.00022	0.0025	0.0027	0.0033	0.0038	0.0038	0.0027	0.0071	0.0071	0.00794
Ethylene	0.001	<0.001	0.002	<0.001	0.002	0.0022	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0059	(0.0003)	0.00192
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	5.5	1.4	1.9	0.96	1.9	4.5	1.5	1.2	1.4	1.5	1.1	1.7	12	0.87

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.
VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.
( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.
DF = Dilution Factor used to allow values to come within calibration range of the instrument.
NS = Not sampled for this parameter.
J = Estimated quantitation based upon QC data
JB = Estimated quantitation; possibly biased high or false positive based upon blank data
UL = Undetected, reporting limit possibly biased low based upon QC data
ND = Analyte was not detected
E = Estimated result because concentration exceeds the calibration range.
UJ = Undetected, reporting limit is inaccurate or imprecise
[*] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.
[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon
[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW37-S																	
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)			(DF = 2)																
Monochlorobenzene	(0.81)	<1	49	<1	<1	<1.0	<1.0	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<2	<2	<4	<1	<1	<1.0	<1.0	<1.0	NS	<1.0 UJ	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<0.5	<0.5	(0.6)	(0.27)	<0.5	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.5	<0.5	<1	<0.5	<0.5	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1	<2	<1	<1	<1.0	<1.0	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1	<1	<2	<1	<1	<1.0	<1.0	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0
Trichloroethylene	<1	<1	(1.2)	<1	<1	<1.0	<1.0	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<2	<2	<4	<1	<1	<1.0	<1.0	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Field Parameters																			
Temperature (deg. C)	11.3	17.9	4.50	9.8	12.14	11.22	13.02	11.12	NS	12.04	11.71	12.01	12.23	12.08	13.10	11.48	12.07	10.73	12.02
Specific Conductance (µS/cm) [+]	740	580	260	220	570	575	495	444	NS	521	482	599	554	570	617	628	468	729	608
Dissolved Oxygen (mg/L)[§]	0.3	*1.5*	*5.0*	*7.3*	*1.3*	0.10	1.98	1.97	NS	2.14	0.28	2.15	5.09	2.69	1.99	2.44	1.03	2.60	1.12
pH (std. Units)	7.4	7.0	7.60	6.1	6.83	7.21	6.36	7.13	NS	6.59	7.01	5.41	7.1	7.25	7.18	7.17	6.90	7.26	7.30
ORP (mV)[§]	181	*120*	*197*	*191*	*198*	164	396	121	NS	-9.1	337.4	621.7	125.1	74.1	43.9	33.9	105.8	37.5	41.5
Turbidity (NTU)	0.0	38.0	3.0	4.0	0.0	0.0	8.2	0.4	NS	0	1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Iron II (mg/L)	NS	NS	NS	NS	NS	0	0	0	NS	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	NS	NS	NS	NS	NS	1 JB	<1	<1	NS	<1	1	<1	<1	<1	1	1	<1	<1	<1
Chloride	NS	NS	NS	NS	NS	23.7	23.2 JB	23.0	NS	30.3	41.1	36.6	33.7	23.6	33.6	37.9	27.2	24.8	28.3
Nitrate	NS	NS	NS	NS	NS	2.6	3.4	3.5	NS	2.5	1.3	2.2	2.2	3.2	1.7	2.7	1.70	2.5	1.4
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	62.5 (DF = 2)	65.2 JB	59.0	NS	56.3	46.7	56.4	69.4	41.7	38.2	42.2	41.6	38.2	36.6
Total Alkalinity	NS	NS	NS	NS	NS	240	230	230	NS	230	230	220	220	250	240	260	240	250	240
Total Sulfide	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	NS	<1.0	1.3	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4
Carbon Dioxide	NS	NS	NS	NS	NS	19	19 J	17	NS	12	13	13	13	15	16	19	20	25	20
Methane	NS	NS	NS	NS	NS	<0.0010	<0.0010	<0.0010	NS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Ethylene	NS	NS	NS	NS	NS	<0.0010	<0.0010	<0.0010	NS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

UJ = Undetected, reporting limit is inaccurate or imprecise

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW39-S																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04 {Aug-04 confirmation}	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)					(DF = 1.67)														
Monochlorobenzene	<1.2	<1	<1	<1	<1.7	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<2.5	<2	<2	<1	<1.7	(0.43)	(0.90)	<1.0 {(0.40) JL}	**1.5**	**1.4**	**1.0**	(0.71)	<1.0	(0.64)	**1.1**	(0.51)	(0.93)	(0.65)	(0.36)
cis-1.2-Dichloroethene	<0.62	<0.5	<0.5	<0.5	<0.84	<0.50	<0.50	<0.50 {<0.50}	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.67**	**7.6**	**19**	**31**	**25**
trans-1.2-Dichloroethylene	<0.62	<0.5	<0.5	<0.5	<0.84	<0.50	<0.50	<0.50 {<0.50}	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1.1-Dichloroethylene	<1.2	<1	<1	<1	<1.7	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1.2	<1	<1	<1	<1.7	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0 UL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene	<1.2	<1	<1	<1	<1.7	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	**13**	**2.3**	**(1.8)**	**(0.8)**	**45**	**38 (DF = 2)**	**33 (DF = 1.43)**	**9.7 {24}**	**34**	**9.1**	**22**	**20 J**	**17**	**15**	**26 J**	**17**	**22**	**14**	**9.4**
Field Parameters																			
Temperature (deg. C)	10.9	19.7	8.6	17.0	13.6	8.68	12.58	10.74 {12.75}	12.98	10.48	10.90	11.55	11.52	11.07	12.05	11.49	11.37	10.97	11.06
Specific Conductance (µS/cm) *	500	470	280	480	700	411	483	376 {469}	457	496	490	548	520	561	599	589	449	656	585
Dissolved Oxygen (mg/L)§	0.1	*1.57*	*6.2*	*1.0*	*2.8***	0.17	0.47	0.34 {0.73}	0.48	0.41	0.0	0.5	0.4	0.43	0.57	0.49	0.22	0.36	0.45
pH (std. Units)	7.83	7.1	8.1	7.9	7.2	7.59	7.45	7.49 {7.34}	7.14	7.46	7.42	7.49	7.48	7.45	7.42	7.43	7.61	7.43	7.60
ORP (mV)§	1.38	*37*	*187*	*96*	*-100*	-56.8	-159	116 {-106}	-116.8	-106.2	-120.5	-104.2	-144.6	-82.7	-137.9	-116.4	-140.2	-62.2	-152.1
Turbidity (NTU)	4.0	60.2	21	0	2**	4.9	9.1	0.0 {0}	0.0	0.0	84.5	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Iron II (mg/L)	NS	NS	NS	NS	NS	1.5	3.2	0.0 {NS}	1.6	1.6	0.8	1.0	1.2	0.6	1.8	0.5	1.8	1.0	2.0
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon**	NS	NS	NS	NS	NS	2 JB	1 JB	1	<1	2	2	1	1	1	1	1	2	1	1
Chloride	NS	NS	NS	NS	NS	69.8	74.6	37.1	57.0	57.8	67.7	63.2	114	46.5	49.8	50.4	42	44.3	45.4
Nitrate	NS	NS	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	47.9	56.1	32.4	51.8	42.7	50.2	52.0	89.3	41.0	42.1	52.1	40.7	46.4	40.5
Total Alkalinity	NS	NS	NS	NS	NS	210	210	200	240	210	220	230	220	210	200	210	200	190	200
Total Sulfide	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	NS	NS	NS	NS	NS	11	10 J	5.1	9.4 J	6.9	8.8	8.2	6.4	6.9	8.4	7.8	9.3	13.9	12.3
Methane	NS	NS	NS	NS	NS	0.0033	0.0076	0.0012	0.0022 JB	<0.0010	0.0026	0.0022	0.0056	0.0011	0.002	0.0017	0.0033	0.0028	(0.00284)
Ethylene	NS	NS	NS	NS	NS	0.0016	0.0015	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	(0.000133)	(0.0000923)
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	1.0	1.5	0.92	1.1	0.94	1.5	1.6	1.1	1.9	1.5	1.1

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

JL = Estimated quantitation; possibly biased low based upon QC data

UL = Undetected, reporting limit possibly biased low based upon QC data

** Indicates that this data point was measured during a supplemental sampling event conducted in August 2002

* Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

** Prior to Feb-03, samples were analyzed for dissolved organic carbon

§ Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW43-S																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04 {Aug-04 confirmation}	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)																			
Monochlorobenzene	(0.6)	<1	<1	<1	<1	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<2	<2	<2	<1	<1	<1.0 J	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	(0.31)	<1.0	<1.0
cis-1,2-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50 {<0.50}	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50 {<0.50}	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	**8.4**	<2	<2	<1	**39**	**44 E**	**30**	**39 {34}**	**40**	**33**	**26**	**21**	**30**	**28**	**24**	**24**	**32**	**21**	**17**
Field Parameters																			
Temperature (deg. C)	10.5	14.0	8.6	8.5	12.6	10.32	12.16	10.3 {11.61}	12.03	11.2	10.79	12.34	11.38	10.9	12.61	11.06	10.54	10.34	10.64
Specific Conductance (µS/cm) [+]	290	320	220	300	120	664	198	187 {497}	459	472	381	417	442	444	444	475	320	555	460
Dissolved Oxygen (mg/L)[§]	1.4	*3.7*	*5.5*	*2.4*	*0.6*	0.08	0.55	1.45 {0.3}	0.28	0.31	0.0	0.50	0.38	0.78	0.71	0.49	0.38	0.29	0.31
pH (std. Units)	8.8	8.5	8.2	8.8	7.3	7.67	8.59	8.57 {7.52}	7.43	6.87	7.54	7.66	7.52	7.61	7.68	7.52	7.6	7.61	7.7
ORP (mV)[§]	179	*120*	*123*	*157*	*-88*	-60.3	268	87.7 {-92.9}	-77.6	-97.1	-63.3	-112.9	-128.2	-114.6	-108.7	-136.7	-101.6	-27.5	-121.8
Turbidity (NTU)	48	19	1	0	0	0.6	7.6	0 {2.1}	1.0	2.5	1.5	0.0	0.7	0.0	0.0	0.0	<1	0.0	0.0
Iron II (mg/L)	ND	ND	ND	NS	0.2	1.2	0	0 {NS}	1.2	0.9	0.3	1.0	1.0	1.0	0.8	1.0	0.3	1.0	1.0
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[**]	2	2	<1	<1	4	2 JB	1 JB	1	<1.0	2	2	2	1	1	1	1	2	1	1
Chloride	8.3	4.8	3.7	4.3	99.7	97.8 JB	32.3	64.5	54.4	36.8	36.2	38.6	29.1	30.0	19.0	33.4	23.0	27.7	27.9
Nitrate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	<0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	28.2	19.8	17.3	18.5	52.4	48.2 JB (DF = 5)	42.8	54.8	48.1	45.6	46.4	62.2	70.6	45.2	35.6	49.3	43.1	46.7	40.4
Total Alkalinity	190	130	120	120	210	220	140	210	200	180	180	180	170	170	150	160	150	160	150
Total Sulfide	<0.5	<1	<1	2.4	<1	<1.0	<1.0	<1.0	2.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	4.8	0.66	0.4	0.4	9.3	18	1.1 J	1.6	6.3 J	6.3	6.2	5.7	4.7	3.7	4.4	4.9	5.9	7.2	6.2
Methane	0.0016	<0.001	0.0011	0.001	0.0073	0.0090	0.0047	0.0041	0.0060	0.0047	0.0059	0.0067	0.0043	0.0056	0.0033	0.0071	0.0087	0.0148	(0.0079)
Ethylene	<0.001	<0.001	<0.001	<0.001	0.0029	0.0020	0.0015	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00064	(0.000431)
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	0.73	7.2	1	1.2	1.3	1.4	1.5	1.3	1.8	1.1	0.93

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in bold are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

ND = Analyte was not detected

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

E = Estimated result because concentration exceeds the calibration range.

UJ = Undetected, reporting limit is inaccurate or imprecise

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[**] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW45-S																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)																			
Monochlorobenzene	(0.18)	**0.31**	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.7**	<1.0	<1.0
Chloroethane	<2	<2	<2	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 JL	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 JL	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1	<1	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0
Trichloroethylene	(0.055)	<1	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<2	<2	<2	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Field Parameters																			
Temperature (deg. C)	11.2	16.4	6.80	11.3	14.1	8.06	13.44	10.29	13.15	11.7	11.68	11.34	12.67	10.96	12.19	11.76	12.37	11.52	12.91
Specific Conductance (µS/cm) [+]	950	910	410	600	120	654	487	476	531	622	551	674	549	706	754	783	849	870	740
Dissolved Oxygen (mg/L)[§]	0.1	*2.12*	*5.8*	*1.4*	*0.6*	0.05	1.16	0.32	0.42	0.42	0.0	0.71	0.52	0.37	0.51	0.51	3.57	0.25	2.02
pH (std. Units)	8.0	7.6	8.10	7.2	7.5	7.80	6.60	7.50	7.63	7.10	7.47	7.08	7.51	7.48	7.52	7.54	7.03	7.51	7.6
ORP (mV)[§]	-144	*-113*	*174*	*41*	*-133*	-93.7	-124	-48.0	-111	-119	-130	-81.1	-157.8	-91.8	-153.9	-139.1	-140.1	-109.1	-143.9
Turbidity (NTU)	447.0	23.7	15.0	16.0	4.0	0.8	38.1	52.8	8.1	2.0	9.1	1.1	1.3	0.0	0.0	0.0	0.0	0	0
Iron II (mg/L)	1.1	ND	ND	NS	0.1	1.2	1.4	0.4	1.0	0.9	1.2	0.8	1.8	1.0	1.4	1.5	1.0	1.0	1.8
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	31	5	2	1	5	3 JB	3	2	2	2	2	2	2	2	2	2	2	1	1
Chloride	171	151	121	112	98.6	85.9	78.7 JB	76.1	73.2	76	86.3	97.9	91.8	84.5	83.8	95.4	99.7	91.3	91.5
Nitrate	<0.5	<0.5 R	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	<0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	58.6	57.8	52.3	59.4	59.6	59.5	54.5 JB	53.9	56.0	50.9	55.9	74.3	89.9	60.0	60.9	62.0	64.4	61.8	58.7
Total Alkalinity	170	180	180	180	180	170	180	190	210	190	200	210	230	220	220	220	230	230	220
Total Sulfide	<0.5	<1	<1	3.2	<1	<1.0	<1.0	<1.0	<1.0	<1.0	2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	5.5	4	3.4	3.32	4.7	4.5	5.3 J	4.4	5.2	6.8	6.9	7.8	6.7	6.9	8.4	8.7	8.5	17	11
Methane	0.015	0.0062	0.0074	0.0059	0.0056	0.0055	0.0051	0.0034	0.0045	0.0052	0.0044	0.0072	0.0045	0.0047	0.0042	0.0044	0.0071	0.0083	0.00598
Ethylene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.000623	0.000558
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

R = Rejected data due to the testing of the sample outside of the required sample holding time.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

JL = Estimated quantitation; possibly biased low based upon QC data

UJ = Undetected, reporting limit is inaccurate or imprecise

ND = Analyte was not detected

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW47-S																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (ug/L)																			
Monochlorobenzene	<1	<1	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<2	<2	<2	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<0.5	(0.12)	<0.5	<0.5	<0.5	<0.5 JL	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 JL	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1	<1	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0
Trichloroethylene	<1	<1	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<2	<2	<2	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Field Parameters																			
Temperature (deg. C)	11.1	13.2	9.00	14.9	13.1	9.43	12.58	9.73	11.56	11.5	11.76	12.15	12.35	11.5	12.62	11.44	11.42	11.96	12.10
Specific Conductance (µS/cm)[+]	690	600	360	610	450	532	360	399	363	466	416	472	503	567	507	564	578	619	510
Dissolved Oxygen (mg/L)[§]	1.8	*3.6*	*5.1*	*2.0*	*1.05*	0.06	0.95	0.65	0.41	0.72	0.11	0.83	6.98	0.66	0.48	0.50	0.11	0.3	0.38
pH (std. Units)	11.92	9.2	9.60	10.3	7.54	9.02	7.76	8.44	9.04	7.65	8.58	8.7	8.51	8.32	7.62	7.62	7.58	7.87	7.72
ORP (mV)[§]	13	*77*	*180*	*39*	*-45.8*	102	140	-97.2	-103	-169	78.6	-106.5	-244.7	-181.7	-143.4	-137.7	-107.5	-100	-131.6
Turbidity (NTU)	0.0	10.5	3.0	4.0	99.8	2.0	2.4	2.4	7.4	8.9	17.5	0.0	0.0	0.0	0.0	0.0	1.0	0	0
Iron II (mg/L)	ND	ND	ND	ND	ND	<0.2	0.4	0.2	0.4	0.6	0.0	0.6	0.4	0.8	1.0	0.3	1.0	0.5	0.8
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	<1	<1	<1	<1	1	1 JB	<1	<1	<1	<1	1	<1	<1	1	<1	<1	<1	<1	<1
Chloride	96.5	98.8	132	13.8	42.3	72.8	51.4 JB	89.2	78.2	62.9	75.6	89.8	87.3	81.6	40.8	63.6	54.4	56.8	41.5
Nitrate	<0.5	<0.5 R	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	<0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	70.7	70.6	65.5	81.7	85.4	75.3	81.1 JB	75.1	76.6	67.1	66.8	88.1	104	65.0	68.4	68.4	72.0	65.8	68.7
Total Alkalinity	47	45	35	140	130	82	100	100	83	110	100	110	99	120	140	130	140	130	140
Total Sulfide	0.63	<1	<1	1.1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	0.3	0.34	<0.17	2.4	2.6	0.65	1.1 J	0.60	0.58 J	1.4	1.2	1.2	1.2	1.3	3.8	3.4	5.4	2.1	5.3
Methane	0.0025	0.003	0.0021	<0.00087	0.0017	0.0049	0.0016	0.0028	0.0026	0.0024	0.0048	0.0044	0.0037	0.0045	0.0017	0.0039	0.0052	0.0051	0.00367
Ethylene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

JL = Estimated quantitation; possibly biased low based upon QC data

R = Rejected data due to the testing of the sample outside of the required sample holding time.

ND = Analyte was not detected

UJ = Undetected, reporting limit is inaccurate or imprecise

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW49-S																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	04 {Aug-04 confirma	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)		(DF = 1.67)																	
Monochlorobenzene	<1	**1.8**	<1	<1	<1	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<2	<3.3	<2	<1	<1	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	(0.49)	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<0.5	<0.84	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50 {<0.50}	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.5	<0.84	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50 {<0.50}	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1.7	<1	<1	<1	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1	<1.7	<1	<1	<1	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene	<1	<1.7	<1	<1	<1	<1.0	<1.0	<1.0 {<1.0}	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<2	<3.3	<2	<1	<1	(0.53)	**1.6**	**3.3 {3.6}**	**4.9**	**5.1**	**8.1**	**9.8**	**21**	**17**	**16**	**16**	**22**	**14**	**11**
Field Parameters																			
Temperature (deg. C)	11.6	20.2	6.59	11.8	15.59	10.25	14.75	11.22 {13.47}	12.26	12.6	11.95	12.92	13.25	12.69	14.42	12.31	13.40	12.09	12.07
Specific Conductance (µS/cm) [+]	780	710	310	470	110	547	503	548 {608}	580	710	578	632	758	794	813	796	642	869	804
Dissolved Oxygen (mg/L)[§]	0.0	*2.79*	*4.9*	*1.1*	*0.7*	0.32	1.15	0.27 {0.49}	0.31	0.37	0.31	0.35	0.42	0.38	0.56	0.47	0.33	0.37	0.71
pH (std. Units)	7.82	7.6	8.10	7.3	7.46	7.65	5.40	7.47 {7.39}	7.53	6.99	7.56	7.59	7.49	7.48	7.51	7.45	7.52	7.49	7.64
ORP (mV)[§]	-112	*-60*	*62*	*0*	*-108*	-106	-105	-63.7 {-105}	-120	-88.4	-110	123.1	-164.8	-145.6	-156.5	-144	-157.2	-105.2	-142.8
Turbidity (NTU)	18.1	28	6	34	41.0	0.9	0	0.5 {27.8}	2.4	4.9	5.8	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Iron II (mg/L)	NS	NS	NS	NS	NS	1.0	1.4	1 {NS}	1.2	1.1	1.4	1.2	1.4	1.0	1.4	0.5	0.8	1.4	1.8
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	NS	NS	NS	NS	NS	1 JB	1 JB	1	1	1	1	1	2	1	1	1	1	1	1
Chloride	NS	NS	NS	NS	NS	86.4	87.4 JB	106	101	101	104	102	44	114	103	103	110	111	102
Nitrate	NS	NS	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	<0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	43.6 (DF = 2)	47.7 JB	52.9	56.6	49.8	52.1	72.6	53.9	69.5	71.7	72.4	72.9	78.1	78.8
Total Alkalinity	NS	NS	NS	NS	NS	150	160	190	200	200	200	200	200	210	200	210	190	200	200
Total Sulfide	NS	NS	NS	NS	NS	<1.0	2.8	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	NS	NS	NS	NS	NS	4.4	4.9 J	4.5	5.7	7.3	6.5	7.4	8.1	5.9	6.9	7.2	8.6	13	11
Methane	NS	NS	NS	NS	NS	0.0051	0.0026	0.0028	0.0039	0.0052	0.0060	0.0047	0.002	0.0063	0.005	0.005	0.0085	0.0120	0.0068
Ethylene	NS	NS	NS	NS	NS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	(0.000443)	(0.000319)
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	0.76	7.8	0.83	1.2	1.3	1.6	1.4	0.9	1.8	1.1	0.63

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

UJ = Undetected, reporting limit is inaccurate or imprecise

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW50-S																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (ug/L)																			
Monochlorobenzene	<1	<1 *	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<2	<2 *	<2	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<0.5	<0.5 *	<0.5	<0.5	<0.5	<0.5 JL	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.5	<0.5 *	<0.5	<0.5	<0.5	<0.5 JL	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1	<1	(0.69)	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1	<1	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0
Trichloroethylene	<1	<1 *	<1	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<2	<2 *	<2	<1	<1	<1.0 JL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Field Parameters																			
Temperature (deg. C)	11.2	16.0	7.00	16.5	12.78	7.87	13.67	11.10	12.07	12.2	11.68	12.43	12.50	12.30	13.52	11.51	12.29	12.58	12.12
Specific Conductance (µS/cm)[+]	530	560	310	540	560	728	556	601	633	722	638	705	696	688	690	691	705	741	667
Dissolved Oxygen (mg/L)[§]	0.2	*2.2*	*6.8*	*2.3*	*2.28*	0.04	0.98	0.25	0.24	0.48	0.0	0.57	5.90	0.69	0.79	0.80	0.23	0.29	0.79
pH (std. Units)	8.16	7.4	7.50	7.1	7.13	7.29	5.16	7.12	7.16	7.01	7.27	6.30	7.34	7.40	7.43	7.45	7.50	7.5	7.36
ORP (mV)[§]	66	*92*	*131*	*78*	*-39.4*	51.7	36.2	46.2	-33.9	-46.8	11.6	-7.0	-89.6	-45.2	-49.9	-51.8	-32.1	-42.1	-49.1
Turbidity (NTU)	15	87	5	59	0.0	1.0	150.0	0.9	7.9	46.5	1.5	29.8	0.0	1.4	0.0	0.0	0.0	0	0
Iron II (mg/L)	ND	ND	0.5	0.5	0.2	0.8	NS	0.7	0.8	0.7	0.3	1.0	1.0	0.2	0.3	0.2	0.3	0.2	0.2
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	1	2	<1	<1	1	2 JB	2	2	2	2	2	2	3	2	2	2	2	2	1
Chloride	21	29.9	26.5	42.9	96.5	140	147 JB	160	181	167	173	171	<1.0	121	99.1	95.2	98.8	98.5	91.9
Nitrate	<0.5	<0.5 R	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	76.6	78.8	77.8	80.6	76	75.4	71.7 JB	71.4	75.7	59.8	65.8	86.9	<1.0	57.5	61.8	60.6	58.4	54.1	65.0
Total Alkalinity	150	140	150	150	130	110	100	120	140	110	130	140	130	150	150	160	160	160	160
Total Sulfide	0.63	<1	<1	<1	<1	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	5.8	4.1	4.9	3.77	4.5	5.8	5.1 J	4.9	5.9 J	5.7	7.1	6.6	7.3	5.3	6.5	7.0	7.8	9.0	10.3
Methane	0.0043	0.0048	<0.001	0.0011	0.0033	0.0070	0.0036	0.0010	0.0062	0.0072	0.0093	0.0073	0.0078	0.0069	0.0042	0.0058	0.012	0.013	0.00913
Ethylene	<0.001	<0.001	<0.001	<0.001	<0.001	0.0045	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

ND = Analyte was not detected

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

JL = Estimated quantitation; possibly biased low based upon QC data

R = Rejected data due to the testing of the sample outside of the required sample holding time.

UJ = Undetected, reporting limit is inaccurate or imprecise

* samples collected on 12/11/00

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW54-S							
Date Sampled	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (ug/L)								
Monochlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0
Trichloroethylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Field Parameters								
Temperature (deg. C)	13.11	12.30	12.02	13.38	11.34	12.77	12.86	13.02
Specific Conductance (µS/cm)	618	715	708	822	777	847	845	721
Dissolved Oxygen (mg/L)	1.14	0.29	2.35	0.57	1.19	0.14	1.47	5.4
pH (std. Units)	4.67	7.75	7.68	7.81	7.64	7.63	7.82	7.96
ORP (mV)	273	-189	-100.3	-173.2	-129.0	-100.1	-100.1	-157.8
Turbidity (NTU)	4.3	2.1	0.0	0.0	0.0	0.0	0.0	0.0
Iron II (mg/L)	0.0	1.2	0.8	1.2	0.2	1.0	0.8	1.2
Geochemical Natural Attenuation Parameters (mg/L)								
Total Organic Carbon	1	2	<1	1	<1	1	<1	<1
Chloride	142	50.1	131	144	135	161	144	145
Nitrate	<0.50 UJ	2.5	<0.50	<0.5	<0.5	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	62.5	50.3	47.8	53.1	52.3	55.7	53.6	56.0
Total Alkalinity	140	130	140	150	140	150	140	150
Total Sulfide	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS
Carbon Dioxide	4.2	3	2.5	2.9	2.9	3.8	4.2	4.2
Methane	0.027	0.021	0.020	0.020	0.023	0.038	0.0338	0.0339
Ethylene	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	0.0000637 J
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.
NS = Not sampled for this parameter.
UJ = Undetected, reporting limit is inaccurate or imprecise

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	PW03																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)	(DF=10)	(DF=100)	(DF=10)	(DF=100)	(DF=33.33)		(DF=7.14)		(DF=6.2)		(DF=3.33)	(DF = 4)			(DF = 10)		(DF=7.69)		(DF=5.56)
Monochlorobenzene	**37**	**1300**	(6.6)	**3000**	(28)	**4.7**	**1300** (DF=71)	(0.37)	**1000** (DF=62)	(0.25)	**2300** (DF=33)	**1300** (DF=40)	**10**	**22**	**2600** (DF=100)	**3.0**	**1600** (DF=77)	<1.0	**940** (DF=56)
Chloroethane	<20	<200	<20	<100	<33	<1.0	<7.1	<1.0	<6.2	<1.0	<3.3	< 4.0 UL	<1.0	<1.0 UJ	< 10	<1.0	<7.7	<1.0	<5.6 UJ
cis-1,2-Dichloroethene	**280**	**2700**	**290**	**3200**	**870**	**210** (DF=8)	**2200** (DF=71)	**11**	**1600** (DF=62)	**6.6**	**1900** (DF=33)	**880** (DF=40)	**35**	**230** (DF=8)	**2300** (DF=100)	**35**	**2800** (DF=77)	**2.2**	**1700** (DF=56)
trans-1,2-Dichloroethylene	**10**	**80**	**9.3**	**150**	**61**	**18**	**280** (DF=71)	**1.3**	**220**	**0.77**	**310**	**130**	**9.9**	**65** (DF=8)	**710** (DF=100)	**13**	**1100** (DF=77)	**0.64**	**870** (DF=56)
1,1-Dichloroethylene	(1.2)	<100	<10	(42)	<33	**2.0**	**10**	<1.0	**10**	<1.0	**11**	(3.1)	(0.28)	**1.0**	(9.4)	<1.0	**11**	<1.0	(5.0)
Tetrachloroethylene	<10	<100	<10	<100	<33	<1.0	<7.1	<1.0	<6.2	<1.0	<3.3	< 4.0 UL	<1.0	<1.0	< 10	<1.0	<7.7	<1.0	<5.6
Trichloroethylene	**54**	**890**	**66**	**600**	(6.2)	**33**	**210** (DF=71)	**2.4**	**440** (DF=62)	**1.6**	**230**	**100**	**5.7**	**29**	**270**	**2.0**	**330** (DF=77)	(0.38)	**77**
Vinyl Chloride	**9.4**	**260**	**22**	**710**	**210**	**4.8**	**470** (DF=71)	(0.93)	**300** (DF=62)	(0.87)	**430** (DF=33)	**130** J	**1.8**	**2.5**	**260**	**5.3**	**270**	(0.36)	**190**
Field Parameters																			
Temperature (deg. C)	10.7	15	10.12	14.9	12.67	5.26	13.85	12.12	14.2	10.29	9.34	12.09	12.62	11.9	12.96	11.01	12.07	11.19	12.38
Specific Conductance (µS/cm) *	560	750	380	570	900	385	702	311	684	347	555	718	479	550	886	480	723	1287	883
Dissolved Oxygen (mg/L)[§]	1.9	*1.76*	*6.5*	*1.7*	*1.1*	4.16	0.55	3.05	0.70	2.30	0.38	0.46	3.7	2.71	0.63	1.32	0.48	4.41	0.76
pH (std. Units)	8.43	7.5	7.80	8.4	6.92	8.23	6.44	8.03	7.24	8.19	7.26	7.48	8.11	8.03	7.13	8.05	7.08	8.24	7.21
ORP (mV)[§]	182	*-57*	*208*	*93*	*-38*	135	6.8	121	-75.8	-64.5	-51.4	-51.1	-83	69.4	-81.6	139.9	-64.6	188.3	-62.4
Turbidity (NTU)	3.8	0.0	26.0	45	0.0	0.0	7.5	1.1	0.0	0.0	16.9	0.0	1.6	0.0	4.7	0.0	0.0	0.0	0.0
Iron II (mg/L)	NS	NS	NS	NS	NS	NS	0.0	0.0	0.6	0.0	1.0	0.8	0.2	0.0	1.2	0.0	1.0	0.6	1.2
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon**	NS	NS	NS	NS	NS	4	3	3	2	3	4	4	5	4	4	2 J	3	3	3
Chloride	NS	NS	NS	NS	NS	14.6 JB	118	6.7	70.9	7.2	69.1	67.7	2.6	16.5	66.2	13.4	69.2	10.4	61.9
Nitrate	NS	NS	NS	NS	NS	0.82	<0.50	0.56	<0.50	<0.50	<0.50	<0.50	0.53	0.90	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	0.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	46.1	104	26.5	86.0	20.2	108	97.4	24.7	24.3	97.3	31.4	121	20.2	104
Total Alkalinity	NS	NS	NS	NS	NS	220	250	210	280	200	260	290	270	250	280	210	290	200	300
Total Sulfide	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	NS	NS	NS	NS	NS	2.0	16 J	1.7	13	1.9	16	11	2.2	2.9	19	1.7	25	26	35
Methane	NS	NS	NS	NS	NS	<0.0010	0.0026	<0.0010	0.0067	<0.0010	0.0028	0.0060	<0.0010	<0.0010	0.0032	<0.0010	0.0092	<0.0005	0.0114
Ethylene	NS	NS	NS	NS	NS	<0.0010	0.022	<0.0010	0.0075	<0.0010	0.0064	0.0064	<0.0010	<0.0010	<0.0010	<0.011	0.011	<0.0005	0.00881
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	1.5	2.3	1.6	0.81	1.5	10	1.3	1.5	1.4	1.6	0.81	1.6	2.5 J	1.1

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

UL = Undetected, reporting limit possibly biased low based upon QC data

UJ = Undetected, reporting limit is inaccurate or imprecise

* Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

** Prior to Feb-03, samples were analyzed for dissolved organic carbon

§ Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	PW04																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)																			
Monochlorobenzene	**1.2**	(0.62)	<1	(0.31)	<1	<1.0	**2.8**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	**7.8**	(0.85)	<2	(0.7)	<1	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	**1.2**	(0.26)	<0.5	<0.5	<0.5	<0.5	**4.8**	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	(0.36)	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0
Trichloroethylene	(0.18)	**1.3**	(0.58)	(0.73)	(0.69)	<1.0	(0.93)	(0.34)	(0.40)	(0.40)	(0.39)	(0.28)	(0.53)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	**38**	(1.8)	<2	**15**	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0
Field Parameters																			
Temperature (deg. C)	10.9	15.9	5.90	15.5	14.18	9.88	12.30	10.48	12.69	11.99	13.00	11.88	13.87	12.29	12.79	10.72	11.83	9.43	11.82
Specific Conductance (µS/cm)*	580	1010	360	760	900	608	458	432	491	478	498	574	519	619	585	556	403	773	605
Dissolved Oxygen (mg/L)§	3.1	*5.5*	*8.8*	*5.4*	*4.29*	0.63	0.88	*10.17*	0.56	8.96	9.49	8.34	8.85	9.76	0.61	9.61	8.14	9.92	8
pH (std. Units)	8.3	8.2	7.30	8.1	7.8	7.62	7.58	7.44	7.89	7.08	7.82	6.2	7.57	7.9	7.99	7.73	7.87	7.63	8.21
ORP (mV)§	223	*120*	*139*	*93*	*110*	195	340	119	20.4	70.9	315	594.6	-37.4	105.4	-25.2	36.7	125.8	48.9	94.8
Turbidity (NTU)	0.0	0.0	6.0	5.0	0.0	7.4	8.4	6.7	0.0	3.0	20.2	1.7	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Iron II (mg/L)	NS	NS	NS	NS	NS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon++	NS	NS	NS	NS	NS	8	8	9	8	6	7	4	7	7	6	4	6	4	7
Chloride	NS	NS	NS	NS	NS	19.7	9.8	11.5	20.3	33.7	10.4	41.2	15	26.4	25.6	26.3	9.6	48.5	21.3
Nitrate	NS	NS	NS	NS	NS	0.87	0.85	0.62	0.68	0.73	<0.50	2.5	<5.0	1.2	1	0.5	1.40	1.7	1.0
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	<0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	58.5 (DF = 5)	38.5	31.3	32.0	22.1	49.1	36.7	56.1	18.9	23.9	22.3	17.5	19.6	35.7
Total Alkalinity	NS	NS	NS	NS	NS	300	300	300	290	240	310	250	360	280	250	250	280	260	280
Total Sulfide	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	1.1	<1.0	2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7
Carbon Dioxide	NS	NS	NS	NS	NS	8.4	4.8 J	7.8	4.2 J	4.3	4.2	3.8	7.9	4.0	2.9	3.8	3.5	13	3.5
Methane	NS	NS	NS	NS	NS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Ethylene	NS	NS	NS	NS	NS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0005
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

UJ = Undetected, reporting limit is inaccurate or imprecise

* Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

++ Prior to Feb-03, samples were analyzed for dissolved organic carbon

§ Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	PW05																		
Date Sampled	Mar-00	9/1/2000[#]	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)																			
Monochlorobenzene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<2	<2	<2	(0.6)	(0.41)	**1.1** J	(0.74)	(0.44)	**1.3**	(0.70) JH	<1.0	<1.0	(0.75)	(0.38) J	(0.56)	<1.0	(0.56)	<1.0	<1.0
cis-1,2-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0
Trichloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<2	<2	<2	**38**	(0.5)	**25**	**1.8**	(0.63)	**12**	**2.1**	**9.0**	**1.9**	**22**	**4.2**	**18**	**1.5**	**21**	**2.3**	**13**
Field Parameters																			
Temperature (deg. C)	11	15.6	7.50	17.4	13.73	8.84	14.90	11.28	13.28	11.95	11.91	12.05	12.55	11.72	12.77	11.68	12.60	10.79	12.31
Specific Conductance (µS/cm)[*]	770	1010	490	490	110	595	518	482	551	**552**	530	614	596	588	685	651	547	793	743
Dissolved Oxygen (mg/L)[§]	6.50	*1.54*	*5.6*	*5.9*	*1.6*	0.1	0.84	0.58	0.47	0.45	0.0	0.59	-	0.68	0.63	0.82	0.49	0.47	0.43
pH (std. Units)	7.19	7.8	7.50	7.4	7.4	7.57	4.20	7.48	7.49	7.14	7.21	6.99	7.42	7.67	7.35	7.69	7.28	7.62	7.50
ORP (mV)[§]	201	*116*	*175*	*162*	*156*	34.4	262	89.4	-78.1	-80.2	-157	-51.4	-172.8	-138	-125.6	-87.5	-130.9	-21.6	-148.8
Turbidity (NTU)	27.0	1.5	6.0	22.0	0.0	0.2	0	4.4	0.0	6.8	13.3	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iron II (mg/L)	ND	ND	ND	NS	ND	0	0	0	1.0	0.2	4.0	0.6	3.2	0.8	1.6	0.0	2.0	0.4	1.8
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[++]	16	9	7	<1	9	2 JB	2	2	<1	1	2	1	<1	1	1	1	1	1	<1
Chloride	23.9	15.2	27.9	43.1	37.2	30.3 JB (DF = 5)	33.7 JB	32.3	32.9	36.6	38.3	42.5	47.2	39.6	49.5	50.4	68.7	61.5	77.5
Nitrate	<0.5	<0.5 R	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	153	76.8	76.6	71.7	57.9	65.5 JB (DF = 5)	68.6 JB	64.9	76.0	67.8	68.8	80.9	96.6	51.8	59.5	52.4	60.0	51.4	54.9
Total Alkalinity	370	450	340	260	270	250	260	260	270	240	250	240	240	230	240	240	240	230	240
Total Sulfide	<0.5	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5
Carbon Dioxide	24	15	7.1	6.86	7.5	12	8.1 J	5.8	12	7.3	15	7.4	10	4.7	11	6.4	15	11	16
Methane	0.002	0.001	0.004	0.001	0.0021	0.0027	0.0016	0.0010	0.0014	<0.0010	0.0035	0.0017	0.007	<0.0010	0.0034	0.0012	0.013	0.001	0.0132
Ethylene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	(0.000111)
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit.

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

R = Rejected data due to the testing of the sample outside of the required sample holding time.

JH = Estimated quantitation; possibly biased high based upon QC data

UJ = Undetected, reporting limit is inaccurate or imprecise

[*] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[++] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

[#] Values given reflect the greater of the original field sample or the duplicate

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-2
VOC SUMMARY, FIELD MEASUREMENTS, AND GEOCHEMICAL NATURAL ATTENUATION PARAMETERS
OLIN BIG D CAMPGROUND SITE

Sample Location	PW08																		
Date Sampled	Mar-00	Sep-00	Mar-01	Sept/Oct-01	Jun-02	Feb-03	Aug-03	Apr-04	Oct-04	May-05	Nov-05	May-06	Oct-06	May-07	Oct-07	Apr/May-08	Nov-08	April/May-09	Oct-09
VOCs (µg/L)																			
Monochlorobenzene	(0.096)	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<2	<2	<2	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	**5.3**	(0.18)	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	(0.092)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0	<1.0
Trichloroethylene	(0.91)	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	**5.5**	<2	<2	<1	(0.71)	(0.61)	(0.59)	(0.60)	<1.0	<1.0	**1.2**	**2.0**	<1.0	<1.0	**2.9**	**1.4**	**5.9**	**2.2**	<1.0
Field Parameters																			
Temperature (deg. C)	11.7	15.0	8.5	14.2	13.98	9.24	14.51	11.10	13.79	12.09	11.89	11.87	12.78	12.02	12.96	12.89	13.45	11.32	12.95
Specific Conductance (µS/cm)[+]	690	690	430	640	110	597	540	515	609	472	523	535	634	495	680	654	581	803	741
Dissolved Oxygen (mg/L)[§]	0.80	*4.8*	*1.7*	*0.4*	*1.15*	0.10	1.66	1.51	2.70	4.62	1.70	3.56	5.19	5.66	1.22	3.86	1.58	3.25	2.85
pH (std. Units)	7.72	7.7	7.6	7.7	7.47	7.63	6.81	7.67	7.76	7.75	7.65	7.19	7.66	7.96	7.66	7.86	7.69	7.87	7.8
ORP (mV)[§]	51	*56*	*148*	*45*	*24.8*	-28.6	198	83.3	91.7	-27.4	327	622.2	162.5	60.4	117.5	-3	139.8	128.0	66.6
Turbidity (NTU)	0.0	1.3	2.0	0.0	0.0	2.2	2.8	0.5	0.0	0.0	24.1	2.8	0.0	5.1	0.0	0.0	0.0	0.0	0.0
Iron II (mg/L)	NS	NS	NS	NS	NS	0.4	0.0	0.0	0.0	0.1	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Geochemical Natural Attenuation Parameters (mg/L)																			
Total Organic Carbon[+*]	NS	NS	NS	NS	NS	1 JB	1 JB	1	<1	1	2	1	2	2	2	1	1	1	1
Chloride	NS	NS	NS	NS	NS	75.8	85.5 JB	86.2	97.4	45.9	57.2	61.7	73.6	51.5	61.7	56.3	82.3	70	65.8
Nitrate	NS	NS	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ammonia Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	<0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	51.3 (DF = 2)	47.5 JB	46.2	47.3	41.4	48.5	65.2	64.5	26.3	53.2	50.6	60.4	56.0	48.1
Total Alkalinity	NS	NS	NS	NS	NS	210	220	210	220	180	220	210	230	180	220	220	240	220	270
Total Sulfide	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Dioxide	NS	NS	NS	NS	NS	5.4	4.3 J	3.0	3.6	4.3	4.8	4.5	4.2	2.0	5	3.6	5.9	6.1	7.3
Methane	NS	NS	NS	NS	NS	<0.0010	<0.0010	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.000584	0.000726
Ethylene	NS	NS	NS	NS	NS	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	(0.000360)	<0.0005
Hydrogen (nmol/L)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

VOC Concentrations in bold are those that were detected at concentrations greater than the reporting limit.

( ) = VOC result is less than the laboratory reporting limit, but greater than the instrument detection limit .

DF = Dilution Factor used to allow values to come within calibration range of the instrument.

NS = Not sampled for this parameter.

J = Estimated quantitation based upon QC data

JB = Estimated quantitation; possibly biased high or false positive based upon blank data

UJ = Undetected, reporting limit is inaccurate or imprecise

[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.

[+*] Prior to Feb-03, samples were analyzed for dissolved organic carbon

[§] Numbers in *italics* represent anomalous data; see attached explanation

Prepared/Date: KPW 01/24/2010
Checked/Date: LRP 01/28/2010

TABLE 2-3
VOC SUMMARY AND FIELD MEASUREMENTS
OVERBANK WELLS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW07-SR								MW07-DR							
Date Sampled	Sep-00	Sept/Oct-01	Oct-04	Nov-05	Oct-06	Oct-07	Nov-08	Oct-09	Sep-00	Sept/Oct-01	Oct-04	Nov-05	Oct-06	Oct-07	Nov-08	Oct-09
VOCs (ug/L)	(DF = 50)	(DF = 76.92	**DRY**	(DF=14.28)	(DF=4)	(DF=14.29)	(DF=3.33)	(DF=4)	**DRY**	(DF = 1.67)						
Monochlorobenzene	**1800**	**2400**	NS	**890**	**920** (DF=40)	**5200** (DF = 142.86)	**1200** (DF=33.33)	**1200** (DF=40)	NS	**34**	<1.0	(0.27)	(0.37)	(0.43)	**13**	(0.22)
Chloroethane	<100	<77.0	NS	<14	<4.0	<14	<3.3	<4.0	NS	<1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<25	<38.0	NS	<7.1	(1.2)	<7.1	(1.2)	(1.3)	NS	**1.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<25	<38.0	NS	<7.1	<2.0	<7.1	<1.7	<4.0	NS	<0.84	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<50	<77.0	NS	<14	<4.0	<14	<3.3	<4.0	NS	<1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	<50	<77.0	NS	<14	<4.0	<14	<3.3	<4.0	NS	<1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene	<50	<77.0	NS	<14	<4.0	<14	<3.3	<4.0	NS	(1.2)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<100	<77.0	NS	<14	<4.0	<14	<3.3	<4.0	NS	<1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Field Parameters																
Temperature (deg. C)	15.6	16.5	NS	13.18	16.16	16.07	13.94	14.73	NS	11.9	14.67	12.29	NS	14.85	12.99	12.90
Specific Conductance (µS/cm) [+]	930	230	NS	530	687	2525	985	1790	NS	560	5152	1533	NS	4613	4704	4628
Dissolved Oxygen (mg/L) [§]	*2.61*	*2.4*	NS	0.53	-	2.42	3.67	4.8	NS	*7.0*	1.45	1.05	NS	0.85	2.39	5.70
pH (std. Units)	6.8	6.1	NS	6.43	6.26	6.29	6.47	6.44	NS	6.4	6.15	7.02	NS	6.14	6.20	5.88
ORP (mV) [§]	*-24*	*3*	NS	-28.7	-58.3	-44.9	-34.2	-28.6	NS	*46*	129.8	-11.2	NS	32.6	64.5	141.6
Turbidity (NTU)	86	94	NS	21.1	0.0	23.2	<1	0	NS	21	16.1	5.0	NS	0.0	1.8	0.0
Iron II (mg/L)	NS	NS	NS	NS	0.2	NS	4.4	12.5	NS	NS	NS	NS	NS	NS	3.6	0.2

Note:
<1.0 = Analyte was not detected, value listed is the reporting limit.
DF = Dilution Factor used to allow values to come within calibration range of the instrument.
NS = Not sampled for this parameter.
(3.3) = Result is less than the laboratory reporting limit, but greater than the instrument detection limit.
[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.
[§] Numbers in *italics* represent anomalous data; see explanation attached to Table 2-2
VOC Concentrations in **bold** are those that were detected at concentrations greater than the reporting limit.
DRY - Well was dry for the indicated sampling event
- Data were taken, but instrument was clearly malfunctioning; repairs were completed

Prepared/Date: LRP 01/06/2010
Checked/Date: MLR 01/07/2010

TABLE 2-3
VOC SUMMARY AND FIELD MEASUREMENTS
OVERBANK WELLS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW52-S								MW52-D							
Date Sampled	Sep-00	Sept/Oct-01	Oct-04	Nov-05	Oct-06	Oct-07	Nov-08	Oct-09	Sep-00	Sept/Oct-01	Oct-04	Nov-05	Oct-06	Oct-07	Nov-08	Oct-09
VOCs (ug/L)	**DRY**	**DRY**	**DRY**	(DF=10)		**DRY**	**DRY**	**DRY**	(DF = 25)	**DRY**	(DF = 50)	(DF=10)	(DF = 33.33)	(DF = 33.33)	(DF=41.67)	(DF 25)
Monochlorobenzene	**NS**	**NS**	**NS**	**4900** (DF=100)	**890** (DF=28.57)	**NS**	**NS**	**NS**	**660**	**NS**	**12000** (DF = 500)	**7700** (DF=100)	**11000** (DF 333.33)	**11000** (DF=333.33)	**12000** (DF=416.67)	**6700** (DF 250)
Chloroethane	**NS**	**NS**	**NS**	<10	<1.0	**NS**	**NS**	**NS**	<50	**NS**	<50	<10	<33	<33	<42	<25
cis-1,2-Dichloroethene	**NS**	**NS**	**NS**	<5.0	<0.50	**NS**	**NS**	**NS**	<12	**NS**	<25	<5.0	<17	<17	<21	<25
trans-1,2-Dichloroethylene	**NS**	**NS**	**NS**	<5.0	<0.50	**NS**	**NS**	**NS**	<12	**NS**	<25	<5.0	<17	<17	<21	<25
1,1-Dichloroethylene	**NS**	**NS**	**NS**	<10	<1.0	**NS**	**NS**	**NS**	<25	**NS**	<50	<10	<33	<33	<42	<25
Tetrachloroethylene	**NS**	**NS**	**NS**	<10	(0.71)	**NS**	**NS**	**NS**	<25	**NS**	<50	<10	<33	<33	<42 UJ	<25
Trichloroethylene	**NS**	**NS**	**NS**	<10	<1.0	**NS**	**NS**	**NS**	<25	**NS**	<50	<10	<33	<33	<42	<25
Vinyl Chloride	**NS**	**NS**	**NS**	<10	<1.0	**NS**	**NS**	**NS**	<50	**NS**	<50	<10	<33	<33	<42	<25
Field Parameters																
Temperature (deg. C)	**NS**	**NS**	**NS**	13.34	16.51	**NS**	**NS**	**NS**	18.0	**NS**	14.07	13.06	14.61	16.14	13.32	13.46
Specific Conductance (µS/cm)*	**NS**	**NS**	**NS**	1030	587	**NS**	**NS**	**NS**	2800	**NS**	1512	2941	3419	3812	3976	3448
Dissolved Oxygen (mg/L)†	**NS**	**NS**	**NS**	1.05	-	**NS**	**NS**	**NS**	*0.97*	**NS**	1.35	1.20	-	2.66	4.60	5.08
pH (std. Units)	**NS**	**NS**	**NS**	6.29	6.16	**NS**	**NS**	**NS**	7.5	**NS**	6.33	6.45	6.3	6.5	6.24	6.59
ORP (mV)†	**NS**	**NS**	**NS**	-20	81.1	**NS**	**NS**	**NS**	*-19*	**NS**	-25.4	-49.1	-67.1	-29.1	-33.8	2.4
Turbidity (NTU)	**NS**	**NS**	**NS**	50.1	0.0	**NS**	**NS**	**NS**	59	**NS**	51.5	11.3	44.7	27.7	27.6	28.4
Iron II (mg/L)	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	0.1	2.5

Note:
< 1.0 = Analyte was not detected, value listed is the reporting limit.
DF = Dilution Factor used to allow values to come within calibration range of the instrument.
NS = Not sampled for this parameter.
(3.3) = Result is less than the laboratory reporting limit, but greater than the instrument detection limit.
* Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.
† **Numbers in *Italics* represent anomalous data; see explanation attached to Table 2-2**
VOC Concentrations in bold are those that were detected at concentrations greater than the reporting limit.
DRY - Well was dry for the indicated sampling event
- Data were taken, but instrument was clearly malfunctioning; repairs were completed

Prepared/Date: LRP 01/06/2010
Checked/Date: MLR 01/07/2010

TABLE 2-3
VOC SUMMARY AND FIELD MEASUREMENTS
OVERBANK WELLS
OLIN BIG D CAMPGROUND SITE

Sample Location	MW53-S								MW53-D							
Date Sampled	Sep-00	Sept/Oct-01	Oct-04	Nov-05	Oct-06	Oct-07	Nov-08	Oct-09	Sep-00	Sept/Oct-01	Oct-04	Nov-05	Oct-06	Oct-07	Nov-08	Oct-09
VOCs (ug/L)	**DRY**	**DRY**	**DRY**	**DRY**		**DRY**	**DRY**	**DRY**		**DRY**						
Monochlorobenzene	NS	NS	NS	NS	**1.1**	NS	NS	NS	(0.29)	NS	(0.4)	**1.1**	(0.37)	(0.83)	(0.83)	(0.54)
Chloroethane	NS	NS	NS	NS	<1.0	NS	NS	NS	<2	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	NS	NS	NS	NS	**1.3**	NS	NS	NS	(0.27)	NS	**0.52**	**0.64**	(0.26)	(0.25)	(0.35)	<1.0
trans-1,2-Dichloroethylene	NS	NS	NS	NS	<0.50	NS	NS	NS	<0.5	NS	<0.5	<0.50	<0.50	<0.50	<0.50	<1.0
1,1-Dichloroethylene	NS	NS	NS	NS	<1.0	NS	NS	NS	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	NS	NS	NS	NS	**4.2**	NS	NS	NS	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0 UJ	<1.0
Trichloroethylene	NS	NS	NS	NS	**5.6**	NS	NS	NS	<1	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	NS	NS	NS	NS	<1.0	NS	NS	NS	<2	NS	<1.0	<1.0	<1.0	<1.0	(0.29)	<1.0
Field Parameters																
Temperature (deg. C)	NS	NS	NS	NS	17.21	NS	NS	NS	16.8	NS	14.96	13.12	14.93	14.02	14.27	12.68
Specific Conductance (µS/cm)[+]	NS	NS	NS	NS	890	NS	NS	NS	1030	NS	3198	3533	4350	4763	4689	4894
Dissolved Oxygen (mg/L)[ǂ]	NS	NS	NS	NS	9.26	NS	NS	NS	*1.29*	NS	1.38	1.55	-	0.41	2.58	4.58
pH (std. Units)	NS	NS	NS	NS	6.19	NS	NS	NS	7.3	NS	6.73	6.79	6.66	6.80	6.53	6.89
ORP (mV)[ǂ]	NS	NS	NS	NS	40.1	NS	NS	NS	*-105*	NS	-92.7	-137.9	-154.4	-87.2	-140.2	-109.6
Turbidity (NTU)	NS	NS	NS	NS	0.0	NS	NS	NS	34	NS	12.1	0.8	0.0	0.0	<1	0.0
Iron II (mg/L)	NS	NS	NS	NS	0.8	NS	NS	NS	NS	NS	NS	NS	2.5	NS	1.6	1.8

Note:
<1.0 = Analyte was not detected, value listed is the reporting limit.
DF = Dilution Factor used to allow values to come within calibration range of the instrument.
NS = Not sampled for this parameter.
(3.3) = Result is less than the laboratory reporting limit, but greater than the instrument detection limit.
[+] Measurements of specific conductivity for Feb-03 and Aug-03 were revised from that initially recorded. They were revised to reflect the appropriate units of µS/cm.
[ǂ] Numbers in *italics* represent anomalous data; see explanation attached to Table 2-2
VOC Concentrations in bold are those that were detected at concentrations greater than the reporting limit.
DRY - Well was dry for the indicated sampling event
- Data were taken, but instrument was clearly malfunctioning; repairs were completed

Prepared/Date: LRJ 01/06/2010
Checked/Date: MLR 01/07/2010

TABLE 2-4
VOC SUMMARY
SURFACE WATER
OLIN BIG D CAMPGROUND SITE

Sample Location	SW01								SW02								SW03							
Date Sampled	Sep-00	Sept/Oct-01	Oct-04	Nov-05	Oct-06	Oct-07	Nov-08	Oct-09	Sep-00	Sept/Oct-01	Oct-04	Nov-05	Oct-06	Oct-07	Nov-08	Oct-09	9/1/2000#	Sept/Oct-01	Oct-04	Nov-05	Oct-06	Oct-07	Nov-08	Oct-09
VOCs (ug/L)																								
Monochlorobenzene	(0.58)	<1.0	<1.0	(0.64)	<1.0	(0.75)	<1.0	<1.0	(0.46)	<1.0	(0.44)	(0.53)	<1.0	**2.2**	(0.41)	**1.0 J**	(0.51)	<1.0	(0.39)	<1.0	(0.97) JL	<1.0	(0.86)	**1.0**
Chloroethane	<2.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0 UJ	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0 UJ	<1.0	<1.0 UL	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50 UL	<0.50	<0.50	<1.0
trans-1,2-Dichloroethylene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50 UL	<0.50	<0.50	<1.0
1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UL	<1.0	<1.0	<1.0
Tetrachloroethylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UL	<1.0	<1.0	<1.0
Trichloroethylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UL	<1.0	<1.0	<1.0
Vinyl Chloride	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0 UL	<1.0	<1.0	<1.0

Notes:

<1.0 = Analyte was not detected, value listed is the reporting limit.

(3.3) = Result is less than the laboratory reporting limit, but greater than the instrument detection limit.

Values in **bold** were detected at or above the instrument detection limit.

UJ = Undetected, but biased high based on QC data

Values given reflect the greater of the original field sample or the duplicate

Prepared/Date: LRP 01/06/2010
Checked/Date: MLR 01/07/2010

TETRACHLOROETHENE
CONCENTRATION DISTRIBUTION
APRIL 2009

JOB NO. 6107090023

FIGURE: G-1s

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OLIN CORPORATION
OLIN BIG D CAMPGROUND

PREPARED BY/DATE SLW 2/4/10

CHECKED BY/DATE KPW 2/4/10

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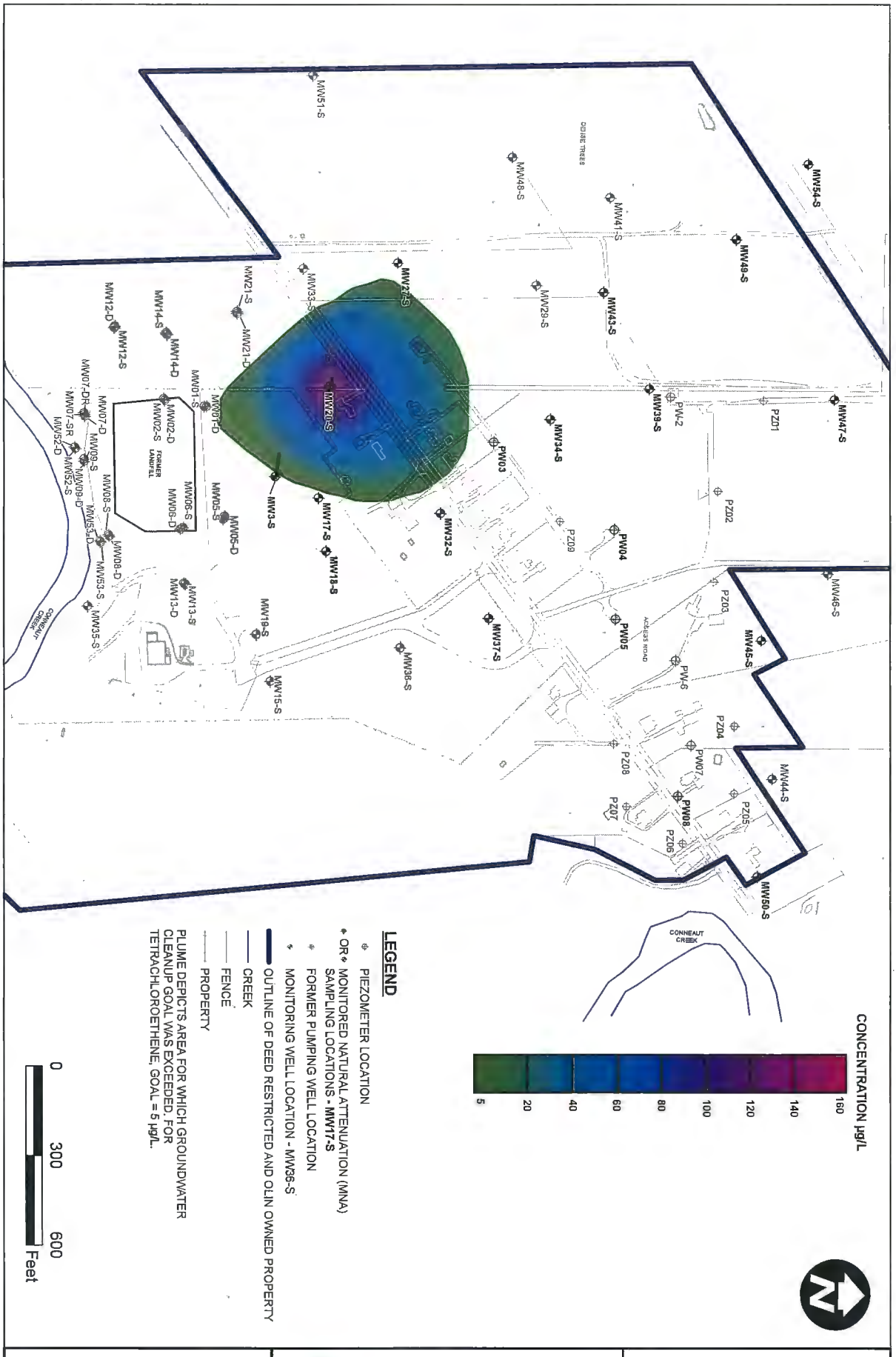

OLIN CORPORATION OLIN BIG D CAMPGROUND	MACTEC MACTEC Engineering and Consulting, Inc. 3200 TOWN POINT DRIVE, SUITE 100 KENNESAW, GEORGIA 30144 (770) 421-3400	TETRACHLOROETHENE CONCENTRATION DISTRIBUTION OCTOBER 2009 JOB NO. 6107090023 FIGURE: G-1t

PREPARED BY/DATE SLW 2/4/10 CHECKED BY/DATE KPW 2/4/10

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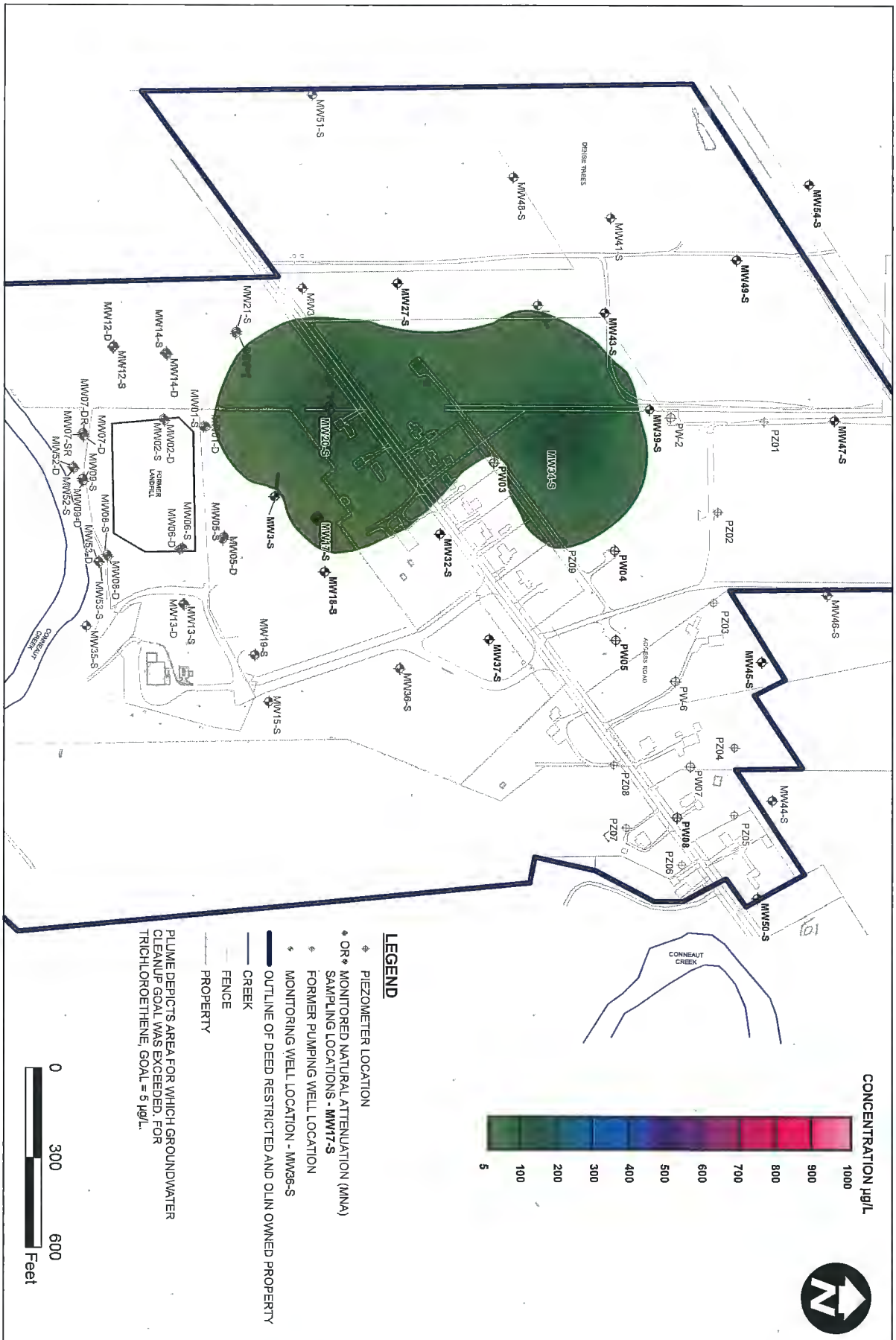

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TRICHLOROETHENE
CONCENTRATION DISTRIBUTION
APRIL 2009

JOB NO. 6107090023 FIGURE: G-2s

PREPARED BY/DATE SLW 2/4/10 CHECKED BY/DATE KPW 2/4/10

TRICHLOROETHENE
CONCENTRATION DISTRIBUTION
OCTOBER 2009

FIGURE: G-2t

JOB NO. 6107090023

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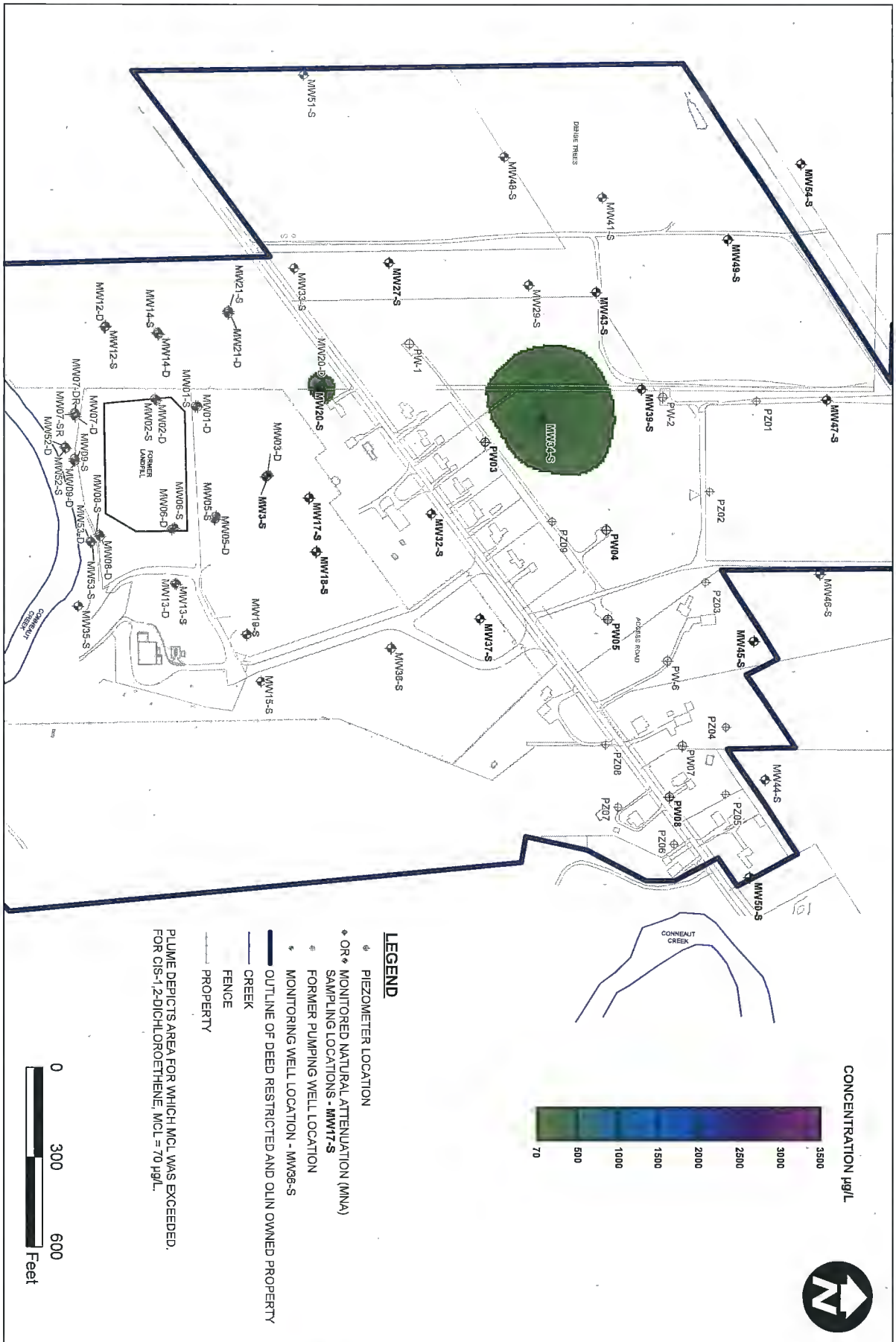

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CIS-1,2-DICHLOROETHENE
CONCENTRATION DISTRIBUTION
APRIL 2009

JOB NO. 6107090023 FIGURE: G-3s

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CIS-1,2-DICHLOROETHENE
CONCENTRATION DISTRIBUTION
OCTOBER 2009

JOB NO. 6107090023

FIGURE: G-3t

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NOTE: TRANS-1,2-DICHLOROETHENE WAS NOT DETECTED ABOVE THE CLEAN-UP GOAL OF 100 µg/L IN APRIL 2009

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TRANS-1,2-DICHLOROETHENE
CONCENTRATION DISTRIBUTION
APRIL 2009

JOB NO. 6107090023 FIGURE: G-4s

PREPARED BY/DATE SLW 2/4/10 CHECKED BY/DATE KPW 2/4/10

TRANS-1,2-DICHLOROETHENE CONCENTRATION DISTRIBUTION OCTOBER 2009

JOB NO. 6107090023 FIGURE: G-4t

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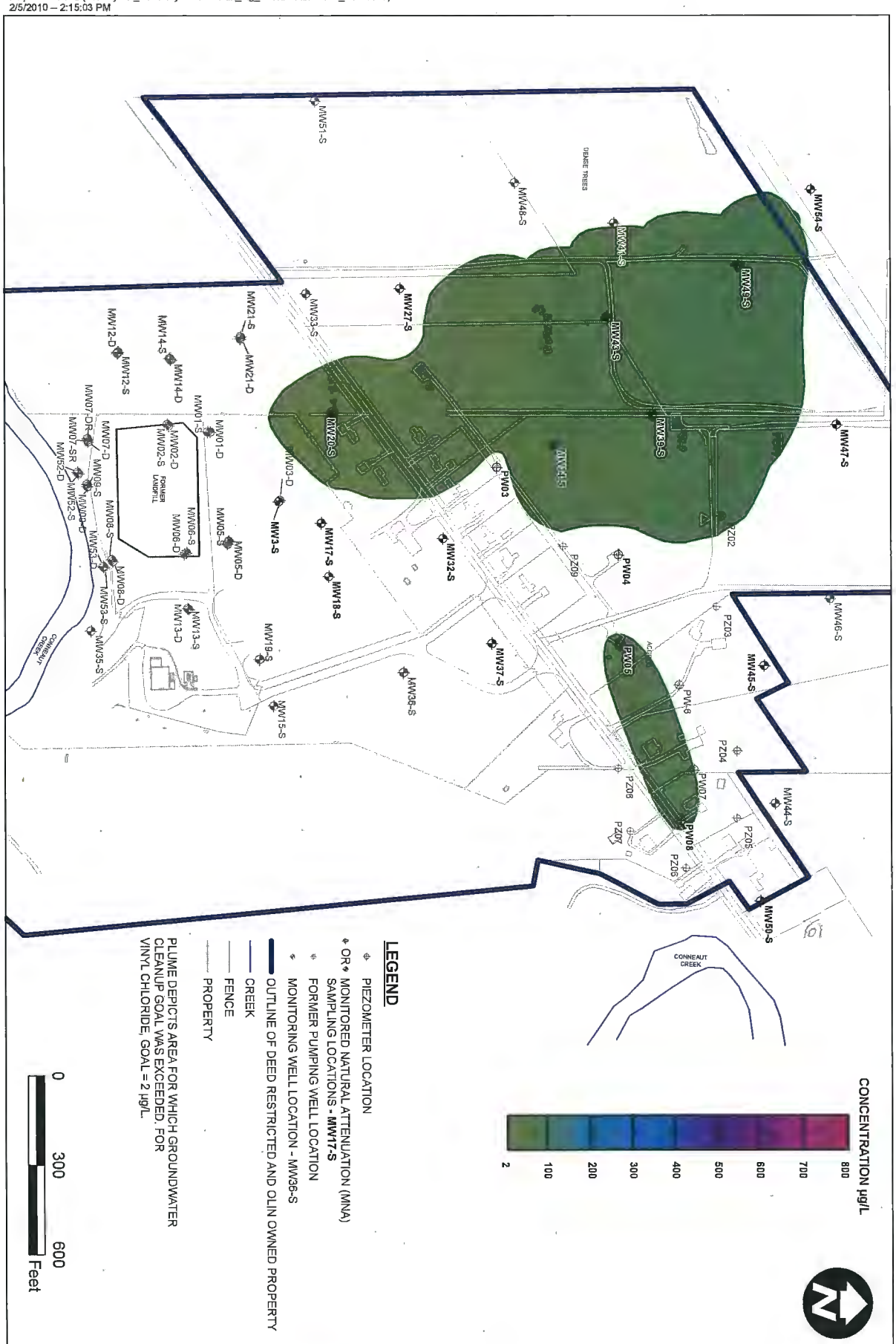

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VINYL CHLORIDE
CONCENTRATION DISTRIBUTION
APRIL 2009

JOB NO. 6107090023 FIGURE: G-5s

PREPARED BY/DATE SLW 2/5/10 CHECKED BY/DATE KPW 2/5/10

VINYL CHLORIDE
CONCENTRATION DISTRIBUTION
OCTOBER 2009

JOB NO. 6107090023

FIGURE: G-5t

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PREPARED BY/DATE SLW 2/5/10 CHECKED BY/DATE KPW 2/5/10

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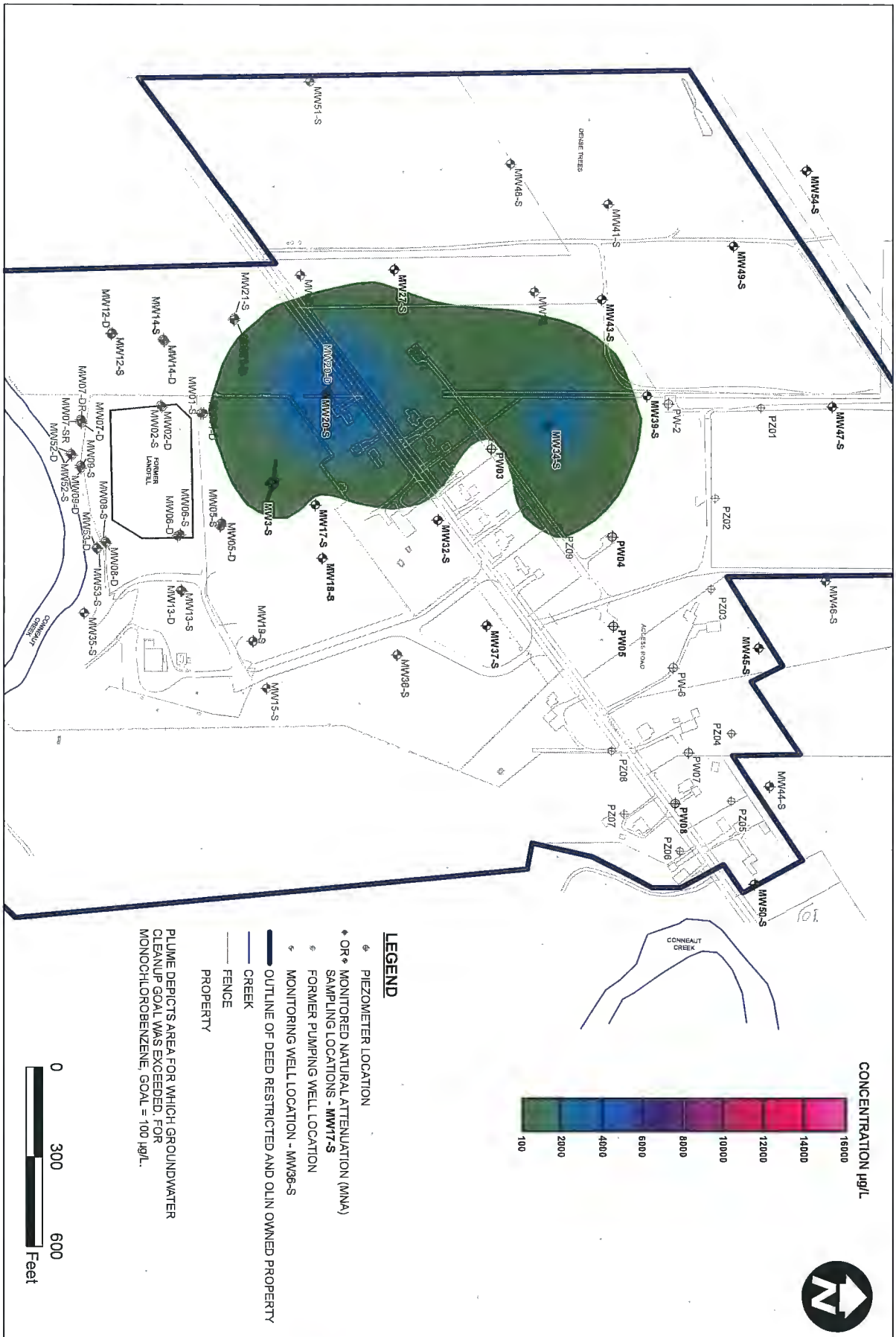

LEGEND

- PIEZOMETER LOCATION
- OR ◆ MONITORED NATURAL ATTENUATION (MNA) SAMPLING LOCATIONS - **MW17-S**
- FORMER PUMPING WELL LOCATION
- MONITORING WELL LOCATION - MW36-S
- OUTLINE OF DEED RESTRICTED AND OLIN OWNED PROPERTY
- CREEK
- FENCE
- PROPERTY

PLUME DEPICTS AREA FOR WHICH GROUNDWATER CLEANUP GOAL WAS EXCEEDED. FOR MONOCHLOROBENZENE, GOAL = 100 µg/L.

0 300 600
Feet

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MONOCHLOROBENZENE
CONCENTRATION DISTRIBUTION
APRIL 2009

JOB NO. 6107090023 FIGURE: G-6s

PREPARED BY/DATE SLW 2/5/10 CHECKED BY/DATE KPW 2/5/10

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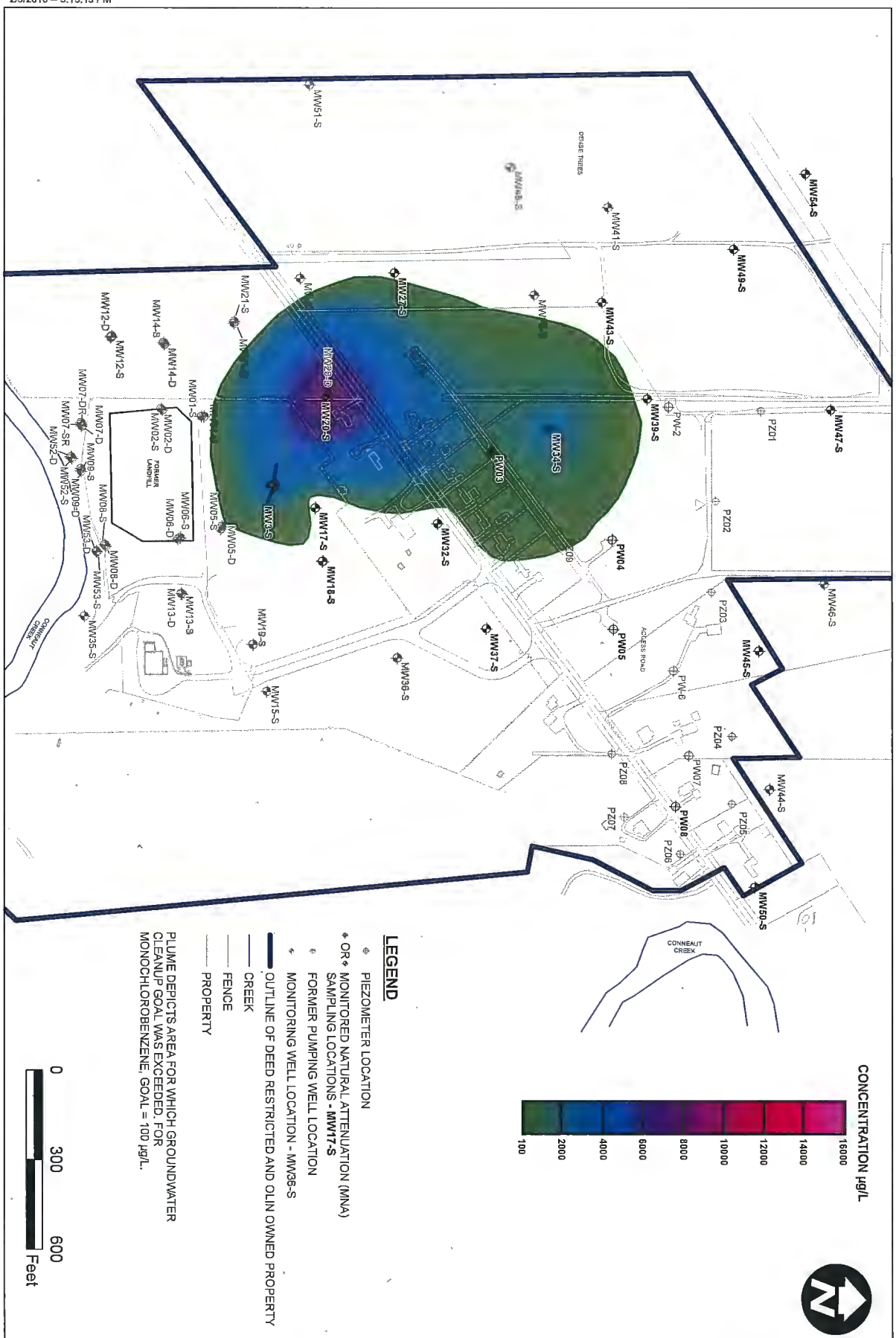

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MONOCHLOROBENZENE
CONCENTRATION DISTRIBUTION
OCTOBER 2009

JOB NO. 6107090023 FIGURE: G-6t

PREPARED BY/DATE SLW 2/5/10 CHECKED BY/DATE KPW 2/5/10

Table 2
2011 Analytical Results
Big D Campground Superfund Site
December 21, 2012

Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-03-S	5/6/2011	Hydrogen	2.8	nm		0.600	0.600
MW-03-S	5/6/2011	Nitrogen, nitrate	0.19	mg/l		0.10	0.050
MW-03-S	5/6/2011	Sulfate	120	mg/l		50.0	15.0
MW-03-S	5/6/2011	Chloride	134	mg/l		20.0	10.0
MW-03-S	5/6/2011	Alkalinity, Total (As CaCO3)	299	mg/l		2.0	0.46
MW-03-S	5/6/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-03-S	5/6/2011	Total Organic Carbon (TOC)	4.1	mg/l		1.0	0.50
MW-03-S	5/6/2011	Propylene (Propene)	0.0097	mg/l			
MW-03-S	5/6/2011	Methane	0.04	mg/l		0.015	0.0050
MW-03-S	5/6/2011	Ethane	0.0015	mg/l	JQ	0.0050	0.0010
MW-03-S	5/6/2011	Ethylene	0.0019	mg/l	JQ	0.0050	0.0010
MW-03-S	5/6/2011	Carbon dioxide	26	mg/l		12	4.0
MW-03-S	5/6/2011	Tetrachloroethene (PCE)	4	ug/l	U	25	4
MW-03-S	5/6/2011	cis-1,2-Dichloroethene	4	ug/l	U	25	4
MW-03-S	5/6/2011	trans-1,2-Dichloroethene	4	ug/l	U	25	4
MW-03-S	5/6/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-03-S	5/6/2011	Dibromofluoromethane	51	ug/l			
MW-03-S	5/6/2011	Toluene-D8	50	ug/l			
MW-03-S	5/6/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	49	ug/l			
MW-03-S	5/6/2011	Chloroethane	5	ug/l	U	25	5
MW-03-S	5/6/2011	Vinyl Chloride	5	ug/l	U	25	5
MW-03-S	5/6/2011	1,1-Dichloroethene	4	ug/l	U	25	4
MW-03-S	5/6/2011	Trichloroethene (TCE)	5	ug/l	U	25	5
MW-03-S	5/6/2011	Chlorobenzene	1700	ug/l		250	40
MW-17-S	5/5/2011	Hydrogen	20	nm		0.600	0.600
MW-17-S	5/5/2011	Nitrogen, nitrate	0.099	mg/l	JQ	0.10	0.050
MW-17-S	5/5/2011	Sulfate	84.3	mg/l		10.0	3.0
MW-17-S	5/5/2011	Chloride	29.7	mg/l		4.0	2.0
MW-17-S	5/5/2011	Alkalinity, Total (As CaCO3)	288	mg/l	J	2.0	0.46
MW-17-S	5/5/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-17-S	5/5/2011	Total Organic Carbon (TOC)	0.91	mg/l	JQ	1.0	0.50
MW-17-S	5/5/2011	Dissolved Oxygen	0.92	mg/l			
MW-17-S	5/5/2011	Oxidation Reduction Potential	48.7	mV			
MW-17-S	5/5/2011	pH	7.3	pH units			
MW-17-S	5/5/2011	Specific Conductance	0.79	ms/cm			
MW-17-S	5/5/2011	Temperature	11.13	C			
MW-17-S	5/5/2011	Turbidity	0	ntu			
MW-17-S	5/5/2011	Carbon dioxide	23	mg/l		12	4.0
MW-17-S	5/5/2011	Propylene (Propene)	0.0095	mg/l			
MW-17-S	5/5/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-17-S	5/5/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-17-S	5/5/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-17-S	5/5/2011	Chlorobenzene	23	ug/l		5	0.8
MW-17-S	5/5/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-17-S	5/5/2011	cis-1,2-Dichloroethene	16	ug/l		5	0.8
MW-17-S	5/5/2011	trans-1,2-Dichloroethene	3	ug/l	JQ	5	0.8
MW-17-S	5/5/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-17-S	5/5/2011	Dibromofluoromethane	52	ug/l			
MW-17-S	5/5/2011	Toluene-D8	48	ug/l			
MW-17-S	5/5/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	50	ug/l			
MW-17-S	5/5/2011	Chloroethane	1	ug/l	J	5	1
MW-17-S	5/5/2011	Vinyl Chloride	2	ug/l	J	5	1
MW-17-S	5/5/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-17-S	5/5/2011	Trichloroethene (TCE)	76	ug/l		5	1

Table 2
2011 Analytical Results
Big D Campground Superfund Site
December 21, 2012

MW-20-S	5/6/2011	Hydrogen	19	nm	J	0.600	0.600
MW-20-S	5/6/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-20-S	5/6/2011	Sulfate	214	mg/l		50.0	15.0
MW-20-S	5/6/2011	Chloride	261	mg/l		20.0	10.0
MW-20-S	5/6/2011	Alkalinity, Total (As CaCO3)	304	mg/l		2.0	0.46
MW-20-S	5/6/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-20-S	5/6/2011	Total Organic Carbon (TOC)	5	mg/l		1.0	0.50
MW-20-S	5/6/2011	pH	7.89	pH units			
MW-20-S	5/6/2011	Dissolved Oxygen	1.08	mg/l			
MW-20-S	5/6/2011	Oxidation Reduction Potential	-25.1	mV			
MW-20-S	5/6/2011	Specific Conductance	1.696	ms/cm			
MW-20-S	5/6/2011	Temperature	11.26	C			
MW-20-S	5/6/2011	Turbidity	0	ntu			
MW-20-S	5/6/2011	Propylene (Propene)	0.0089	mg/l			
MW-20-S	5/6/2011	Methane	0.063	mg/l		0.015	0.0050
MW-20-S	5/6/2011	Ethane	0.0021	mg/l	JQ	0.0050	0.0010
MW-20-S	5/6/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-20-S	5/6/2011	Carbon dioxide	30	mg/l		12	4.0
MW-20-S	5/6/2011	Tetrachloroethene (PCE)	160	ug/l		25	4
MW-20-S	5/6/2011	cis-1,2-Dichloroethene	130	ug/l		25	4
MW-20-S	5/6/2011	trans-1,2-Dichloroethene	4	ug/l	U	25	4
MW-20-S	5/6/2011	1,2-Dichloroethane-d4	53	ug/l			
MW-20-S	5/6/2011	Dibromofluoromethane	49	ug/l			
MW-20-S	5/6/2011	Toluene-D8	50	ug/l			
MW-20-S	5/6/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	51	ug/l			
MW-20-S	5/6/2011	Chloroethane	5	ug/l	U	25	5
MW-20-S	5/6/2011	Vinyl Chloride	5	ug/l	J	25	5
MW-20-S	5/6/2011	1,1-Dichloroethene	4	ug/l	U	25	4
MW-20-S	5/6/2011	Trichloroethene (TCE)	210	ug/l		25	5
MW-20-S	5/6/2011	Chlorobenzene	9400	ug/l	J	250	40
MW-34-S	5/5/2011	Hydrogen	5.8	nm		0.600	0.600
MW-34-S	5/5/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-34-S	5/5/2011	Sulfate	69.8	mg/l		10.0	3.0
MW-34-S	5/5/2011	Chloride	49.3	mg/l		4.0	2.0
MW-34-S	5/5/2011	Alkalinity, Total (As CaCO3)	203	mg/l		2.0	0.46
MW-34-S	5/5/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-34-S	5/5/2011	Total Organic Carbon (TOC)	1.3	mg/l		1.0	0.50
MW-34-S	5/5/2011	Dissolved Oxygen	0.7	mg/l			
MW-34-S	5/5/2011	Oxidation Reduction Potential	-102.4	mV			
MW-34-S	5/5/2011	pH	7.49	pH units			
MW-34-S	5/5/2011	Specific Conductance	0.684	ms/cm			
MW-34-S	5/5/2011	Temperature	10.98	C			
MW-34-S	5/5/2011	Turbidity	0	ntu			
MW-34-S	5/5/2011	Propylene (Propene)	0.0098	mg/l			
MW-34-S	5/5/2011	Methane	0.0073	mg/l	JQ	0.015	0.0050
MW-34-S	5/5/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-34-S	5/5/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-34-S	5/5/2011	Carbon dioxide	11	mg/l	JQ	12	4.0
MW-34-S	5/5/2011	Tetrachloroethene (PCE)	4	ug/l	U	25	4
MW-34-S	5/5/2011	cis-1,2-Dichloroethene	280	ug/l		25	4
MW-34-S	5/5/2011	trans-1,2-Dichloroethene	4	ug/l	U	25	4
MW-34-S	5/5/2011	1,2-Dichloroethane-d4	52	ug/l			
MW-34-S	5/5/2011	Dibromofluoromethane	50	ug/l			
MW-34-S	5/5/2011	Toluene-D8	49	ug/l			
MW-34-S	5/5/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	49	ug/l			
MW-34-S	5/5/2011	Chloroethane	5	ug/l	U	25	5
MW-34-S	5/5/2011	Vinyl Chloride	13	ug/l	JQ	25	5
MW-34-S	5/5/2011	1,1-Dichloroethene	4	ug/l	JQ	25	4
MW-34-S	5/5/2011	Trichloroethene (TCE)	130	ug/l		25	5
MW-34-S	5/5/2011	Chlorobenzene	2900	ug/l		250	40
MW-39-S	5/4/2011	Hydrogen	22	nm		0.600	0.600
MW-39-S	5/4/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050

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MW-39-S	5/4/2011	Sulfate	78.9	mg/l		20.0	6.0
MW-39-S	5/4/2011	Chloride	64.6	mg/l		8.0	4.0
MW-39-S	5/4/2011	Alkalinity, Total (As CaCO3)	183	mg/l		2.0	0.46
MW-39-S	5/4/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-39-S	5/4/2011	Total Organic Carbon (TOC)	1.4	mg/l		1.0	0.50
MW-39-S	5/4/2011	Dissolved Oxygen	0.62	mg/l			
MW-39-S	5/4/2011	Oxidation Reduction Potential	-25.8	mV			
MW-39-S	5/4/2011	pH	7.68	pH units			
MW-39-S	5/4/2011	Specific Conductance	0.644	ms/cm			
MW-39-S	5/4/2011	Temperature	10.46	C			
MW-39-S	5/4/2011	Turbidity	0	ntu			
MW-39-S	5/4/2011	Carbon dioxide	7.2	mg/l	JQ	12	4.0
MW-39-S	5/4/2011	Propylene (Propene)	0.01	mg/l			
MW-39-S	5/4/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-39-S	5/4/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-39-S	5/4/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-39-S	5/4/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-39-S	5/4/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-39-S	5/4/2011	cis-1,2-Dichloroethene	9	ug/l		5	0.8
MW-39-S	5/4/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-39-S	5/4/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-39-S	5/4/2011	Dibromofluoromethane	52	ug/l			
MW-39-S	5/4/2011	Toluene-D8	48	ug/l			
MW-39-S	5/4/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
MW-39-S	5/4/2011	Chloroethane	1	ug/l	U	5	1
MW-39-S	5/4/2011	Vinyl Chloride	7	ug/l		5	1
MW-39-S	5/4/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-39-S	5/4/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-43-S	5/4/2011	Hydrogen	20	nm		0.600	0.600
MW-43-S	5/4/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-43-S	5/4/2011	Sulfate	51.5	mg/l		10.0	3.0
MW-43-S	5/4/2011	Chloride	34.5	mg/l		4.0	2.0
MW-43-S	5/4/2011	Alkalinity, Total (As CaCO3)	138	mg/l		2.0	0.46
MW-43-S	5/4/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-43-S	5/4/2011	Total Organic Carbon (TOC)	1.5	mg/l		1.0	0.50
MW-43-S	5/4/2011	Dissolved Oxygen	0.62	mg/l			
MW-43-S	5/4/2011	Oxidation Reduction Potential	-122.1	mV			
MW-43-S	5/4/2011	pH	7.84	pH units			
MW-43-S	5/4/2011	Specific Conductance	0.459	ms/cm			
MW-43-S	5/4/2011	Temperature	10.22	C			
MW-43-S	5/4/2011	Turbidity	0	ntu			
MW-43-S	5/4/2011	Carbon dioxide	4	mg/l	U	12	4.0
MW-43-S	5/4/2011	Propylene (Propene)	0.01	mg/l			
MW-43-S	5/4/2011	Methane	0.0085	mg/l	JQ	0.015	0.0050
MW-43-S	5/4/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-43-S	5/4/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-43-S	5/4/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-43-S	5/4/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-43-S	5/4/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	5/4/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	5/4/2011	1,2-Dichloroethane-d4	50	ug/l			
MW-43-S	5/4/2011	Dibromofluoromethane	52	ug/l			
MW-43-S	5/4/2011	Toluene-D8	47	ug/l			
MW-43-S	5/4/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	46	ug/l			
MW-43-S	5/4/2011	Chloroethane	1	ug/l	U	5	1
MW-43-S	5/4/2011	Vinyl Chloride	17	ug/l		5	1
MW-43-S	5/4/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	5/4/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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MW-49-S	5/5/2011	Hydrogen	18	nm		0.600	0.600
MW-49-S	5/5/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-49-S	5/5/2011	Sulfate	88.5	mg/l		20.0	6.0
MW-49-S	5/5/2011	Chloride	81.8	mg/l		8.0	4.0
MW-49-S	5/5/2011	Alkalinity, Total (As CaCO3)	186	mg/l		2.0	0.46
MW-49-S	5/5/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-49-S	5/5/2011	Total Organic Carbon (TOC)	1.1	mg/l		1.0	0.50
MW-49-S	5/5/2011	Dissolved Oxygen	0.69	mg/l			
MW-49-S	5/5/2011	Oxidation Reduction Potential	-141.3	mV			
MW-49-S	5/5/2011	pH	7.68	pH units			
MW-49-S	5/5/2011	Specific Conductance	0.773	ms/cm			
MW-49-S	5/5/2011	Temperature	11.75	C			
MW-49-S	5/5/2011	Turbidity	0	ntu			
MW-49-S	5/5/2011	Carbon dioxide	5.3	mg/l	JQ	12	4.0
MW-49-S	5/5/2011	Propylene (Propene)	0.0096	mg/l			
MW-49-S	5/5/2011	Methane	0.0069	mg/l	JQ	0.015	0.0050
MW-49-S	5/5/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-49-S	5/5/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-49-S	5/5/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-49-S	5/5/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-49-S	5/5/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	5/5/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	5/5/2011	1,2-Dichloroethane-d4	52	ug/l			
MW-49-S	5/5/2011	Dibromofluoromethane	53	ug/l			
MW-49-S	5/5/2011	Toluene-D8	49	ug/l			
MW-49-S	5/5/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	50	ug/l			
MW-49-S	5/5/2011	Chloroethane	1	ug/l	U	5	1
MW-49-S	5/5/2011	Vinyl Chloride	7	ug/l		5	1
MW-49-S	5/5/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	5/5/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
PW-03	5/3/2011	Hydrogen	19	nm		0.600	0.600
PW-03	5/3/2011	Nitrogen, nitrate	0.12	mg/l		0.10	0.050
PW-03	5/3/2011	Sulfate	12.2	mg/l		5.0	1.5
PW-03	5/3/2011	Chloride	8.5	mg/l		2.0	1.0
PW-03	5/3/2011	Alkalinity, Total (As CaCO3)	199	mg/l		2.0	0.46
PW-03	5/3/2011	Sulfide	0.53	mg/l	U	2.0	0.53
PW-03	5/3/2011	Total Organic Carbon (TOC)	3.4	mg/l		1.0	0.50
PW-03	5/3/2011	Dissolved Oxygen	10.23	mg/l			
PW-03	5/3/2011	Oxidation Reduction Potential	89.6	mV			
PW-03	5/3/2011	pH	8.04	pH units			
PW-03	5/3/2011	Specific Conductance	0.45	ms/cm			
PW-03	5/3/2011	Temperature	8.96	C			
PW-03	5/3/2011	Turbidity	0.2	ntu			
PW-03	5/3/2011	Dissolved Oxygen	2.02	mg/l			
PW-03	5/3/2011	Oxidation Reduction Potential	91.9	mV			
PW-03	5/3/2011	pH	7.43	pH units			
PW-03	5/3/2011	Specific Conductance	0.637	ms/cm			
PW-03	5/3/2011	Temperature	10.13	C			
PW-03	5/3/2011	Turbidity	0	ntu			
PW-03	5/3/2011	Carbon dioxide	4	mg/l	J	12	4.0
PW-03	5/3/2011	Propylene (Propene)	0.01	mg/l			
PW-03	5/3/2011	Methane	0.005	mg/l	U	0.015	0.0050
PW-03	5/3/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-03	5/3/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-03	5/3/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-03	5/3/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-03	5/3/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-03	5/3/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-03	5/3/2011	1,2-Dichloroethane-d4	50	ug/l			
PW-03	5/3/2011	Dibromofluoromethane	50	ug/l			
PW-03	5/3/2011	Toluene-D8	48	ug/l			
PW-03	5/3/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
PW-03	5/3/2011	Chloroethane	1	ug/l	U	5	1
PW-03	5/3/2011	Vinyl Chloride	1	ug/l	U	5	1
PW-03	5/3/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-03	5/3/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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MW-18-S	5/5/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-18-S	5/5/2011	Sulfate	91	mg/l		20.0	6.0
MW-18-S	5/5/2011	Chloride	58.3	mg/l		8.0	4.0
MW-18-S	5/5/2011	Alkalinity, Total (As CaCO3)	245	mg/l		2.0	0.46
MW-18-S	5/5/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-18-S	5/5/2011	Total Organic Carbon (TOC)	0.58	mg/l	JQ	1.0	0.50
MW-18-S	5/5/2011	Dissolved Oxygen	0.85	mg/l			
MW-18-S	5/5/2011	Oxidation Reduction Potential	-56.6	mV			
MW-18-S	5/5/2011	pH	7.27	pH units			
MW-18-S	5/5/2011	Specific Conductance	0.825	ms/cm			
MW-18-S	5/5/2011	Temperature	11.36	C			
MW-18-S	5/5/2011	Turbidity	0	ntu			
MW-18-S	5/5/2011	Carbon dioxide	21	mg/l		12	4.0
MW-18-S	5/5/2011	Propylene (Propene)	0.0096	mg/l			
MW-18-S	5/5/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-18-S	5/5/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-18-S	5/5/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-18-S	5/5/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-18-S	5/5/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-18-S	5/5/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	5/5/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	5/5/2011	1,2-Dichloroethane-d4	52	ug/l			
MW-18-S	5/5/2011	Dibromofluoromethane	52	ug/l			
MW-18-S	5/5/2011	Toluene-D8	49	ug/l			
MW-18-S	5/5/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	49	ug/l			
MW-18-S	5/5/2011	Chloroethane	1	ug/l	U	5	1
MW-18-S	5/5/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-18-S	5/5/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	5/5/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-27-S	5/4/2011	Sulfate	10.6	mg/l		1.0	0.30
MW-27-S	5/4/2011	Chloride	1.9	mg/l		0.40	0.20
MW-27-S	5/4/2011	Nitrogen, nitrate	3.7	mg/l		0.20	0.10
MW-27-S	5/4/2011	Alkalinity, Total (As CaCO3)	5.8	mg/l		2.0	0.46
MW-27-S	5/4/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-27-S	5/4/2011	Total Organic Carbon (TOC)	1	mg/l		1.0	0.50
MW-27-S	5/4/2011	Dissolved Oxygen	12	mg/l			
MW-27-S	5/4/2011	Oxidation Reduction Potential	164.7	mV			
MW-27-S	5/4/2011	pH	6.88	pH units			
MW-27-S	5/4/2011	Specific Conductance	0.09	ms/cm			
MW-27-S	5/4/2011	Temperature	7.08	C			
MW-27-S	5/4/2011	Turbidity	0	ntu			
MW-27-S	5/4/2011	Carbon dioxide	6.5	mg/l	JQ	12	4.0
MW-27-S	5/4/2011	Propylene (Propene)	0.011	mg/l			
MW-27-S	5/4/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-27-S	5/4/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-27-S	5/4/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-27-S	5/4/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-27-S	5/4/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-27-S	5/4/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	5/4/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	5/4/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-27-S	5/4/2011	Dibromofluoromethane	52	ug/l			
MW-27-S	5/4/2011	Toluene-D8	47	ug/l			
MW-27-S	5/4/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	46	ug/l			
MW-27-S	5/4/2011	Chloroethane	1	ug/l	U	5	1
MW-27-S	5/4/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-27-S	5/4/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	5/4/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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MW-32-S	5/4/2011	Nitrogen, nitrate	1.9	mg/l		0.10	0.050
MW-32-S	5/4/2011	Sulfate	32.5	mg/l		5.0	1.5
MW-32-S	5/4/2011	Chloride	111	mg/l		20.0	10.0
MW-32-S	5/4/2011	Alkalinity, Total (As CaCO3)	175	mg/l		2.0	0.46
MW-32-S	5/4/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-32-S	5/4/2011	Total Organic Carbon (TOC)	1.1	mg/l		1.0	0.50
MW-32-S	5/4/2011	Dissolved Oxygen	7.29	mg/l			
MW-32-S	5/4/2011	Oxidation Reduction Potential	67	mV			
MW-32-S	5/4/2011	pH	7.01	pH units			
MW-32-S	5/4/2011	Specific Conductance	0.736	ms/cm			
MW-32-S	5/4/2011	Temperature	10.52	C			
MW-32-S	5/4/2011	Turbidity	0	ntu			
MW-32-S	5/4/2011	Carbon dioxide	29	mg/l		12	4.0
MW-32-S	5/4/2011	Propylene (Propene)	0.0095	mg/l			
MW-32-S	5/4/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-32-S	5/4/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-32-S	5/4/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-32-S	5/4/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-32-S	5/4/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-32-S	5/4/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	5/4/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	5/4/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-32-S	5/4/2011	Dibromofluoromethane	52	ug/l			
MW-32-S	5/4/2011	Toluene-D8	47	ug/l			
MW-32-S	5/4/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	46	ug/l			
MW-32-S	5/4/2011	Chloroethane	1	ug/l	U	5	1
MW-32-S	5/4/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-32-S	5/4/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	5/4/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-37-S	5/4/2011	Nitrogen, nitrate	1.9	mg/l		0.10	0.050
MW-37-S	5/4/2011	Sulfate	43.3	mg/l		10.0	3.0
MW-37-S	5/4/2011	Chloride	26.8	mg/l		4.0	2.0
MW-37-S	5/4/2011	Alkalinity, Total (As CaCO3)	231	mg/l		2.0	0.46
MW-37-S	5/4/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-37-S	5/4/2011	Total Organic Carbon (TOC)	0.8	mg/l	JQ	1.0	0.50
MW-37-S	5/4/2011	Carbon dioxide	13	mg/l		12	4.0
MW-37-S	5/4/2011	Propylene (Propene)	0.01	mg/l			
MW-37-S	5/4/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-37-S	5/4/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-37-S	5/4/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-37-S	5/4/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-37-S	5/4/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-37-S	5/4/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	5/4/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	5/4/2011	1,2-Dichloroethane-d4	50	ug/l			
MW-37-S	5/4/2011	Dibromofluoromethane	51	ug/l			
MW-37-S	5/4/2011	Toluene-D8	47	ug/l			
MW-37-S	5/4/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	46	ug/l			
MW-37-S	5/4/2011	Chloroethane	1	ug/l	U	5	1
MW-37-S	5/4/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-37-S	5/4/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	5/4/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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MW-45-S	5/3/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-45-S	5/3/2011	Sulfate	70.8	mg/l		20.0	6.0
MW-45-S	5/3/2011	Chloride	95.7	mg/l		8.0	4.0
MW-45-S	5/3/2011	Alkalinity, Total (As CaCO3)	202	mg/l		2.0	0.46
MW-45-S	5/3/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-45-S	5/3/2011	Total Organic Carbon (TOC)	1.4	mg/l		1.0	0.50
MW-45-S	5/3/2011	Dissolved Oxygen	0.49	mg/l			
MW-45-S	5/3/2011	Oxidation Reduction Potential	-109.1	mV			
MW-45-S	5/3/2011	pH	7.64	pH units			
MW-45-S	5/3/2011	Specific Conductance	0.776	ms/cm			
MW-45-S	5/3/2011	Temperature	10.1	C			
MW-45-S	5/3/2011	Turbidity	0	ntu			
MW-45-S	5/3/2011	Propylene (Propene)	0.01	mg/l			
MW-45-S	5/3/2011	Methane	0.0065	mg/l	JQ	0.015	0.0050
MW-45-S	5/3/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-45-S	5/3/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-45-S	5/3/2011	Carbon dioxide	7	mg/l	JQ	12	4.0
MW-45-S	5/3/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-45-S	5/3/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-45-S	5/3/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	5/3/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	5/3/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-45-S	5/3/2011	Dibromofluoromethane	52	ug/l			
MW-45-S	5/3/2011	Toluene-D8	50	ug/l			
MW-45-S	5/3/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	49	ug/l			
MW-45-S	5/3/2011	Chloroethane	1	ug/l	U	5	1
MW-45-S	5/3/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-45-S	5/3/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	5/3/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-47-S	5/3/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-47-S	5/3/2011	Sulfate	71.8	mg/l		10.0	3.0
MW-47-S	5/3/2011	Chloride	47.9	mg/l		4.0	2.0
MW-47-S	5/3/2011	Alkalinity, Total (As CaCO3)	128	mg/l		2.0	0.46
MW-47-S	5/3/2011	Sulfide	0.7	mg/l	JQ	2.0	0.53
MW-47-S	5/3/2011	Total Organic Carbon (TOC)	1.1	mg/l		1.0	0.50
MW-47-S	5/3/2011	Dissolved Oxygen	0.56	mg/l			
MW-47-S	5/3/2011	Oxidation Reduction Potential	-110.8	mV			
MW-47-S	5/3/2011	pH	7.8	pH units			
MW-47-S	5/3/2011	Specific Conductance	0.514	ms/cm			
MW-47-S	5/3/2011	Temperature	9.63	C			
MW-47-S	5/3/2011	Turbidity	0	ntu			
MW-47-S	5/3/2011	Propylene (Propene)	0.01	mg/l			
MW-47-S	5/3/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-47-S	5/3/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-47-S	5/3/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-47-S	5/3/2011	Carbon dioxide	4	mg/l	U	12	4.0
MW-47-S	5/3/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-47-S	5/3/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-47-S	5/3/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	5/3/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	5/3/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-47-S	5/3/2011	Dibromofluoromethane	52	ug/l			
MW-47-S	5/3/2011	Toluene-D8	50	ug/l			
MW-47-S	5/3/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	49	ug/l			
MW-47-S	5/3/2011	Chloroethane	1	ug/l	U	5	1
MW-47-S	5/3/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-47-S	5/3/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	5/3/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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MW-50-S	5/3/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-50-S	5/3/2011	Sulfate	68.4	mg/l		20.0	6.0
MW-50-S	5/3/2011	Chloride	101	mg/l		8.0	4.0
MW-50-S	5/3/2011	Alkalinity, Total (As CaCO3)	155	mg/l		2.0	0.46
MW-50-S	5/3/2011	Sulfide	0.6	mg/l	JQ	2.0	0.53
MW-50-S	5/3/2011	Total Organic Carbon (TOC)	2.2	mg/l		1.0	0.50
MW-50-S	5/3/2011	Dissolved Oxygen	0.46	mg/l			
MW-50-S	5/3/2011	Oxidation Reduction Potential	6.8	mV			
MW-50-S	5/3/2011	pH	7.54	pH units			
MW-50-S	5/3/2011	Specific Conductance	0.686	ms/cm			
MW-50-S	5/3/2011	Temperature	10.39	C			
MW-50-S	5/3/2011	Turbidity	0	ntu			
MW-50-S	5/3/2011	Propylene (Propene)	0.01	mg/l			
MW-50-S	5/3/2011	Methane	0.0084	mg/l	JQ	0.015	0.0050
MW-50-S	5/3/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-50-S	5/3/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-50-S	5/3/2011	Carbon dioxide	6	mg/l	JQ	12	4.0
MW-50-S	5/3/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-50-S	5/3/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-50-S	5/3/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	5/3/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	5/3/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-50-S	5/3/2011	Dibromofluoromethane	51	ug/l			
MW-50-S	5/3/2011	Toluene-D8	50	ug/l			
MW-50-S	5/3/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	50	ug/l			
MW-50-S	5/3/2011	Chloroethane	1	ug/l	U	5	1
MW-50-S	5/3/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-50-S	5/3/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	5/3/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-54-S	5/2/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-54-S	5/2/2011	Sulfate	65	mg/l		5.0	1.5
MW-54-S	5/2/2011	Chloride	115	mg/l		20.0	10.0
MW-54-S	5/2/2011	Alkalinity, Total (As CaCO3)	140	mg/l		2.0	0.46
MW-54-S	5/2/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-54-S	5/2/2011	Total Organic Carbon (TOC)	0.96	mg/l	JQ	1.0	0.50
MW-54-S	5/2/2011	Dissolved Oxygen	2.97	mg/l			
MW-54-S	5/2/2011	Oxidation Reduction Potential	-92.7	mV			
MW-54-S	5/2/2011	pH	7.89	pH units			
MW-54-S	5/2/2011	Specific Conductance	0.771	ms/cm			
MW-54-S	5/2/2011	Temperature	10.7	C			
MW-54-S	5/2/2011	Turbidity	0	ntu			
MW-54-S	5/2/2011	Propylene (Propene)	0.01	mg/l			
MW-54-S	5/2/2011	Methane	0.017	mg/l		0.015	0.0050
MW-54-S	5/2/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-54-S	5/2/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-54-S	5/2/2011	Carbon dioxide	4.1	mg/l	JQ	12	4.0
MW-54-S	5/2/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-54-S	5/2/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-54-S	5/2/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-S	5/2/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-S	5/2/2011	1,2-Dichloroethane-d4	50	ug/l			
MW-54-S	5/2/2011	Dibromofluoromethane	53	ug/l			
MW-54-S	5/2/2011	Toluene-D8	47	ug/l			
MW-54-S	5/2/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	48	ug/l			
MW-54-S	5/2/2011	Chloroethane	1	ug/l	U	5	1
MW-54-S	5/2/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-54-S	5/2/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-S	5/2/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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PW-04	5/4/2011	Nitrogen, nitrate	0.35	mg/l		0.10	0.050
PW-04	5/4/2011	Sulfate	40	mg/l		5.0	1.5
PW-04	5/4/2011	Chloride	15.7	mg/l		2.0	1.0
PW-04	5/4/2011	Alkalinity, Total (As CaCO3)	224	mg/l		2.0	0.46
PW-04	5/4/2011	Sulfide	0.53	mg/l	U	2.0	0.53
PW-04	5/4/2011	Total Organic Carbon (TOC)	5	mg/l		1.0	0.50
PW-04	5/4/2011	Dissolved Oxygen	2.15	mg/l			
PW-04	5/4/2011	Oxidation Reduction Potential	-0.8	mV			
PW-04	5/4/2011	pH	8.15	pH units			
PW-04	5/4/2011	Specific Conductance	0.561	ms/cm			
PW-04	5/4/2011	Temperature	10.44	C			
PW-04	5/4/2011	Turbidity	0	ntu			
PW-04	5/4/2011	Carbon dioxide	4	mg/l	U	12	4.0
PW-04	5/4/2011	Propylene (Propene)	0.0099	mg/l			
PW-04	5/4/2011	Methane	0.005	mg/l	U	0.015	0.0050
PW-04	5/4/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-04	5/4/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-04	5/4/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-04	5/4/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-04	5/4/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-04	5/4/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-04	5/4/2011	1,2-Dichloroethane-d4	51	ug/l			
PW-04	5/4/2011	Dibromofluoromethane	51	ug/l			
PW-04	5/4/2011	Toluene-D8	47	ug/l			
PW-04	5/4/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
PW-04	5/4/2011	Chloroethane	1	ug/l	U	5	1
PW-04	5/4/2011	Vinyl Chloride	1	ug/l	U	5	1
PW-04	5/4/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-04	5/4/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
PW-05	5/3/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
PW-05	5/3/2011	Sulfate	53.3	mg/l		20.0	6.0
PW-05	5/3/2011	Chloride	68	mg/l		8.0	4.0
PW-05	5/3/2011	Alkalinity, Total (As CaCO3)	209	mg/l		2.0	0.46
PW-05	5/3/2011	Sulfide	0.53	mg/l	U	2.0	0.53
PW-05	5/3/2011	Total Organic Carbon (TOC)	1.3	mg/l		1.0	0.50
PW-05	5/3/2011	Dissolved Oxygen	0.64	mg/l			
PW-05	5/3/2011	Oxidation Reduction Potential	-64.1	mV			
PW-05	5/3/2011	pH	7.86	pH units			
PW-05	5/3/2011	Specific Conductance	0.695	ms/cm			
PW-05	5/3/2011	Temperature	9.61	C			
PW-05	5/3/2011	Turbidity	0	ntu			
PW-05	5/3/2011	Propylene (Propene)	0.0097	mg/l			
PW-05	5/3/2011	Methane	0.005	mg/l	U	0.015	0.0050
PW-05	5/3/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-05	5/3/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-05	5/3/2011	Carbon dioxide	5.5	mg/l	JQ	12	4.0
PW-05	5/3/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-05	5/3/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-05	5/3/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	5/3/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	5/3/2011	1,2-Dichloroethane-d4	50	ug/l			
PW-05	5/3/2011	Dibromofluoromethane	51	ug/l			
PW-05	5/3/2011	Toluene-D8	50	ug/l			
PW-05	5/3/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	50	ug/l			
PW-05	5/3/2011	Chloroethane	1	ug/l	U	5	1
PW-05	5/3/2011	Vinyl Chloride	1	ug/l	JQ	5	1
PW-05	5/3/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	5/3/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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PW-08	5/3/2011	Nitrogen, nitrate	0.73	mg/l		0.10	0.050
PW-08	5/3/2011	Sulfate	27.6	mg/l		5.0	1.5
PW-08	5/3/2011	Chloride	71.2	mg/l		8.0	4.0
PW-08	5/3/2011	Alkalinity, Total (As CaCO3)	141	mg/l		2.0	0.46
PW-08	5/3/2011	Sulfide	0.53	mg/l	U	2.0	0.53
PW-08	5/3/2011	Total Organic Carbon (TOC)	2.6	mg/l		1.0	0.50
PW-08	5/3/2011	Dissolved Oxygen	3.08	mg/l			
PW-08	5/3/2011	Oxidation Reduction Potential	45.7	mV			
PW-08	5/3/2011	pH	7.92	pH units			
PW-08	5/3/2011	Specific Conductance	0.542	ms/cm			
PW-08	5/3/2011	Temperature	9.37	C			
PW-08	5/3/2011	Turbidity	0	ntu			
PW-08	5/3/2011	Propylene (Propene)	0.011	mg/l			
PW-08	5/3/2011	Methane	0.005	mg/l	U	0.015	0.0050
PW-08	5/3/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-08	5/3/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-08	5/3/2011	Carbon dioxide	4	mg/l	U	12	4.0
PW-08	5/3/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-08	5/3/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-08	5/3/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	5/3/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	5/3/2011	1,2-Dichloroethane-d4	50	ug/l			
PW-08	5/3/2011	Dibromofluoromethane	52	ug/l			
PW-08	5/3/2011	Toluene-D8	50	ug/l			
PW-08	5/3/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	50	ug/l			
PW-08	5/3/2011	Chloroethane	1	ug/l	U	5	1
PW-08	5/3/2011	Vinyl Chloride	1	ug/l	U	5	1
PW-08	5/3/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	5/3/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-03-S	9/29/2011	Hydrogen	2.6	nm			0.60
MW-03-S	9/29/2011	Nitrogen, nitrate	0.27	mg/l		0.1	0.050
MW-03-S	9/29/2011	Sulfate	88.5	mg/l		20	6.0
MW-03-S	9/29/2011	Chloride	54.9	mg/l		8.0	4.0
MW-03-S	9/29/2011	Alkalinity, Total (As CaCO3)	287	mg/l		2.0	0.46
MW-03-S	9/29/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-03-S	9/29/2011	Total Organic Carbon (TOC)	3.5	mg/l		1.0	0.50
MW-03-S	9/29/2011	Iron	0.4	mg/l			
MW-03-S	9/29/2011	Dissolved Oxygen	1.59	mg/l			
MW-03-S	9/29/2011	Oxidation Reduction Potential	-42.6	mV			
MW-03-S	9/29/2011	pH	7.75	SU			
MW-03-S	9/29/2011	Specific Conductance	0.778	umhos/cm			
MW-03-S	9/29/2011	Temperature	11.68	C			
MW-03-S	9/29/2011	Turbidity	0	ntu			
MW-03-S	9/29/2011	Carbon dioxide	23	mg/l		12	4.0
MW-03-S	9/29/2011	Propylene (Propene)	0.011	mg/l			
MW-03-S	9/29/2011	Methane	0.02	mg/l		0.015	0.0050
MW-03-S	9/29/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-03-S	9/29/2011	Ethylene	0.0019	mg/l	JQ	0.0050	0.0010
MW-03-S	9/29/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-03-S	9/29/2011	cis-1,2-Dichloroethene	5	ug/l		5	0.8
MW-03-S	9/29/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-03-S	9/29/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-03-S	9/29/2011	Dibromofluoromethane	48	ug/l			
MW-03-S	9/29/2011	Toluene-D8	53	ug/l			
MW-03-S	9/29/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	55	ug/l			
MW-03-S	9/29/2011	Chloroethane	1	ug/l	U	5	1
MW-03-S	9/29/2011	Vinyl Chloride	5	ug/l		5	1
MW-03-S	9/29/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-03-S	9/29/2011	Trichloroethene (TCE)	2	ug/l	JQ	5	1
MW-03-S	9/29/2011	Chlorobenzene	1700	ug/l		50	8

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MW-17-S	9/28/2011	Hydrogen	1.8	nm			0.60
MW-17-S	9/28/2011	Nitrogen, nitrate	0.53	mg/l		0.10	0.050
MW-17-S	9/28/2011	Sulfate	63.7	mg/l		10.0	3.0
MW-17-S	9/28/2011	Chloride	21.3	mg/l		4.0	2.0
MW-17-S	9/28/2011	Alkalinity, Total (As CaCO3)	237	mg/l		2.0	0.46
MW-17-S	9/28/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-17-S	9/28/2011	Total Organic Carbon (TOC)	0.94	mg/l	JQ	1.0	0.50
MW-17-S	9/28/2011	Iron	0	mg/l			
MW-17-S	9/28/2011	Dissolved Oxygen	1.34	mg/l			
MW-17-S	9/28/2011	Oxidation Reduction Potential	7.7	mV			
MW-17-S	9/28/2011	pH	7.67	SU			
MW-17-S	9/28/2011	Specific Conductance	0.498	umhos/cm			
MW-17-S	9/28/2011	Temperature	11.68	C			
MW-17-S	9/28/2011	Turbidity	5.1	ntu			
MW-17-S	9/28/2011	Carbon dioxide	16	mg/l		12	4.0
MW-17-S	9/28/2011	Propylene (Propene)	0.011	mg/l			
MW-17-S	9/28/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-17-S	9/28/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-17-S	9/28/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-17-S	9/28/2011	Chlorobenzene	1	ug/l	JQ	5	0.8
MW-17-S	9/28/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-17-S	9/28/2011	cis-1,2-Dichloroethene	3	ug/l	JQ	5	0.8
MW-17-S	9/28/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-17-S	9/28/2011	1,2-Dichloroethane-d4	50	ug/l			
MW-17-S	9/28/2011	Dibromofluoromethane	51	ug/l			
MW-17-S	9/28/2011	Toluene-D8	49	ug/l			
MW-17-S	9/28/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	48	ug/l			
MW-17-S	9/28/2011	Chloroethane	1	ug/l	U	5	1
MW-17-S	9/28/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-17-S	9/28/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-17-S	9/28/2011	Trichloroethene (TCE)	16	ug/l		5	1
MW-17-S	9/28/2011	Terphenyl-d14	83	ug/l			
MW-17-S	9/28/2011	2-Fluorobiphenyl	97	ug/l			
MW-17-S	9/28/2011	Nitrobenzene-d5	100	ug/l			
MW-17-S	9/28/2011	2,4-Diaminotoluene	48	ug/l	J	96	48
MW-20-S	9/29/2011	Hydrogen	2.6	nm			0.60
MW-20-S	9/29/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-20-S	9/29/2011	Sulfate	372	mg/l		100	30.0
MW-20-S	9/29/2011	Chloride	272	mg/l		40.0	20.0
MW-20-S	9/29/2011	Alkalinity, Total (As CaCO3)	301	mg/l		2.0	0.46
MW-20-S	9/29/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-20-S	9/29/2011	Total Organic Carbon (TOC)	6.1	mg/l		1.0	0.50
MW-20-S	9/29/2011	Iron	0.4	mg/l			
MW-20-S	9/29/2011	Dissolved Oxygen	0.8	mg/l			
MW-20-S	9/29/2011	Oxidation Reduction Potential	-24.8	mV			
MW-20-S	9/29/2011	pH	7.36	SU			
MW-20-S	9/29/2011	Specific Conductance	1.648	umhos/cm			
MW-20-S	9/29/2011	Temperature	12.72	C			
MW-20-S	9/29/2011	Turbidity	0	ntu			
MW-20-S	9/29/2011	Carbon dioxide	38	mg/l		12	4.0
MW-20-S	9/29/2011	Propylene (Propene)	0.011	mg/l			
MW-20-S	9/29/2011	Methane	0.051	mg/l		0.015	0.0050
MW-20-S	9/29/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-20-S	9/29/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-20-S	9/29/2011	Tetrachloroethene (PCE)	130	ug/l		50	8
MW-20-S	9/29/2011	cis-1,2-Dichloroethene	110	ug/l		50	8
MW-20-S	9/29/2011	trans-1,2-Dichloroethene	8	ug/l	U	50	8
MW-20-S	9/29/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-20-S	9/29/2011	Dibromofluoromethane	49	ug/l			
MW-20-S	9/29/2011	Toluene-D8	51	ug/l			
MW-20-S	9/29/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	52	ug/l			
MW-20-S	9/29/2011	Chloroethane	10	ug/l	U	50	10
MW-20-S	9/29/2011	Vinyl Chloride	12	ug/l	JQ	50	10
MW-20-S	9/29/2011	1,1-Dichloroethene	8	ug/l	U	50	8
MW-20-S	9/29/2011	Trichloroethene (TCE)	200	ug/l		50	10
MW-20-S	9/29/2011	Chlorobenzene	7100	ug/l		500	80

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MW-34-S	9/29/2011	Hydrogen	2	nm			0.60
MW-34-S	9/29/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-34-S	9/29/2011	Sulfate	65.9	mg/l		10.0	3.0
MW-34-S	9/29/2011	Chloride	49.4	mg/l		4.0	2.0
MW-34-S	9/29/2011	Alkalinity, Total (As CaCO3)	202	mg/l		2.0	0.46
MW-34-S	9/29/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-34-S	9/29/2011	Total Organic Carbon (TOC)	1.5	mg/l		1.0	0.50
MW-34-S	9/29/2011	Iron	1.2	mg/l			
MW-34-S	9/29/2011	Dissolved Oxygen	0.87	mg/l			
MW-34-S	9/29/2011	Oxidation Reduction Potential	-142.6	mV			
MW-34-S	9/29/2011	pH	8.12	SU			
MW-34-S	9/29/2011	Specific Conductance	0.595	umhos/cm			
MW-34-S	9/29/2011	Temperature	11.44	C			
MW-34-S	9/29/2011	Turbidity	0	ntu			
MW-34-S	9/29/2011	Carbon dioxide	13	mg/l		12	4.0
MW-34-S	9/29/2011	Propylene (Propene)	0.012	mg/l			
MW-34-S	9/29/2011	Methane	0.0072	mg/l	JQ	0.015	0.0050
MW-34-S	9/29/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-34-S	9/29/2011	Ethylene	0.001	mg/l	JQ	0.0050	0.0010
MW-34-S	9/29/2011	Tetrachloroethene (PCE)	2	ug/l	U	10	2
MW-34-S	9/29/2011	cis-1,2-Dichloroethene	270	ug/l		10	2
MW-34-S	9/29/2011	trans-1,2-Dichloroethene	3	ug/l	JQ	10	2
MW-34-S	9/29/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-34-S	9/29/2011	Dibromofluoromethane	48	ug/l			
MW-34-S	9/29/2011	Toluene-D8	51	ug/l			
MW-34-S	9/29/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	53	ug/l			
MW-34-S	9/29/2011	Chloroethane	2	ug/l	U	10	2
MW-34-S	9/29/2011	Vinyl Chloride	26	ug/l		10	2
MW-34-S	9/29/2011	1,1-Dichloroethene	3	ug/l	JQ	10	2
MW-34-S	9/29/2011	Trichloroethene (TCE)	110	ug/l		10	2
MW-34-S	9/29/2011	Chlorobenzene	2700	ug/l		100	16
MW-39-S	9/28/2011	Hydrogen	2.8	nm			0.60
MW-39-S	9/28/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-39-S	9/28/2011	Sulfate	73.4	mg/l		20.0	6.0
MW-39-S	9/28/2011	Chloride	55.5	mg/l		8.0	4.0
MW-39-S	9/28/2011	Alkalinity, Total (As CaCO3)	180	mg/l		2.0	0.46
MW-39-S	9/28/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-39-S	9/28/2011	Total Organic Carbon (TOC)	1.8	mg/l		1.0	0.50
MW-39-S	9/28/2011	Iron	1.8	mg/l			
MW-39-S	9/28/2011	Dissolved Oxygen	0.61	mg/l			
MW-39-S	9/28/2011	Oxidation Reduction Potential	-174.8	mV			
MW-39-S	9/28/2011	pH	7.68	SU			
MW-39-S	9/28/2011	Specific Conductance	1.221	umhos/cm			
MW-39-S	9/28/2011	Temperature	11.34	C			
MW-39-S	9/28/2011	Turbidity	0	ntu			
MW-39-S	9/28/2011	Carbon dioxide	8.2	mg/l	JQ	12	4.0
MW-39-S	9/28/2011	Propylene (Propene)	0.012	mg/l			
MW-39-S	9/28/2011	Methane	0.0057	mg/l	JQ	0.015	0.0050
MW-39-S	9/28/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-39-S	9/28/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-39-S	9/28/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-39-S	9/28/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-39-S	9/28/2011	cis-1,2-Dichloroethene	49	ug/l		5	0.8
MW-39-S	9/28/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-39-S	9/28/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-39-S	9/28/2011	Dibromofluoromethane	51	ug/l			
MW-39-S	9/28/2011	Toluene-D8	48	ug/l			
MW-39-S	9/28/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
MW-39-S	9/28/2011	Chloroethane	1	ug/l	U	5	1
MW-39-S	9/28/2011	Vinyl Chloride	8	ug/l		5	1
MW-39-S	9/28/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-39-S	9/28/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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MW-43-S	9/28/2011	Hydrogen	1.8	nm			0.60
MW-43-S	9/28/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-43-S	9/28/2011	Sulfate	38.8	mg/l		10.0	3.0
MW-43-S	9/28/2011	Chloride	27.6	mg/l		4.0	2.0
MW-43-S	9/28/2011	Alkalinity, Total (As CaCO3)	138	mg/l		2.0	0.46
MW-43-S	9/28/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-43-S	9/28/2011	Total Organic Carbon (TOC)	1.4	mg/l		1.0	0.50
MW-43-S	9/28/2011	Iron	0.8	mg/l			
MW-43-S	9/28/2011	Dissolved Oxygen	0.78	mg/l			
MW-43-S	9/28/2011	Oxidation Reduction Potential	-154.1	mV			
MW-43-S	9/28/2011	pH	7.79	SU			
MW-43-S	9/28/2011	Specific Conductance	0.845	umhos/cm			
MW-43-S	9/28/2011	Temperature	10.53	C			
MW-43-S	9/28/2011	Turbidity	0	ntu			
MW-43-S	9/28/2011	Carbon dioxide	5.9	mg/l	JQ	12	4.0
MW-43-S	9/28/2011	Propylene (Propene)	0.012	mg/l			
MW-43-S	9/28/2011	Methane	0.01	mg/l	JQ	0.015	0.0050
MW-43-S	9/28/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-43-S	9/28/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-43-S	9/28/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-43-S	9/28/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-43-S	9/28/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	9/28/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	9/28/2011	1,2-Dichloroethane-d4	50	ug/l			
MW-43-S	9/28/2011	Dibromofluoromethane	51	ug/l			
MW-43-S	9/28/2011	Toluene-D8	49	ug/l			
MW-43-S	9/28/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
MW-43-S	9/28/2011	Chloroethane	1	ug/l	U	5	1
MW-43-S	9/28/2011	Vinyl Chloride	11	ug/l		5	1
MW-43-S	9/28/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	9/28/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-49-S	9/28/2011	Hydrogen	2.1	nm			0.60
MW-49-S	9/28/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-49-S	9/28/2011	Sulfate	84.4	mg/l		20.0	6.0
MW-49-S	9/28/2011	Chloride	83.8	mg/l		8.0	4.0
MW-49-S	9/28/2011	Alkalinity, Total (As CaCO3)	179	mg/l		2.0	0.46
MW-49-S	9/28/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-49-S	9/28/2011	Total Organic Carbon (TOC)	1.2	mg/l		1.0	0.50
MW-49-S	9/28/2011	Iron	1.2	mg/l			
MW-49-S	9/28/2011	Dissolved Oxygen	0.63	mg/l			
MW-49-S	9/28/2011	Oxidation Reduction Potential	-172.2	mV			
MW-49-S	9/28/2011	pH	7.9	SU			
MW-49-S	9/28/2011	Specific Conductance	1.521	umhos/cm			
MW-49-S	9/28/2011	Temperature	12.89	C			
MW-49-S	9/28/2011	Turbidity	6.8	ntu			
MW-49-S	9/28/2011	Carbon dioxide	7.7	mg/l	JQ	12	4.0
MW-49-S	9/28/2011	Propylene (Propene)	0.012	mg/l			
MW-49-S	9/28/2011	Methane	0.0086	mg/l	JQ	0.015	0.0050
MW-49-S	9/28/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-49-S	9/28/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-49-S	9/28/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-49-S	9/28/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-49-S	9/28/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	9/28/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	9/28/2011	1,2-Dichloroethane-d4	49	ug/l			
MW-49-S	9/28/2011	Dibromofluoromethane	51	ug/l			
MW-49-S	9/28/2011	Toluene-D8	49	ug/l			
MW-49-S	9/28/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
MW-49-S	9/28/2011	Chloroethane	1	ug/l	U	5	1
MW-49-S	9/28/2011	Vinyl Chloride	5	ug/l	JQ	5	1
MW-49-S	9/28/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	9/28/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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PW-03	9/29/2011	Hydrogen	1.9	nm			0.60
PW-03	9/29/2011	Nitrogen, nitrate	0.81	mg/l		0.10	0.050
PW-03	9/29/2011	Sulfate	22	mg/l		5.0	1.5
PW-03	9/29/2011	Chloride	13.4	mg/l		2.0	1.0
PW-03	9/29/2011	Alkalinity, Total (As CaCO3)	232	mg/l		2.0	0.46
PW-03	9/29/2011	Sulfide	0.53	mg/l	U	2.0	0.53
PW-03	9/29/2011	Total Organic Carbon (TOC)	5.1	mg/l		1.0	0.50
PW-03	9/29/2011	Iron	0	mg/l			
PW-03	9/29/2011	Dissolved Oxygen	3.66	mg/l			
PW-03	9/29/2011	Oxidation Reduction Potential	40.8	mV			
PW-03	9/29/2011	pH	8.67	SU			
PW-03	9/29/2011	Specific Conductance	0.51	umhos/cm			
PW-03	9/29/2011	Temperature	12.68	C			
PW-03	9/29/2011	Turbidity	0	ntu			
PW-03	9/29/2011	Carbon dioxide	6	mg/l	JQ	12	4.0
PW-03	9/29/2011	Propylene (Propene)	0.011	mg/l			
PW-03	9/29/2011	Methane	0.005	mg/l	U	0.015	0.0050
PW-03	9/29/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-03	9/29/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-03	9/29/2011	Chlorobenzene	45	ug/l		5	0.8
PW-03	9/29/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-03	9/29/2011	cis-1,2-Dichloroethene	77	ug/l		5	0.8
PW-03	9/29/2011	trans-1,2-Dichloroethene	84	ug/l		5	0.8
PW-03	9/29/2011	1,2-Dichloroethane-d4	50	ug/l			
PW-03	9/29/2011	Dibromofluoromethane	48	ug/l			
PW-03	9/29/2011	Toluene-D8	49	ug/l			
PW-03	9/29/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	50	ug/l			
PW-03	9/29/2011	Chloroethane	1	ug/l	U	5	1
PW-03	9/29/2011	Vinyl Chloride	6	ug/l		5	1
PW-03	9/29/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-03	9/29/2011	Trichloroethene (TCE)	13	ug/l		5	1
MW-50-S	9/26/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-50-S	9/26/2011	Sulfate	74.6	mg/l		20.0	6.0
MW-50-S	9/26/2011	Chloride	73.7	mg/l		8.0	4.0
MW-50-S	9/26/2011	Alkalinity, Total (As CaCO3)	155	mg/l		2.0	0.46
MW-50-S	9/26/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-50-S	9/26/2011	Total Organic Carbon (TOC)	2	mg/l		1.0	0.50
MW-50-S	9/26/2011	Iron	3.6	mg/l			
MW-50-S	9/26/2011	Dissolved Oxygen	0.31	mg/l			
MW-50-S	9/26/2011	Oxidation Reduction Potential	-129.8	mV			
MW-50-S	9/26/2011	pH	7.66	SU			
MW-50-S	9/26/2011	Specific Conductance	0.629	umhos/cm			
MW-50-S	9/26/2011	Temperature	12.1	C			
MW-50-S	9/26/2011	Turbidity	4.7	ntu			
MW-50-S	9/26/2011	Propylene (Propene)	0.011	mg/l			
MW-50-S	9/26/2011	Methane	0.012	mg/l	JQ	0.015	0.0050
MW-50-S	9/26/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-50-S	9/26/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-50-S	9/26/2011	Carbon dioxide	13	mg/l		12	4.0
MW-50-S	9/26/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-50-S	9/26/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-50-S	9/26/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	9/26/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	9/26/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-50-S	9/26/2011	Dibromofluoromethane	50	ug/l			
MW-50-S	9/26/2011	Toluene-D8	48	ug/l			
MW-50-S	9/26/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
MW-50-S	9/26/2011	Chloroethane	1	ug/l	U	5	1
MW-50-S	9/26/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-50-S	9/26/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	9/26/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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MW-54-S	9/26/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-54-S	9/26/2011	Sulfate	52.1	mg/l		5.0	1.5
MW-54-S	9/26/2011	Chloride	104	mg/l		20.0	10.0
MW-54-S	9/26/2011	Alkalinity, Total (As CaCO3)	138	mg/l		2.0	0.46
MW-54-S	9/26/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-54-S	9/26/2011	Total Organic Carbon (TOC)	1	mg/l		1.0	0.50
MW-54-S	9/26/2011	Iron	0.8	mg/l			
MW-54-S	9/26/2011	Dissolved Oxygen	2.29	mg/l			
MW-54-S	9/26/2011	Oxidation Reduction Potential	-165	mV			
MW-54-S	9/26/2011	pH	8.5	SU			
MW-54-S	9/26/2011	Specific Conductance	0.782	umhos/cm			
MW-54-S	9/26/2011	Temperature	11.9	C			
MW-54-S	9/26/2011	Turbidity	4	ntu			
MW-54-S	9/26/2011	Propylene (Propene)	0.012	mg/l			
MW-54-S	9/26/2011	Methane	0.022	mg/l		0.015	0.0050
MW-54-S	9/26/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-54-S	9/26/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-54-S	9/26/2011	Carbon dioxide	4.5	mg/l	JQ	12	4.0
MW-54-S	9/26/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-54-S	9/26/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-54-S	9/26/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-S	9/26/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-S	9/26/2011	1,2-Dichloroethane-d4	50	ug/l			
MW-54-S	9/26/2011	Dibromofluoromethane	49	ug/l			
MW-54-S	9/26/2011	Toluene-D8	48	ug/l			
MW-54-S	9/26/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
MW-54-S	9/26/2011	Chloroethane	1	ug/l	U	5	1
MW-54-S	9/26/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-54-S	9/26/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-S	9/26/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
SW-01	9/26/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
SW-01	9/26/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
SW-01	9/26/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-01	9/26/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-01	9/26/2011	1,2-Dichloroethane-d4	51	ug/l			
SW-01	9/26/2011	Dibromofluoromethane	50	ug/l			
SW-01	9/26/2011	Toluene-D8	48	ug/l			
SW-01	9/26/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
SW-01	9/26/2011	Chloroethane	1	ug/l	U	5	1
SW-01	9/26/2011	Vinyl Chloride	1	ug/l	U	5	1
SW-01	9/26/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
SW-01	9/26/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
SW-01	9/26/2011	Terphenyl-d14	77	ug/l			
SW-01	9/26/2011	2-Fluorobiphenyl	81	ug/l			
SW-01	9/26/2011	Nitrobenzene-d5	92	ug/l			
SW-01	9/26/2011	2,4-Diaminotoluene	48	ug/l	R	96	48
SW-02	9/26/2011	Chlorobenzene	0.8	ug/l	JQ	5	0.8
SW-02	9/26/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
SW-02	9/26/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-02	9/26/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-02	9/26/2011	1,2-Dichloroethane-d4	50	ug/l			
SW-02	9/26/2011	Dibromofluoromethane	49	ug/l			
SW-02	9/26/2011	Toluene-D8	48	ug/l			
SW-02	9/26/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
SW-02	9/26/2011	Chloroethane	1	ug/l	U	5	1
SW-02	9/26/2011	Vinyl Chloride	1	ug/l	U	5	1
SW-02	9/26/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
SW-02	9/26/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
SW-02	9/26/2011	Terphenyl-d14	79	ug/l			
SW-02	9/26/2011	2-Fluorobiphenyl	82	ug/l			
SW-02	9/26/2011	Nitrobenzene-d5	93	ug/l			
SW-02	9/26/2011	2,4-Diaminotoluene	47	ug/l	R	95	47

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SW-03	9/26/2011	Chlorobenzene	2	ug/l	JQ	5	0.8
SW-03	9/26/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
SW-03	9/26/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-03	9/26/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-03	9/26/2011	1,2-Dichloroethane-d4	50	ug/l			
SW-03	9/26/2011	Dibromofluoromethane	50	ug/l			
SW-03	9/26/2011	Toluene-D8	47	ug/l			
SW-03	9/26/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	47	ug/l			
SW-03	9/26/2011	Chloroethane	1	ug/l	U	5	1
SW-03	9/26/2011	Vinyl Chloride	1	ug/l	U	5	1
SW-03	9/26/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
SW-03	9/26/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
SW-03	9/26/2011	Terphenyl-d14	84	ug/l			
SW-03	9/26/2011	2-Fluorobiphenyl	84	ug/l			
SW-03	9/26/2011	Nitrobenzene-d5	95	ug/l			
SW-03	9/26/2011	2,4-Diaminotoluene	49	ug/l	R	99	49
MW-37-S	9/27/2011	Nitrogen, nitrate	2.2	mg/l		0.10	0.050
MW-37-S	9/27/2011	Sulfate	39.3	mg/l		5.0	1.5
MW-37-S	9/27/2011	Chloride	27.3	mg/l		2.0	1.0
MW-37-S	9/27/2011	Alkalinity, Total (As CaCO3)	220	mg/l		2.0	0.46
MW-37-S	9/27/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-37-S	9/27/2011	Total Organic Carbon (TOC)	1.4	mg/l		1.0	0.50
MW-37-S	9/27/2011	Iron	0	mg/l			
MW-37-S	9/27/2011	Dissolved Oxygen	2.72	mg/l			
MW-37-S	9/27/2011	Oxidation Reduction Potential	41.5	mV			
MW-37-S	9/27/2011	pH	7.62	SU			
MW-37-S	9/27/2011	Specific Conductance	1.179	umhos/cm			
MW-37-S	9/27/2011	Temperature	12.4	C			
MW-37-S	9/27/2011	Turbidity	1	ntu			
MW-37-S	9/27/2011	Propylene (Propene)	0.011	mg/l			
MW-37-S	9/27/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-37-S	9/27/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-37-S	9/27/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-37-S	9/27/2011	Carbon dioxide	15	mg/l		12	4.0
MW-37-S	9/27/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-37-S	9/27/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-37-S	9/27/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	9/27/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	9/27/2011	1,2-Dichloroethane-d4	49	ug/l			
MW-37-S	9/27/2011	Dibromofluoromethane	49	ug/l			
MW-37-S	9/27/2011	Toluene-D8	49	ug/l			
MW-37-S	9/27/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	49	ug/l			
MW-37-S	9/27/2011	Chloroethane	1	ug/l	U	5	1
MW-37-S	9/27/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-37-S	9/27/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	9/27/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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MW-45-S	9/27/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-45-S	9/27/2011	Sulfate	64.6	mg/l		20.0	6.0
MW-45-S	9/27/2011	Chloride	70.2	mg/l		8.0	4.0
MW-45-S	9/27/2011	Alkalinity, Total (As CaCO3)	204	mg/l		2.0	0.46
MW-45-S	9/27/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-45-S	9/27/2011	Total Organic Carbon (TOC)	1.7	mg/l		1.0	0.50
MW-45-S	9/27/2011	Iron	1	mg/l			
MW-45-S	9/27/2011	Dissolved Oxygen	0.62	mg/l			
MW-45-S	9/27/2011	Oxidation Reduction Potential	-151.6	mV			
MW-45-S	9/27/2011	pH	8	SU			
MW-45-S	9/27/2011	Specific Conductance	1.44	umhos/cm			
MW-45-S	9/27/2011	Temperature	12.15	C			
MW-45-S	9/27/2011	Turbidity	4.4	ntu			
MW-45-S	9/27/2011	Propylene (Propene)	0.012	mg/l			
MW-45-S	9/27/2011	Methane	0.0083	mg/l	JQ	0.015	0.0050
MW-45-S	9/27/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-45-S	9/27/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-45-S	9/27/2011	Carbon dioxide	9.3	mg/l	JQ	12	4.0
MW-45-S	9/27/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-45-S	9/27/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-45-S	9/27/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	9/27/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	9/27/2011	1,2-Dichloroethane-d4	50	ug/l			
MW-45-S	9/27/2011	Dibromofluoromethane	49	ug/l			
MW-45-S	9/27/2011	Toluene-D8	49	ug/l			
MW-45-S	9/27/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	49	ug/l			
MW-45-S	9/27/2011	Chloroethane	1	ug/l	U	5	1
MW-45-S	9/27/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-45-S	9/27/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	9/27/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-47-S	9/26/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-47-S	9/26/2011	Sulfate	62.5	mg/l		10.0	3.0
MW-47-S	9/26/2011	Chloride	48.9	mg/l		4.0	2.0
MW-47-S	9/26/2011	Alkalinity, Total (As CaCO3)	145	mg/l		2.0	0.46
MW-47-S	9/26/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-47-S	9/26/2011	Total Organic Carbon (TOC)	1.6	mg/l		1.0	0.50
MW-47-S	9/26/2011	Iron	0.8	mg/l			
MW-47-S	9/26/2011	Dissolved Oxygen	0.3	mg/l			
MW-47-S	9/26/2011	Oxidation Reduction Potential	-143.5	mV			
MW-47-S	9/26/2011	pH	8.41	SU			
MW-47-S	9/26/2011	Specific Conductance	0.482	umhos/cm			
MW-47-S	9/26/2011	Temperature	11.83	C			
MW-47-S	9/26/2011	Turbidity	4.2	ntu			
MW-47-S	9/26/2011	Propylene (Propene)	0.012	mg/l			
MW-47-S	9/26/2011	Methane	0.0069	mg/l	JQ	0.015	0.0050
MW-47-S	9/26/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-47-S	9/26/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-47-S	9/26/2011	Carbon dioxide	5.3	mg/l	JQ	12	4.0
MW-47-S	9/26/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-47-S	9/26/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-47-S	9/26/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	9/26/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	9/26/2011	1,2-Dichloroethane-d4	50	ug/l			
MW-47-S	9/26/2011	Dibromofluoromethane	49	ug/l			
MW-47-S	9/26/2011	Toluene-D8	49	ug/l			
MW-47-S	9/26/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	49	ug/l			
MW-47-S	9/26/2011	Chloroethane	1	ug/l	U	5	1
MW-47-S	9/26/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-47-S	9/26/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	9/26/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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PW-04	9/27/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
PW-04	9/27/2011	Sulfate	27.2	mg/l		5.0	1.5
PW-04	9/27/2011	Chloride	27.2	mg/l		2.0	1.0
PW-04	9/27/2011	Alkalinity, Total (As CaCO3)	264	mg/l		2.0	0.46
PW-04	9/27/2011	Sulfide	0.53	mg/l	U	2.0	0.53
PW-04	9/27/2011	Total Organic Carbon (TOC)	4.9	mg/l		1.0	0.50
PW-04	9/27/2011	Iron	0.2	mg/l			
PW-04	9/27/2011	Dissolved Oxygen	0.63	mg/l			
PW-04	9/27/2011	Oxidation Reduction Potential	-45.5	mV			
PW-04	9/27/2011	pH	8.26	SU			
PW-04	9/27/2011	Specific Conductance	1.262	umhos/cm			
PW-04	9/27/2011	Temperature	12.55	C			
PW-04	9/27/2011	Turbidity	0.8	ntu			
PW-04	9/27/2011	Propylene (Propene)	0.011	mg/l			
PW-04	9/27/2011	Methane	0.0053	mg/l	JQ	0.015	0.0050
PW-04	9/27/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-04	9/27/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-04	9/27/2011	Carbon dioxide	7.7	mg/l	JQ	12	4.0
PW-04	9/27/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-04	9/27/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-04	9/27/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-04	9/27/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-04	9/27/2011	1,2-Dichloroethane-d4	49	ug/l			
PW-04	9/27/2011	Dibromofluoromethane	50	ug/l			
PW-04	9/27/2011	Toluene-D8	49	ug/l			
PW-04	9/27/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	48	ug/l			
PW-04	9/27/2011	Chloroethane	1	ug/l	U	5	1
PW-04	9/27/2011	Vinyl Chloride	2	ug/l	JQ	5	1
PW-04	9/27/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-04	9/27/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
PW-05	9/27/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
PW-05	9/27/2011	Sulfate	56.1	mg/l		20.0	6.0
PW-05	9/27/2011	Chloride	67	mg/l		8.0	4.0
PW-05	9/27/2011	Alkalinity, Total (As CaCO3)	222	mg/l		2.0	0.46
PW-05	9/27/2011	Sulfide	0.53	mg/l	U	2.0	0.53
PW-05	9/27/2011	Total Organic Carbon (TOC)	1.4	mg/l		1.0	0.50
PW-05	9/27/2011	Iron	2	mg/l			
PW-05	9/27/2011	Dissolved Oxygen	0.49	mg/l			
PW-05	9/27/2011	Oxidation Reduction Potential	-160.2	mV			
PW-05	9/27/2011	pH	7.75	SU			
PW-05	9/27/2011	Specific Conductance	1.474	umhos/cm			
PW-05	9/27/2011	Temperature	12.67	C			
PW-05	9/27/2011	Turbidity	5.1	ntu			
PW-05	9/27/2011	Propylene (Propene)	0.012	mg/l			
PW-05	9/27/2011	Methane	0.014	mg/l	JQ	0.015	0.0050
PW-05	9/27/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-05	9/27/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-05	9/27/2011	Carbon dioxide	12	mg/l		12	4.0
PW-05	9/27/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-05	9/27/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-05	9/27/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	9/27/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	9/27/2011	1,2-Dichloroethane-d4	50	ug/l			
PW-05	9/27/2011	Dibromofluoromethane	49	ug/l			
PW-05	9/27/2011	Toluene-D8	49	ug/l			
PW-05	9/27/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	48	ug/l			
PW-05	9/27/2011	Chloroethane	1	ug/l	U	5	1
PW-05	9/27/2011	Vinyl Chloride	11	ug/l		5	1
PW-05	9/27/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	9/27/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

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PW-08	9/27/2011	Nitrogen, nitrate	0.26	mg/l		0.10	0.050
PW-08	9/27/2011	Sulfate	5.6	mg/l		1.0	0.30
PW-08	9/27/2011	Chloride	17.6	mg/l		2.0	1.0
PW-08	9/27/2011	Alkalinity, Total (As CaCO3)	143	mg/l		2.0	0.46
PW-08	9/27/2011	Sulfide	0.53	mg/l	U	2.0	0.53
PW-08	9/27/2011	Total Organic Carbon (TOC)	5.7	mg/l		1.0	0.50
PW-08	9/27/2011	Iron	0	mg/l			
PW-08	9/27/2011	Dissolved Oxygen	4.12	mg/l			
PW-08	9/27/2011	Oxidation Reduction Potential	66.1	mV			
PW-08	9/27/2011	pH	7.97	SU			
PW-08	9/27/2011	Specific Conductance	0.788	umhos/cm			
PW-08	9/27/2011	Temperature	12.94	C			
PW-08	9/27/2011	Turbidity	15.4	ntu			
PW-08	9/27/2011	Propylene (Propene)	0.012	mg/l			
PW-08	9/27/2011	Methane	0.005	mg/l	U	0.015	0.0050
PW-08	9/27/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-08	9/27/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-08	9/27/2011	Carbon dioxide	5.3	mg/l	JQ	12	4.0
PW-08	9/27/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-08	9/27/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-08	9/27/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	9/27/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	9/27/2011	1,2-Dichloroethane-d4	49	ug/l			
PW-08	9/27/2011	Dibromofluoromethane	49	ug/l			
PW-08	9/27/2011	Toluene-D8	49	ug/l			
PW-08	9/27/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	49	ug/l			
PW-08	9/27/2011	Chloroethane	1	ug/l	U	5	1
PW-08	9/27/2011	Vinyl Chloride	1	ug/l	U	5	1
PW-08	9/27/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	9/27/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-27-S	9/28/2011	Nitrogen, nitrate	2.5	mg/l		0.10	0.050
MW-27-S	9/28/2011	Sulfate	12.4	mg/l		1.0	0.30
MW-27-S	9/28/2011	Chloride	1.1	mg/l		0.40	0.20
MW-27-S	9/28/2011	Alkalinity, Total (As CaCO3)	7.9	mg/l		2.0	0.46
MW-27-S	9/28/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-27-S	9/28/2011	Total Organic Carbon (TOC)	0.79	mg/l	JQ	1.0	0.50
MW-27-S	9/28/2011	Iron	0	mg/l			
MW-27-S	9/28/2011	Dissolved Oxygen	10.44	mg/l			
MW-27-S	9/28/2011	Oxidation Reduction Potential	190.6	mV			
MW-27-S	9/28/2011	pH	5.74	SU			
MW-27-S	9/28/2011	Specific Conductance	0.161	umhos/cm			
MW-27-S	9/28/2011	Temperature	15.52	C			
MW-27-S	9/28/2011	Turbidity	0	ntu			
MW-27-S	9/28/2011	Carbon dioxide	18	mg/l		12	4.0
MW-27-S	9/28/2011	Propylene (Propene)	0.013	mg/l			
MW-27-S	9/28/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-27-S	9/28/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-27-S	9/28/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-27-S	9/28/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-27-S	9/28/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-27-S	9/28/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	9/28/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	9/28/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-27-S	9/28/2011	Dibromofluoromethane	51	ug/l			
MW-27-S	9/28/2011	Toluene-D8	48	ug/l			
MW-27-S	9/28/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	48	ug/l			
MW-27-S	9/28/2011	Chloroethane	1	ug/l	U	5	1
MW-27-S	9/28/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-27-S	9/28/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	9/28/2011	Trichloroethene (TCE)	1	ug/l	U	5	1

Table 2
2011 Analytical Results
Big D Campground Superfund Site
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MW-32-S	9/27/2011	Nitrogen, nitrate	2.6	mg/l		0.10	0.050
MW-32-S	9/27/2011	Sulfate	28.1	mg/l		5.0	1.5
MW-32-S	9/27/2011	Chloride	170	mg/l		20.0	10.0
MW-32-S	9/27/2011	Alkalinity, Total (As CaCO3)	169	mg/l		2.0	0.46
MW-32-S	9/27/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-32-S	9/27/2011	Total Organic Carbon (TOC)	1.2	mg/l		1.0	0.50
MW-32-S	9/27/2011	Iron	0	mg/l			
MW-32-S	9/27/2011	Dissolved Oxygen	7.29	mg/l			
MW-32-S	9/27/2011	Oxidation Reduction Potential	44.2	mV			
MW-32-S	9/27/2011	pH	6.9	SU			
MW-32-S	9/27/2011	Specific Conductance	1.853	umhos/cm			
MW-32-S	9/27/2011	Temperature	11.38	C			
MW-32-S	9/27/2011	Turbidity	7.9	ntu			
MW-32-S	9/27/2011	Carbon dioxide	33	mg/l		12	4.0
MW-32-S	9/27/2011	Propylene (Propene)	0.012	mg/l			
MW-32-S	9/27/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-32-S	9/27/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-32-S	9/27/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-32-S	9/27/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-32-S	9/27/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-32-S	9/27/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	9/27/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	9/27/2011	1,2-Dichloroethane-d4	50	ug/l			
MW-32-S	9/27/2011	Dibromofluoromethane	50	ug/l			
MW-32-S	9/27/2011	Toluene-D8	48	ug/l			
MW-32-S	9/27/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	48	ug/l			
MW-32-S	9/27/2011	Chloroethane	1	ug/l	U	5	1
MW-32-S	9/27/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-32-S	9/27/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	9/27/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-18-S	9/29/2011	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-18-S	9/29/2011	Sulfate	113	mg/l		10.0	3.0
MW-18-S	9/29/2011	Chloride	45.9	mg/l		4.0	2.0
MW-18-S	9/29/2011	Alkalinity, Total (As CaCO3)	250	mg/l		2.0	0.46
MW-18-S	9/29/2011	Sulfide	0.53	mg/l	U	2.0	0.53
MW-18-S	9/29/2011	Total Organic Carbon (TOC)	0.91	mg/l	JQ	1.0	0.50
MW-18-S	9/29/2011	Iron	0.2	mg/l			
MW-18-S	9/29/2011	Dissolved Oxygen	1.33	mg/l			
MW-18-S	9/29/2011	Oxidation Reduction Potential	-28.4	mV			
MW-18-S	9/29/2011	pH	7.6	SU			
MW-18-S	9/29/2011	Specific Conductance	0.79	umhos/cm			
MW-18-S	9/29/2011	Temperature	11.56	C			
MW-18-S	9/29/2011	Turbidity	0	ntu			
MW-18-S	9/29/2011	Carbon dioxide	25	mg/l		12	4.0
MW-18-S	9/29/2011	Propylene (Propene)	0.01	mg/l			
MW-18-S	9/29/2011	Methane	0.005	mg/l	U	0.015	0.0050
MW-18-S	9/29/2011	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-18-S	9/29/2011	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-18-S	9/29/2011	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-18-S	9/29/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-18-S	9/29/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	9/29/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	9/29/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-18-S	9/29/2011	Dibromofluoromethane	48	ug/l			
MW-18-S	9/29/2011	Toluene-D8	49	ug/l			
MW-18-S	9/29/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	49	ug/l			
MW-18-S	9/29/2011	Chloroethane	1	ug/l	U	5	1
MW-18-S	9/29/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-18-S	9/29/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	9/29/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-18-S	9/29/2011	Terphenyl-d14	84	ug/l			
MW-18-S	9/29/2011	2-Fluorobiphenyl	98	ug/l			
MW-18-S	9/29/2011	Nitrobenzene-d5	100	ug/l			
MW-18-S	9/29/2011	2,4-Diaminotoluene	48	ug/l	J	96	48

Table 2
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MW-52-D	9/30/2011	Iron	3	mg/l			
MW-52-D	9/30/2011	Dissolved Oxygen	0.69	mg/l			
MW-52-D	9/30/2011	Oxidation Reduction Potential	6.4	mV			
MW-52-D	9/30/2011	pH	6.02	SU			
MW-52-D	9/30/2011	Specific Conductance	3.445	umhos/cm			
MW-52-D	9/30/2011	Temperature	13.2	C			
MW-52-D	9/30/2011	Turbidity	15.1	ntu			
MW-52-D	9/30/2011	Tetrachloroethene (PCE)	8	ug/l	U	50	8
MW-52-D	9/30/2011	cis-1,2-Dichloroethene	8	ug/l	U	50	8
MW-52-D	9/30/2011	trans-1,2-Dichloroethene	8	ug/l	U	50	8
MW-52-D	9/30/2011	1,2-Dichloroethane-d4	53	ug/l			
MW-52-D	9/30/2011	Dibromofluoromethane	48	ug/l			
MW-52-D	9/30/2011	Toluene-D8	51	ug/l			
MW-52-D	9/30/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	51	ug/l			
MW-52-D	9/30/2011	Chloroethane	10	ug/l	U	50	10
MW-52-D	9/30/2011	Vinyl Chloride	10	ug/l	U	50	10
MW-52-D	9/30/2011	1,1-Dichloroethene	8	ug/l	U	50	8
MW-52-D	9/30/2011	Trichloroethene (TCE)	10	ug/l	U	50	10
MW-52-D	9/30/2011	Chlorobenzene	5000	ug/l		500	80
MW-52-D	9/30/2011	Terphenyl-d14	77	ug/l			
MW-52-D	9/30/2011	2-Fluorobiphenyl	86	ug/l			
MW-52-D	9/30/2011	Nitrobenzene-d5	91	ug/l			
MW-52-D	9/30/2011	2,4-Diaminotoluene	48	ug/l	J	95	48
MW-52-S	9/30/2011	Iron	0	mg/l			
MW-52-S	9/30/2011	Dissolved Oxygen	0.81	mg/l			
MW-52-S	9/30/2011	Oxidation Reduction Potential	129.6	mV			
MW-52-S	9/30/2011	pH	5.67	SU			
MW-52-S	9/30/2011	Specific Conductance	0.623	umhos/cm			
MW-52-S	9/30/2011	Temperature	15.55	C			
MW-52-S	9/30/2011	Turbidity	10.2	ntu			
MW-52-S	9/30/2011	Chlorobenzene	29	ug/l		5	0.8
MW-52-S	9/30/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-52-S	9/30/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-52-S	9/30/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-52-S	9/30/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-52-S	9/30/2011	Dibromofluoromethane	49	ug/l			
MW-52-S	9/30/2011	Toluene-D8	50	ug/l			
MW-52-S	9/30/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	51	ug/l			
MW-52-S	9/30/2011	Chloroethane	1	ug/l	U	5	1
MW-52-S	9/30/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-52-S	9/30/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-52-S	9/30/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-52-S	9/30/2011	Terphenyl-d14	77	ug/l			
MW-52-S	9/30/2011	2-Fluorobiphenyl	85	ug/l			
MW-52-S	9/30/2011	Nitrobenzene-d5	83	ug/l			
MW-52-S	9/30/2011	2,4-Diaminotoluene	47	ug/l	J	95	47

Table 2
2011 Analytical Results
Big D Campground Superfund Site
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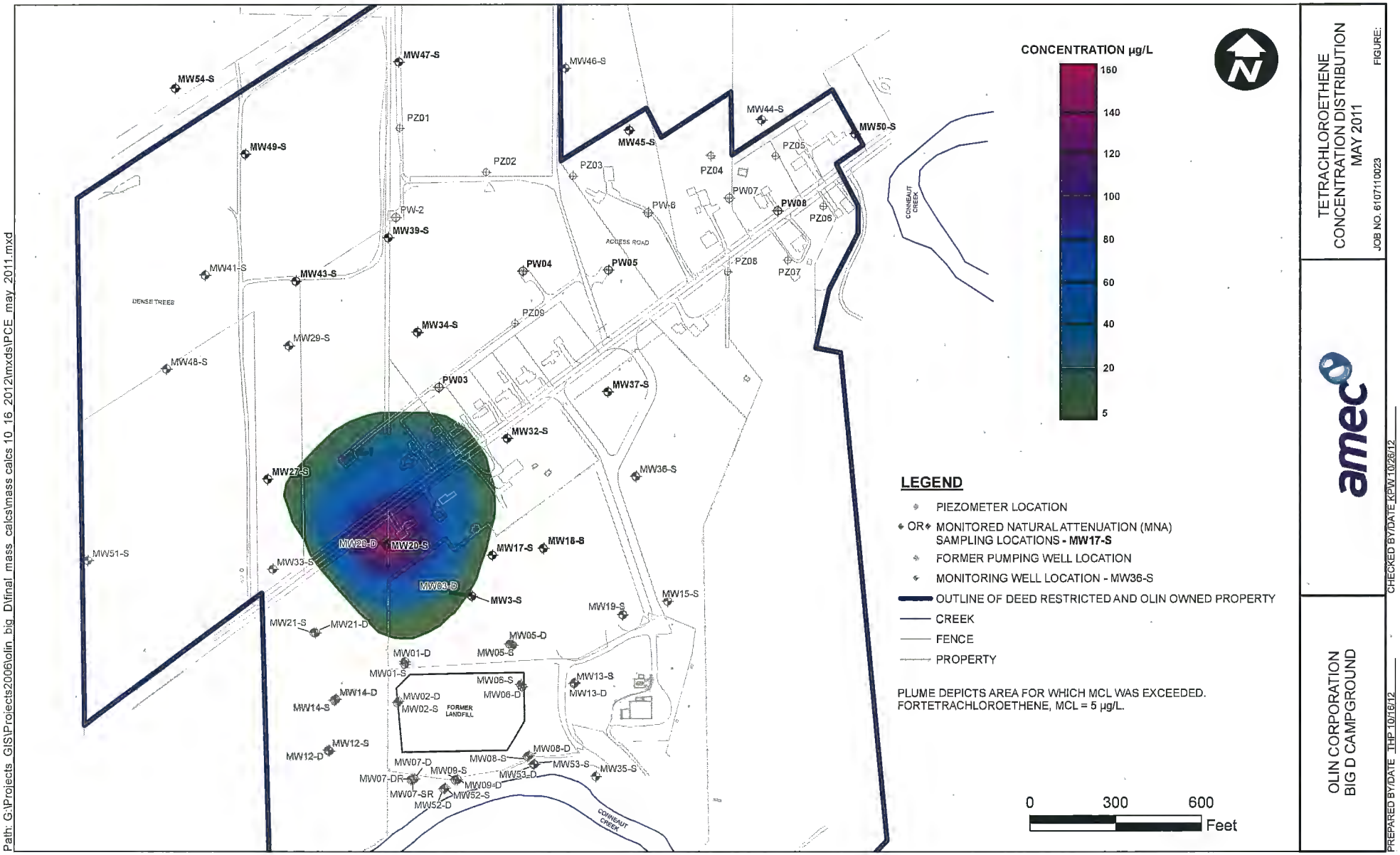
MW-53-D	9/30/2011	Iron	1.2	mg/l			
MW-53-D	9/30/2011	Dissolved Oxygen	0.5	mg/l			
MW-53-D	9/30/2011	Oxidation Reduction Potential	-76.4	mV			
MW-53-D	9/30/2011	pH	6.58	SU			
MW-53-D	9/30/2011	Specific Conductance	4.591	umhos/cm			
MW-53-D	9/30/2011	Temperature	12.51	C			
MW-53-D	9/30/2011	Turbidity	7	ntu			
MW-53-D	9/30/2011	Chlorobenzene	28	ug/l		5	0.8
MW-53-D	9/30/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-53-D	9/30/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-53-D	9/30/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-53-D	9/30/2011	1,2-Dichloroethane-d4	52	ug/l			
MW-53-D	9/30/2011	Dibromofluoromethane	48	ug/l			
MW-53-D	9/30/2011	Toluene-D8	50	ug/l			
MW-53-D	9/30/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	51	ug/l			
MW-53-D	9/30/2011	Chloroethane	1	ug/l	U	5	1
MW-53-D	9/30/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-53-D	9/30/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-53-D	9/30/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-53-D	9/30/2011	Terphenyl-d14	78	ug/l			
MW-53-D	9/30/2011	2-Fluorobiphenyl	88	ug/l			
MW-53-D	9/30/2011	Nitrobenzene-d5	91	ug/l			
MW-53-D	9/30/2011	2,4-Diaminotoluene	48	ug/l	J	95	48
MW-53-S	9/30/2011	Iron	0.2	mg/l			
MW-53-S	9/30/2011	Dissolved Oxygen	0.53	mg/l			
MW-53-S	9/30/2011	Oxidation Reduction Potential	89.3	mV			
MW-53-S	9/30/2011	pH	5.97	SU			
MW-53-S	9/30/2011	Specific Conductance	0.782	umhos/cm			
MW-53-S	9/30/2011	Temperature	15.49	C			
MW-53-S	9/30/2011	Turbidity	6	ntu			
MW-53-S	9/30/2011	Chlorobenzene	32	ug/l		5	0.8
MW-53-S	9/30/2011	Tetrachloroethene (PCE)	2	ug/l	JQ	5	0.8
MW-53-S	9/30/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-53-S	9/30/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-53-S	9/30/2011	1,2-Dichloroethane-d4	51	ug/l			
MW-53-S	9/30/2011	Dibromofluoromethane	49	ug/l			
MW-53-S	9/30/2011	Toluene-D8	50	ug/l			
MW-53-S	9/30/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	51	ug/l			
MW-53-S	9/30/2011	Chloroethane	1	ug/l	U	5	1
MW-53-S	9/30/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-53-S	9/30/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-53-S	9/30/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-53-S	9/30/2011	Terphenyl-d14	79	ug/l			
MW-53-S	9/30/2011	2-Fluorobiphenyl	86	ug/l			
MW-53-S	9/30/2011	Nitrobenzene-d5	89	ug/l			
MW-53-S	9/30/2011	2,4-Diaminotoluene	48	ug/l	J	95	48

Table 2
2011 Analytical Results
Big D Campground Superfund Site
December 21, 2012

MW-07-DR	9/30/2011	Iron	0	mg/l			
MW-07-DR	9/30/2011	Dissolved Oxygen	0.97	mg/l			
MW-07-DR	9/30/2011	Oxidation Reduction Potential	199.7	mV			
MW-07-DR	9/30/2011	pH	4.85	SU			
MW-07-DR	9/30/2011	Specific Conductance	5.596	umhos/cm			
MW-07-DR	9/30/2011	Temperature	11.9	C			
MW-07-DR	9/30/2011	Turbidity	6.1	ntu			
MW-07-DR	9/30/2011	Chlorobenzene	64	ug/l		5	0.8
MW-07-DR	9/30/2011	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-07-DR	9/30/2011	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-07-DR	9/30/2011	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-07-DR	9/30/2011	1,2-Dichloroethane-d4	53	ug/l			
MW-07-DR	9/30/2011	Dibromofluoromethane	49	ug/l			
MW-07-DR	9/30/2011	Toluene-D8	51	ug/l			
MW-07-DR	9/30/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	51	ug/l			
MW-07-DR	9/30/2011	Chloroethane	1	ug/l	U	5	1
MW-07-DR	9/30/2011	Vinyl Chloride	1	ug/l	U	5	1
MW-07-DR	9/30/2011	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-07-DR	9/30/2011	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-07-DR	9/30/2011	Terphenyl-d14	78	ug/l			
MW-07-DR	9/30/2011	2-Fluorobiphenyl	87	ug/l			
MW-07-DR	9/30/2011	Nitrobenzene-d5	90	ug/l			
MW-07-DR	9/30/2011	2,4-Diaminotoluene	47	ug/l	J	95	47
MW-07-SR	9/30/2011	Iron	4	mg/l			
MW-07-SR	9/30/2011	Dissolved Oxygen	0.49	mg/l			
MW-07-SR	9/30/2011	Oxidation Reduction Potential	-30.1	mV			
MW-07-SR	9/30/2011	pH	6.19	SU			
MW-07-SR	9/30/2011	Specific Conductance	1.02	umhos/cm			
MW-07-SR	9/30/2011	Temperature	14.72	C			
MW-07-SR	9/30/2011	Turbidity	7.2	ntu			
MW-07-SR	9/30/2011	Tetrachloroethene (PCE)	8	ug/l	U	50	8
MW-07-SR	9/30/2011	cis-1,2-Dichloroethene	8	ug/l	U	50	8
MW-07-SR	9/30/2011	trans-1,2-Dichloroethene	8	ug/l	U	50	8
MW-07-SR	9/30/2011	1,2-Dichloroethane-d4	52	ug/l			
MW-07-SR	9/30/2011	Dibromofluoromethane	48	ug/l			
MW-07-SR	9/30/2011	Toluene-D8	51	ug/l			
MW-07-SR	9/30/2011	1-Bromo-4-Fluorobenzene (Bromofluorobenzene)	53	ug/l			
MW-07-SR	9/30/2011	Chloroethane	10	ug/l	U	50	10
MW-07-SR	9/30/2011	Vinyl Chloride	10	ug/l	U	50	10
MW-07-SR	9/30/2011	1,1-Dichloroethene	8	ug/l	U	50	8
MW-07-SR	9/30/2011	Trichloroethene (TCE)	10	ug/l	U	50	10
MW-07-SR	9/30/2011	Chlorobenzene	5000	ug/l		500	80
MW-07-SR	9/30/2011	Terphenyl-d14	79	ug/l			
MW-07-SR	9/30/2011	2-Fluorobiphenyl	86	ug/l			
MW-07-SR	9/30/2011	Nitrobenzene-d5	90	ug/l			
MW-07-SR	9/30/2011	2,4-Diaminotoluene	48	ug/l	J	95	48



TETRACHLOROETHENE CONCENTRATION DISTRIBUTION MAY 2011

FIGURE:

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OLIN CORPORATION
BIG D CAMPGROUND

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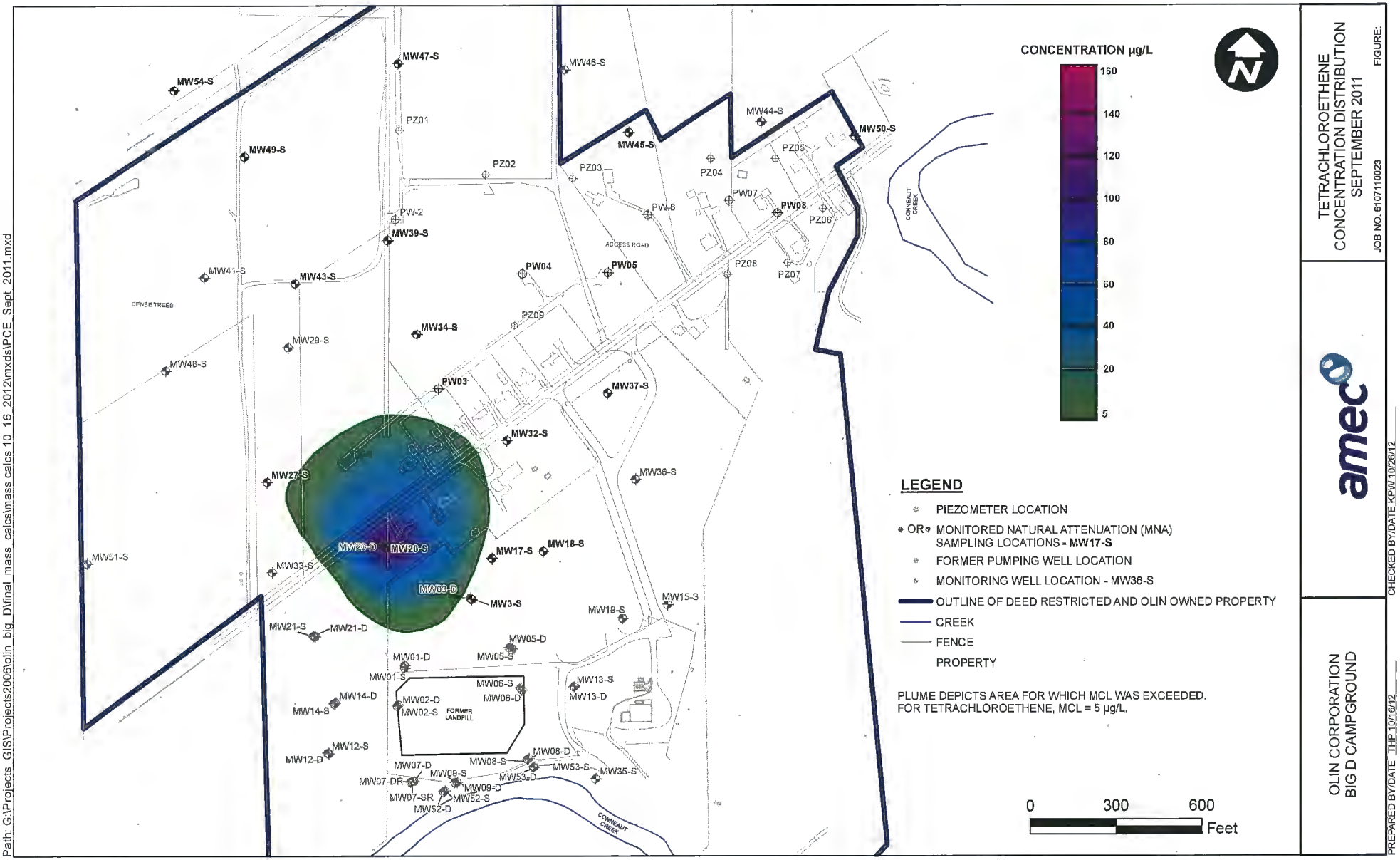

TETRACHLOROETHENE
CONCENTRATION DISTRIBUTION
SEPTEMBER 2011

FIGURE:

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TRICHLOROETHENE
CONCENTRATION DISTRIBUTION
MAY 2011

FIGURE:

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OLIN CORPORATION BIG D CAMPGROUND	amec	TRICHLOROETHENE CONCENTRATION DISTRIBUTION SEPTEMBER 2011 JOB NO. 6107110023 FIGURE:

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NOTE: TRANS-1,2-DICHLOROETHENE
WAS NOT DETECTED ABOVE THE
CLEAN UP GOAL OF 100 µg/L IN MAY 2011

OLIN CORPORATION BIG D CAMPGROUND	amec	TRANS-1,2-DICHLOROETHENE CONCENTRATION DISTRIBUTION MAY 2011 JOB NO. 6107110023 FIGURE:

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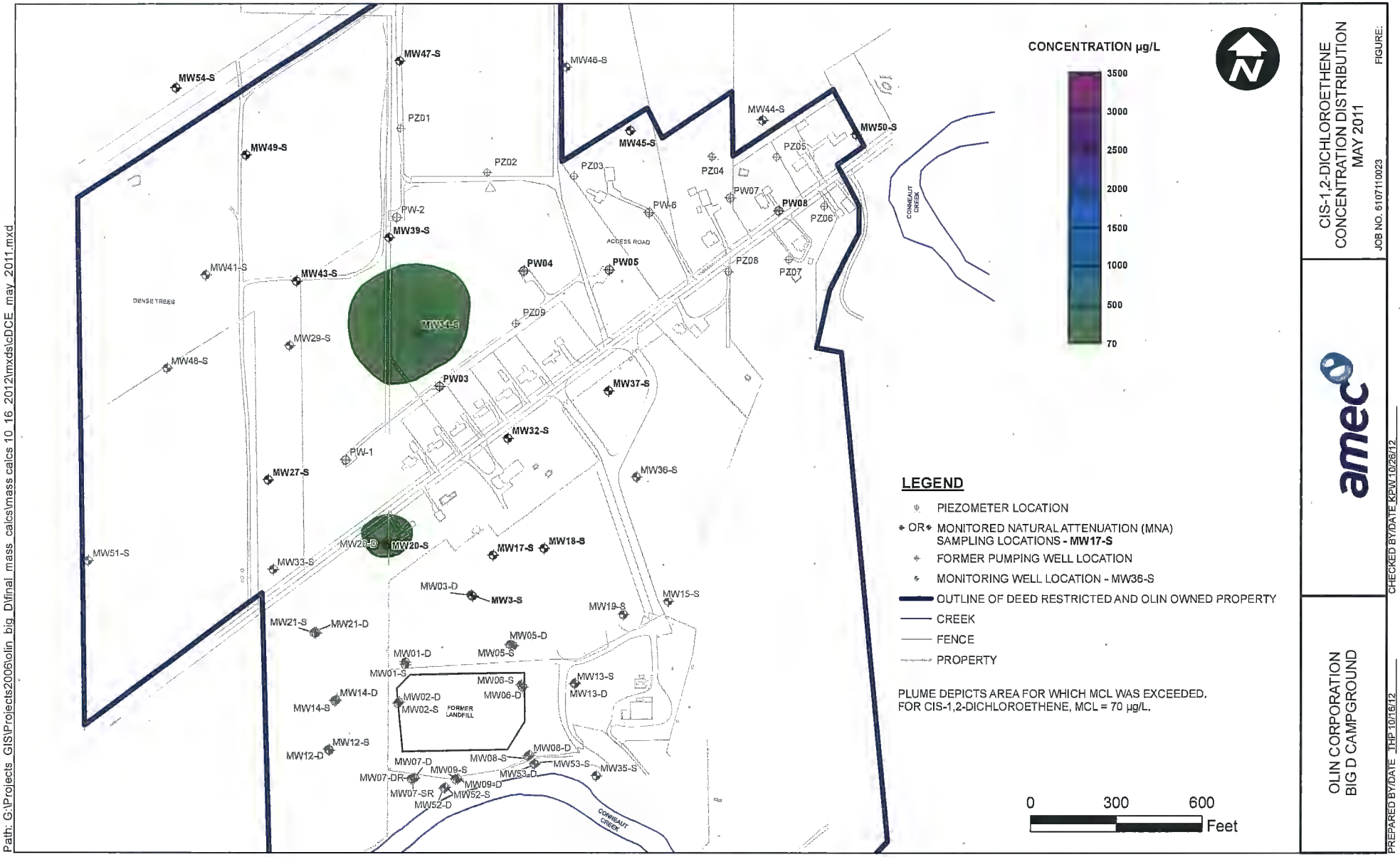
NOTE: TRANS-1,2-DICHLOROETHENE
WAS NOT DETECTED ABOVE THE
CLEAN UP GOAL OF 100 µg/L IN SEPTEMBER 2011

OLIN CORPORATION BIG D CAMPGROUND	amec	TRANS-1,2-DICHLOROETHENE CONCENTRATION DISTRIBUTION SEPTEMBER 2011 JOB NO. 6107110023 FIGURE:

PREPARED BY/DATE THP 10/16/12 CHECKED BY/DATE KPW 10/26/12



CIS-1,2-DICHLOROETHENE
CONCENTRATION DISTRIBUTION
MAY 2011

JOB NO. 6107110023

FIGURE:

amec

OLIN CORPORATION
BIG D CAMPGROUND

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CHECKED BY/DATE KPW 10/26/12

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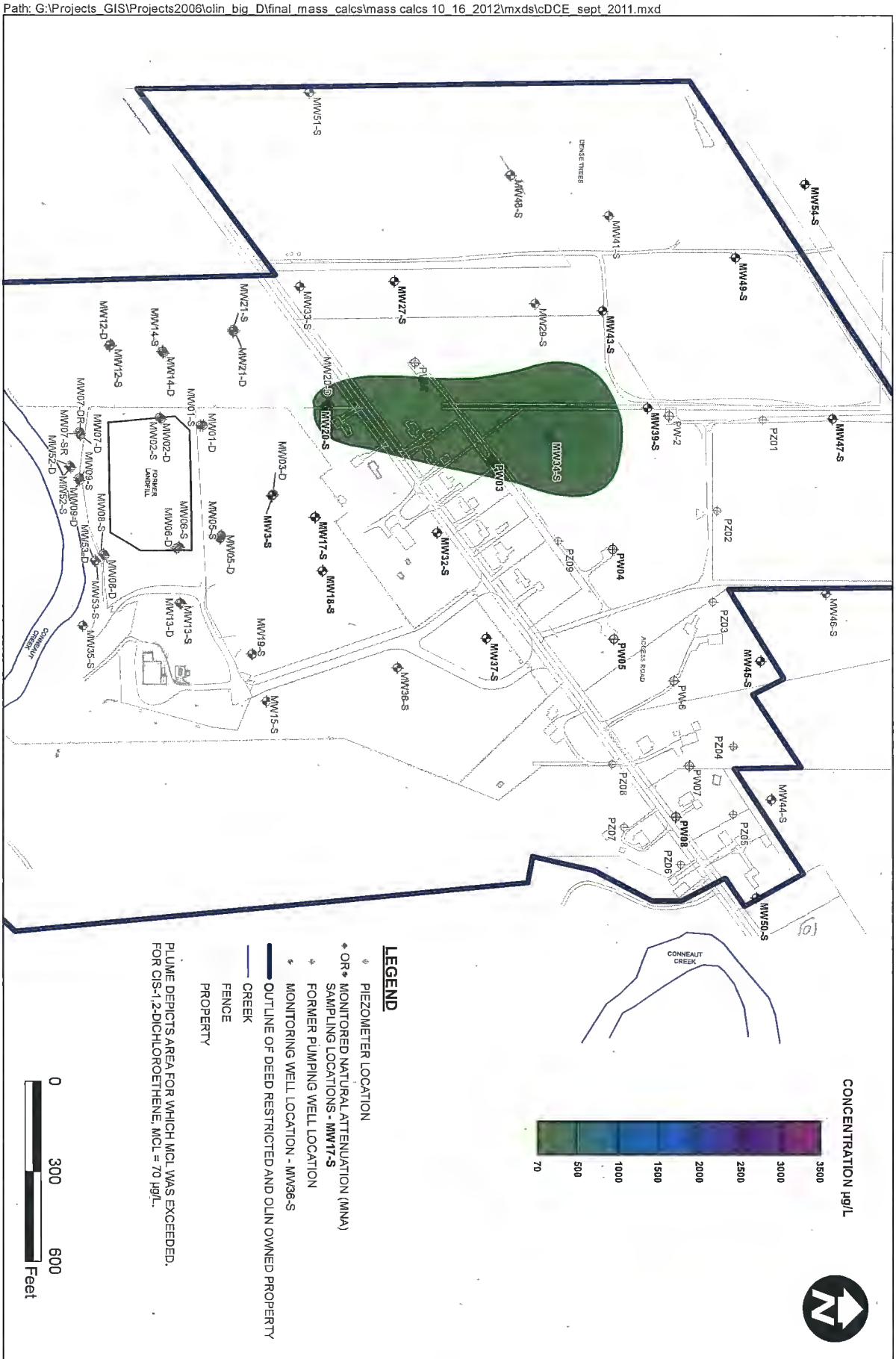

OLIN CORPORATION BIG D CAMPGROUND	amec	CIS-1,2-DICHLOROETHENE CONCENTRATION DISTRIBUTION SEPTEMBER 2011 JOB NO. 6107110023 FIGURE:

PREPARED BY/DATE THP 10/16/12 CHECKED BY/DATE KPW 10/26/12

VINYL CHLORIDE
CONCENTRATION DISTRIBUTION
MAY 2011

JOB NO. 6107110023

FIGURE:

amec

OLIN CORPORATION
BIG D CAMPGROUND

PREPARED BY/DATE THP 10/16/12

CHECKED BY/DATE KPW 10/26/12

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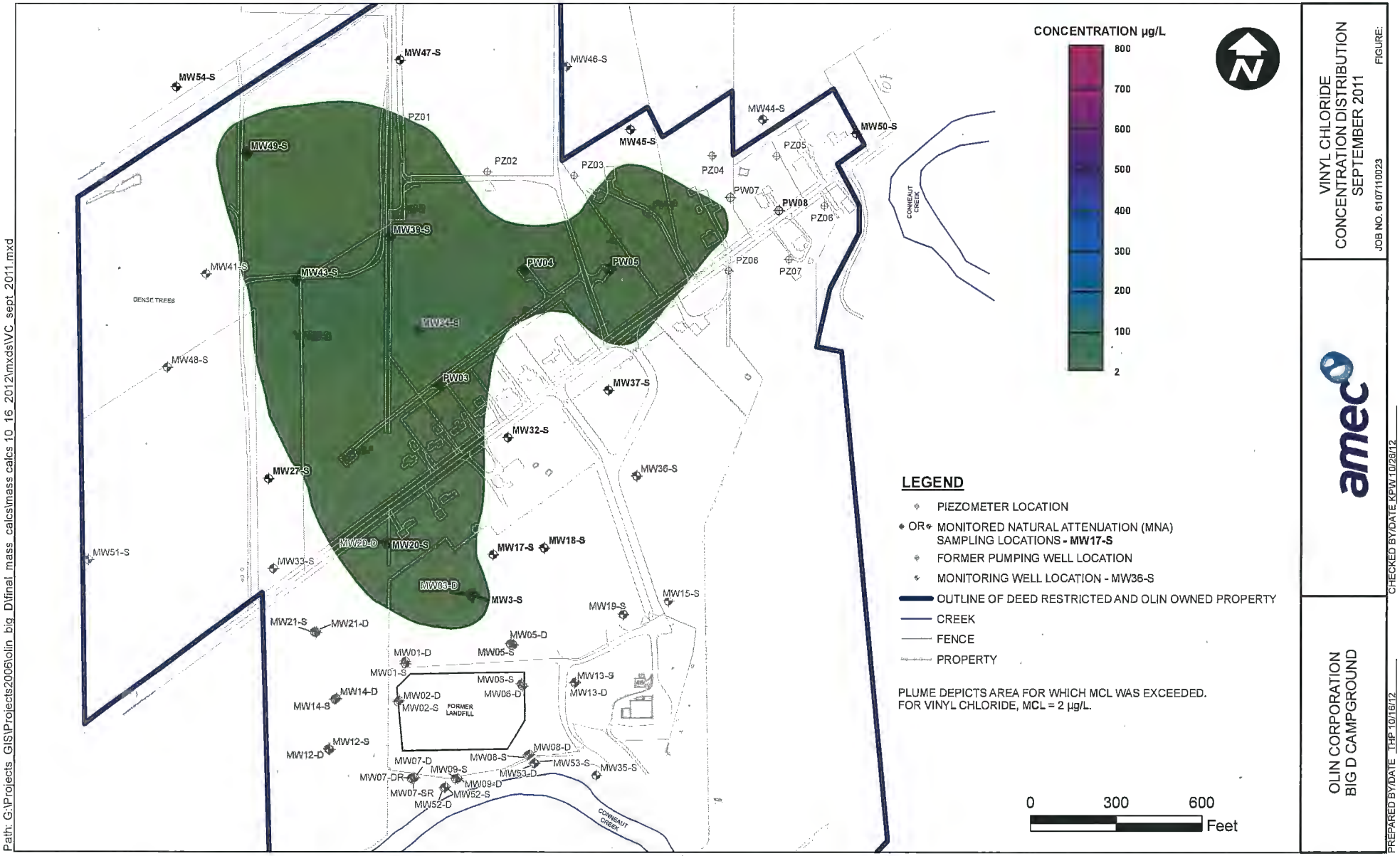

VINYL CHLORIDE
CONCENTRATION DISTRIBUTION
SEPTEMBER 2011

JOB NO. 6107110023

FIGURE:

amec

OLIN CORPORATION
BIG D CAMPGROUND

PREPARED BY/DATE THP 10/16/12

CHECKED BY/DATE KPW 10/26/12

Path: G:\Projects_GIS\Projects2006\olin_big_D\final_mass_calcs\mass calcs 10_16_2012\mxds\VC_sept_2011.mxd

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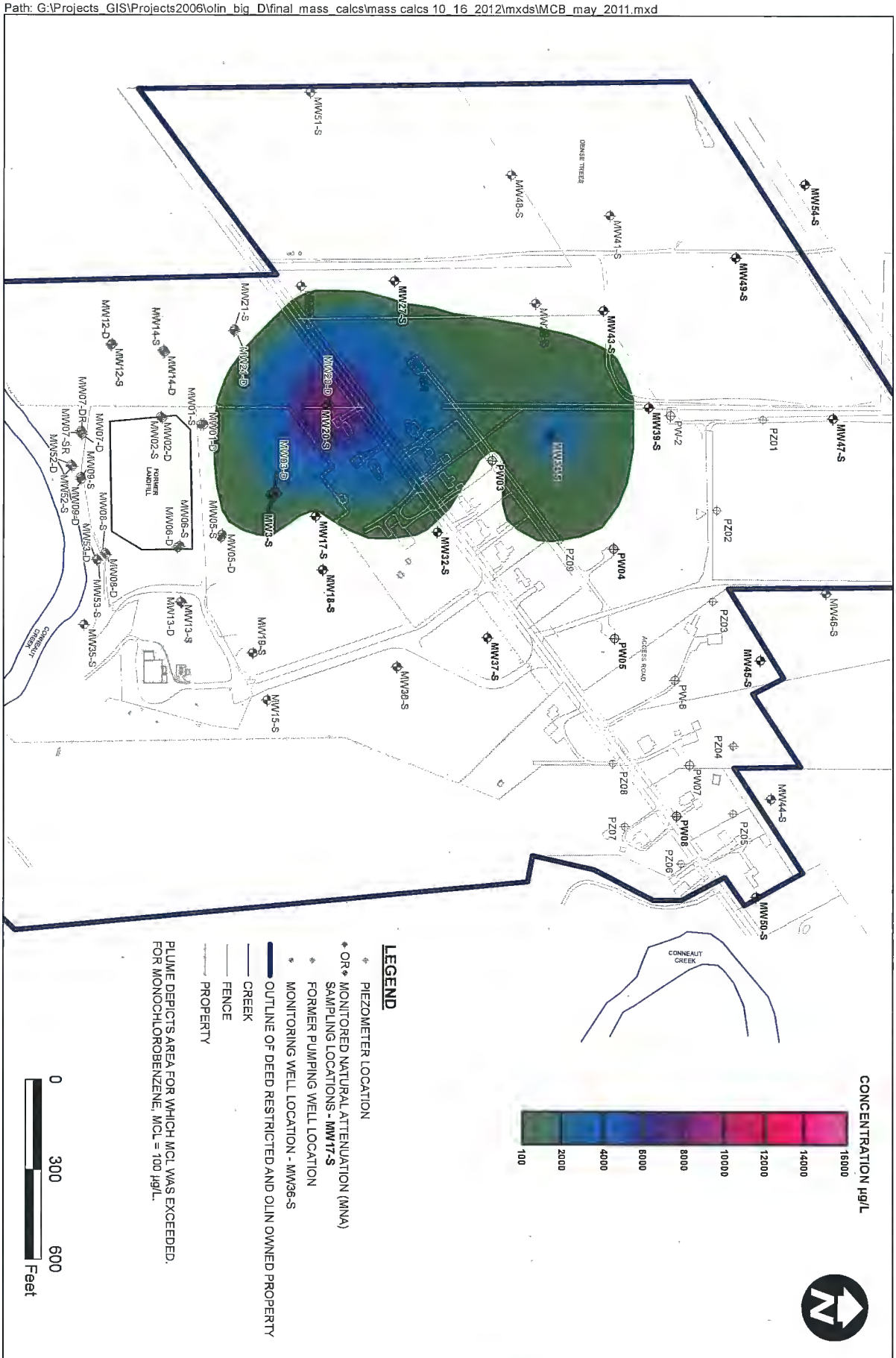

OLIN CORPORATION BIG D CAMPGROUND	amec	MONOCHLOROBENZENE CONCENTRATION DISTRIBUTION MAY 2011 JOB NO. 6107110023 FIGURE:

PREPARED BY/DATE THP 10/16/12 CHECKED BY/DATE KPW 10/26/12

MONOCHLOROBENZENE
CONCENTRATION DISTRIBUTION
SEPTEMBER 2011

FIGURE:

JOB NO. 6107110023

amec

OLIN CORPORATION
BIG D CAMPGROUND

PREPARED BY/DATE THP 10/16/12

CHECKED BY/DATE KPW 10/26/12

Path: G:\Projects_GIS\Projects2006\olin_big_D\final_mass_calcs\mass calcs 10_16_2012\mxds\MCB_sept_2011.mxd

Table 1
Locations Sampled During MNA Demonstration
Period and Analyses Performed
Big D Campground Superfund Site
December 30, 2013

Sampled for VOCs, Field Parameters, and MNA Parameters - Biannually		
MW3-S	MW37-S	MW54-SRX
MW17-S[1]	MW39-S	PW-03
MW18-S[1]	MW43-S	PW-04
MW20-S	MW45-S	PW-05
MW27-S	MW47-S	PW-08
MW32-S	MW49-S	
MW34-S	MW50-S	

Sampled for VOCs, 2,4-DAT and Field Parameters - Annually (Fall Event)	
MW07-SR	MW52-D
MW07-DR	MW53-S
MW52-S	MW53-D

Sampled for VOCs and 2,4-DAT - Annually (Fall Event)
SW-1
SW-2
SW-3

NOTES:

[1]Also analyzed for 2,4-DAT annually during fall event

VOC - Volatile Organic Compounds

MNA - Monitored Natural Attenuation

2,4-DAT = 2,4-diaminotoluene

Table 2
2012 Analytical Results
Big D Campground Superfund Site
December 30, 2013

Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-03-S	5/4/2012	Hydrogen	2.9	nm		0.60	0.25
MW-03-S	5/4/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-03-S	5/4/2012	Sulfate	303	mg/l		100	30.0
MW-03-S	5/4/2012	Chloride	178	mg/l		40.0	20.0
MW-03-S	5/4/2012	Alkalinity, Total (As CaCO3)	283	mg/l		2.0	0.70
MW-03-S	5/4/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-03-S	5/4/2012	Total Organic Carbon (TOC)	2.4	mg/l		1.0	0.50
MW-03-S	5/4/2012	Iron	0.2	mg/l			
MW-03-S	5/4/2012	Dissolved Oxygen	2.78	mg/l			
MW-03-S	5/4/2012	Oxidation Reduction Potential	-25.2	mV			
MW-03-S	5/4/2012	pH	7.15	SU			
MW-03-S	5/4/2012	Specific Conductance	0.697	umhos/cm			
MW-03-S	5/4/2012	Temperature	11.39	C			
MW-03-S	5/4/2012	Turbidity	1	ntu			
MW-03-S	5/4/2012	Methane	0.044	mg/l		0.015	0.0050
MW-03-S	5/4/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-03-S	5/4/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-03-S	5/4/2012	Carbon dioxide	25	mg/l		12	4.0
MW-03-S	5/4/2012	Tetrachloroethene (PCE)	2	ug/l	U	10	2
MW-03-S	5/4/2012	cis-1,2-Dichloroethene	4	ug/l	JQ	10	2
MW-03-S	5/4/2012	trans-1,2-Dichloroethene	2	ug/l	U	10	2
MW-03-S	5/4/2012	Chloroethane	2	ug/l	U	10	2
MW-03-S	5/4/2012	Vinyl Chloride	2	ug/l	JQ	10	2
MW-03-S	5/4/2012	1,1-Dichloroethene	2	ug/l	U	10	2
MW-03-S	5/4/2012	Trichloroethene (TCE)	2	ug/l	U	10	2
MW-03-S	5/4/2012	Chlorobenzene	1100	ug/l		100	16
MW-17-S	5/3/2012	Hydrogen	2	nm		0.60	0.25
MW-17-S	5/3/2012	Nitrogen, nitrate	0.53	mg/l		0.10	0.050
MW-17-S	5/3/2012	Sulfate	54.6	mg/l	J	10.0	3.0
MW-17-S	5/3/2012	Chloride	17.2	mg/l		4.0	2.0
MW-17-S	5/3/2012	Alkalinity, Total (As CaCO3)	269	mg/l		2.0	0.70
MW-17-S	5/3/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-17-S	5/3/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-17-S	5/3/2012	Iron	0	mg/l			
MW-17-S	5/3/2012	Dissolved Oxygen	1.59	mg/l			
MW-17-S	5/3/2012	Oxidation Reduction Potential	150.9	mV			
MW-17-S	5/3/2012	pH	7.14	SU			
MW-17-S	5/3/2012	Specific Conductance	0.615	umhos/cm			
MW-17-S	5/3/2012	Temperature	13	C			
MW-17-S	5/3/2012	Turbidity	1.1	ntu			
MW-17-S	5/3/2012	Carbon dioxide	23	mg/l		12	4.0
MW-17-S	5/3/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-17-S	5/3/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-17-S	5/3/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-17-S	5/3/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-17-S	5/3/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-17-S	5/3/2012	cis-1,2-Dichloroethene	2	ug/l	JQ	5	0.8
MW-17-S	5/3/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-17-S	5/3/2012	Chloroethane	1	ug/l	U	5	1
MW-17-S	5/3/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-17-S	5/3/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-17-S	5/3/2012	Trichloroethene (TCE)	12	ug/l		5	1
MW-18-S	5/2/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-18-S	5/2/2012	Sulfate	0.3	mg/l		1.0	0.30
MW-18-S	5/2/2012	Chloride	26.3	mg/l		4.0	2.0
MW-18-S	5/2/2012	Alkalinity, Total (As CaCO3)	275	mg/l		2.0	0.70
MW-18-S	5/2/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-18-S	5/2/2012	Total Organic Carbon (TOC)	1.8	mg/l		1.0	0.50
MW-18-S	5/2/2012	Iron	0	mg/l			
MW-18-S	5/2/2012	Dissolved Oxygen	1.09	mg/l			
MW-18-S	5/2/2012	Oxidation Reduction Potential	9.4	mV			
MW-18-S	5/2/2012	pH	7.03	SU			
MW-18-S	5/2/2012	Specific Conductance	0.774	umhos/cm			
MW-18-S	5/2/2012	Temperature	12.74	C			
MW-18-S	5/2/2012	Turbidity	2.1	ntu			
MW-18-S	5/2/2012	Carbon dioxide	30	mg/l		12	4.0
MW-18-S	5/2/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-18-S	5/2/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-18-S	5/2/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-18-S	5/2/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-18-S	5/2/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-18-S	5/2/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	5/2/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	5/2/2012	Chloroethane	1	ug/l	U	5	1
MW-18-S	5/2/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-18-S	5/2/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	5/2/2012	Trichloroethene (TCE)	1	ug/l	U	5	1

Table 2
2012 Analytical Results
Big D Campground Superfund Site
December 30, 2013

Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-20-S	5/4/2012	Hydrogen	2.9	nm		0.60	0.25
MW-20-S	5/4/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-20-S	5/4/2012	Sulfate	308	mg/l		50.0	15.0
MW-20-S	5/4/2012	Chloride	182	mg/l		20.0	10.0
MW-20-S	5/4/2012	Alkalinity, Total (As CaCO3)	311	mg/l		2.0	0.70
MW-20-S	5/4/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-20-S	5/4/2012	Total Organic Carbon (TOC)	4.5	mg/l		1.0	0.50
MW-20-S	5/4/2012	Iron	0	mg/l			
MW-20-S	5/4/2012	Dissolved Oxygen	1.21	mg/l			
MW-20-S	5/4/2012	Oxidation Reduction Potential	35	mV			
MW-20-S	5/4/2012	pH	6.94	SU			
MW-20-S	5/4/2012	Specific Conductance	1.422	umhos/cm			
MW-20-S	5/4/2012	Temperature	12.04	C			
MW-20-S	5/4/2012	Turbidity	0.7	ntu			
MW-20-S	5/4/2012	Methane	0.033	mg/l		0.015	0.0050
MW-20-S	5/4/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-20-S	5/4/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-20-S	5/4/2012	Carbon dioxide	35	mg/l		12	4.0
MW-20-S	5/4/2012	Chlorobenzene	5400	ug/l	J	500	80
MW-20-S	5/4/2012	Tetrachloroethene (PCE)	97	ug/l		50	8
MW-20-S	5/4/2012	cis-1,2-Dichloroethene	86	ug/l		50	8
MW-20-S	5/4/2012	trans-1,2-Dichloroethene	8	ug/l	U	50	8
MW-20-S	5/4/2012	Chloroethane	10	ug/l	U	50	10
MW-20-S	5/4/2012	Vinyl Chloride	10	ug/l	U	50	10
MW-20-S	5/4/2012	1,1-Dichloroethene	8	ug/l	U	50	8
MW-20-S	5/4/2012	Trichloroethene (TCE)	140	ug/l		50	10
MW-27-S	5/1/2012	Nitrogen, nitrate	2.3	mg/l		0.10	0.050
MW-27-S	5/1/2012	Sulfate	11.9	mg/l		1.0	0.30
MW-27-S	5/1/2012	Chloride	0.79	mg/l		0.40	0.20
MW-27-S	5/1/2012	Alkalinity, Total (As CaCO3)	10.5	mg/l		2.0	0.70
MW-27-S	5/1/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-27-S	5/1/2012	Total Organic Carbon (TOC)	0.68	mg/l	JQ	1.0	0.50
MW-27-S	5/1/2012	Iron	0	mg/l			
MW-27-S	5/1/2012	Dissolved Oxygen	10.76	mg/l			
MW-27-S	5/1/2012	Oxidation Reduction Potential	211.2	mV			
MW-27-S	5/1/2012	pH	5.66	SU			
MW-27-S	5/1/2012	Specific Conductance	0.071	umhos/cm			
MW-27-S	5/1/2012	Temperature	9.76	C			
MW-27-S	5/1/2012	Turbidity	0.7	ntu			
MW-27-S	5/1/2012	Carbon dioxide	24	mg/l		12	4.0
MW-27-S	5/1/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-27-S	5/1/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-27-S	5/1/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-27-S	5/1/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-27-S	5/1/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-27-S	5/1/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	5/1/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	5/1/2012	Chloroethane	1	ug/l	U	5	1
MW-27-S	5/1/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-27-S	5/1/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	5/1/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-32-S	5/1/2012	Nitrogen, nitrate	4.1	mg/l		1.0	0.50
MW-32-S	5/1/2012	Sulfate	32.3	mg/l		10.0	3.0
MW-32-S	5/1/2012	Chloride	57	mg/l		8.0	4.0
MW-32-S	5/1/2012	Alkalinity, Total (As CaCO3)	172	mg/l		2.0	0.70
MW-32-S	5/1/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-32-S	5/1/2012	Total Organic Carbon (TOC)	1	mg/l		1.0	0.50
MW-32-S	5/1/2012	Iron	0	mg/l			
MW-32-S	5/1/2012	Dissolved Oxygen	5.49	mg/l			
MW-32-S	5/1/2012	Oxidation Reduction Potential	49.9	mV			
MW-32-S	5/1/2012	pH	6.96	SU			
MW-32-S	5/1/2012	Specific Conductance	0.587	umhos/cm			
MW-32-S	5/1/2012	Temperature	11.1	C			
MW-32-S	5/1/2012	Turbidity	5.1	ntu			
MW-32-S	5/1/2012	Carbon dioxide	24	mg/l		12	4.0
MW-32-S	5/1/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-32-S	5/1/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-32-S	5/1/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-32-S	5/1/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-32-S	5/1/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-32-S	5/1/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	5/1/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	5/1/2012	Chloroethane	1	ug/l	U	5	1
MW-32-S	5/1/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-32-S	5/1/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	5/1/2012	Trichloroethene (TCE)	1	ug/l	U	5	1

Table 2
2012 Analytical Results
Big D Campground Superfund Site
December 30, 2013

Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-34-S	5/3/2012	Hydrogen	2.6	nm		0.60	0.25
MW-34-S	5/3/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-34-S	5/3/2012	Sulfate	80.9	mg/l		10.0	3.0
MW-34-S	5/3/2012	Chloride	47.8	mg/l		4.0	2.0
MW-34-S	5/3/2012	Alkalinity, Total (As CaCO3)	207	mg/l		2.0	0.70
MW-34-S	5/3/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-34-S	5/3/2012	Total Organic Carbon (TOC)	0.73	mg/l	JQ	1.0	0.50
MW-34-S	5/3/2012	Iron	0.5	mg/l			
MW-34-S	5/3/2012	Dissolved Oxygen	0.7	mg/l			
MW-34-S	5/3/2012	Oxidation Reduction Potential	-56.9	mV			
MW-34-S	5/3/2012	pH	7.2	SU			
MW-34-S	5/3/2012	Specific Conductance	0.66	umhos/cm			
MW-34-S	5/3/2012	Temperature	12.18	C			
MW-34-S	5/3/2012	Turbidity	1.1	ntu			
MW-34-S	5/3/2012	Carbon dioxide	16	mg/l		12	4.0
MW-34-S	5/3/2012	Methane	0.0086	mg/l	JQ	0.015	0.0050
MW-34-S	5/3/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-34-S	5/3/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-34-S	5/3/2012	Tetrachloroethene (PCE)	4	ug/l	U	25	4
MW-34-S	5/3/2012	cis-1,2-Dichloroethene	210	ug/l		25	4
MW-34-S	5/3/2012	trans-1,2-Dichloroethene	4	ug/l	U	25	4
MW-34-S	5/3/2012	Chloroethane	5	ug/l	U	25	5
MW-34-S	5/3/2012	Vinyl Chloride	12	ug/l	JQ	25	5
MW-34-S	5/3/2012	1,1-Dichloroethene	4	ug/l	U	25	4
MW-34-S	5/3/2012	Trichloroethene (TCE)	74	ug/l		25	5
MW-34-S	5/3/2012	Chlorobenzene	2800	ug/l		250	40
MW-37-S	5/1/2012	Nitrogen, nitrate	2.8	mg/l		0.10	0.050
MW-37-S	5/1/2012	Sulfate	40.5	mg/l		10.0	3.0
MW-37-S	5/1/2012	Chloride	43.9	mg/l		4.0	2.0
MW-37-S	5/1/2012	Alkalinity, Total (As CaCO3)	218	mg/l		2.0	0.70
MW-37-S	5/1/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-37-S	5/1/2012	Total Organic Carbon (TOC)	0.69	mg/l	JQ	1.0	0.50
MW-37-S	5/1/2012	Iron	0	mg/l			
MW-37-S	5/1/2012	Dissolved Oxygen	2.78	mg/l			
MW-37-S	5/1/2012	Oxidation Reduction Potential	57.9	mV			
MW-37-S	5/1/2012	pH	7.23	SU			
MW-37-S	5/1/2012	Specific Conductance	0.612	umhos/cm			
MW-37-S	5/1/2012	Temperature	11.23	C			
MW-37-S	5/1/2012	Turbidity	0.8	ntu			
MW-37-S	5/1/2012	Carbon dioxide	16	mg/l		12	4.0
MW-37-S	5/1/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-37-S	5/1/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-37-S	5/1/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-37-S	5/1/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-37-S	5/1/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-37-S	5/1/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	5/1/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	5/1/2012	Chloroethane	1	ug/l	U	5	1
MW-37-S	5/1/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-37-S	5/1/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	5/1/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-39-S	5/2/2012	Hydrogen	4.1	nm		0.60	0.25
MW-39-S	5/2/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-39-S	5/2/2012	Sulfate	0.3	mg/l		1.0	0.30
MW-39-S	5/2/2012	Chloride	63.6	mg/l		8.0	4.0
MW-39-S	5/2/2012	Alkalinity, Total (As CaCO3)	183	mg/l		2.0	0.70
MW-39-S	5/2/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-39-S	5/2/2012	Total Organic Carbon (TOC)	1.3	mg/l		1.0	0.50
MW-39-S	5/2/2012	Iron	0.8	mg/l			
MW-39-S	5/2/2012	Dissolved Oxygen	0.63	mg/l			
MW-39-S	5/2/2012	Oxidation Reduction Potential	-115.8	mV			
MW-39-S	5/2/2012	pH	7.46	SU			
MW-39-S	5/2/2012	Specific Conductance	0.667	umhos/cm			
MW-39-S	5/2/2012	Temperature	12.01	C			
MW-39-S	5/2/2012	Turbidity	1.1	ntu			
MW-39-S	5/2/2012	Carbon dioxide	9.8	mg/l	JQ	12	4.0
MW-39-S	5/2/2012	Methane	0.0064	mg/l	JQ	0.015	0.0050
MW-39-S	5/2/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-39-S	5/2/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-39-S	5/2/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-39-S	5/2/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-39-S	5/2/2012	cis-1,2-Dichloroethene	65	ug/l		5	0.8
MW-39-S	5/2/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-39-S	5/2/2012	Chloroethane	2	ug/l	JQ	5	1
MW-39-S	5/2/2012	Vinyl Chloride	8	ug/l		5	1
MW-39-S	5/2/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-39-S	5/2/2012	Trichloroethene (TCE)	1	ug/l	U	5	1

Table 2
2012 Analytical Results
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Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-43-S	5/2/2012	Hydrogen	2.1	nm		0.60	0.25
MW-43-S	5/2/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-43-S	5/2/2012	Sulfate	47.4	mg/l		10.0	3.0
MW-43-S	5/2/2012	Chloride	34.4	mg/l		4.0	2.0
MW-43-S	5/2/2012	Alkalinity, Total (As CaCO3)	139	mg/l		2.0	0.70
MW-43-S	5/2/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-43-S	5/2/2012	Total Organic Carbon (TOC)	1.2	mg/l		1.0	0.50
MW-43-S	5/2/2012	Iron	0.6	mg/l			
MW-43-S	5/2/2012	Dissolved Oxygen	0.49	mg/l			
MW-43-S	5/2/2012	Oxidation Reduction Potential	-127.3	mV			
MW-43-S	5/2/2012	pH	7.69	SU			
MW-43-S	5/2/2012	Specific Conductance	0.436	umhos/cm			
MW-43-S	5/2/2012	Temperature	10.74	C			
MW-43-S	5/2/2012	Turbidity	1.1	ntu			
MW-43-S	5/2/2012	Carbon dioxide	5.8	mg/l	JQ	12	4.0
MW-43-S	5/2/2012	Methane	0.012	mg/l	JQ	0.015	0.0050
MW-43-S	5/2/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-43-S	5/2/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-43-S	5/2/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-43-S	5/2/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-43-S	5/2/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	5/2/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	5/2/2012	Chloroethane	1	ug/l	U	5	1
MW-43-S	5/2/2012	Vinyl Chloride	12	ug/l		5	1
MW-43-S	5/2/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	5/2/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-45-S	4/30/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-45-S	4/30/2012	Sulfate	61.8	mg/l		10.0	3.0
MW-45-S	4/30/2012	Chloride	68	mg/l		8.0	4.0
MW-45-S	4/30/2012	Alkalinity, Total (As CaCO3)	200	mg/l		2.0	0.70
MW-45-S	4/30/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-45-S	4/30/2012	Total Organic Carbon (TOC)	1.4	mg/l		1.0	0.50
MW-45-S	4/30/2012	Iron	0.8	mg/l			
MW-45-S	4/30/2012	Dissolved Oxygen	0.49	mg/l			
MW-45-S	4/30/2012	Oxidation Reduction Potential	-116.6	mV			
MW-45-S	4/30/2012	pH	7.63	SU			
MW-45-S	4/30/2012	Specific Conductance	0.678	umhos/cm			
MW-45-S	4/30/2012	Temperature	11.52	C			
MW-45-S	4/30/2012	Turbidity	0.7	ntu			
MW-45-S	4/30/2012	Methane	0.0081	mg/l	JQ	0.015	0.0050
MW-45-S	4/30/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-45-S	4/30/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-45-S	4/30/2012	Carbon dioxide	10	mg/l	JQ	12	4.0
MW-45-S	4/30/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-45-S	4/30/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-45-S	4/30/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	4/30/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	4/30/2012	Chloroethane	1	ug/l	U	5	1
MW-45-S	4/30/2012	Vinyl Chloride	1	ug/l	JQ	5	1
MW-45-S	4/30/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	4/30/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-47-S	4/30/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-47-S	4/30/2012	Sulfate	61.7	mg/l		10.0	3.0
MW-47-S	4/30/2012	Chloride	42.2	mg/l		4.0	2.0
MW-47-S	4/30/2012	Alkalinity, Total (As CaCO3)	135	mg/l		2.0	0.70
MW-47-S	4/30/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-47-S	4/30/2012	Total Organic Carbon (TOC)	0.87	mg/l	JQ	1.0	0.50
MW-47-S	4/30/2012	Iron	0.4	mg/l			
MW-47-S	4/30/2012	Dissolved Oxygen	0.71	mg/l			
MW-47-S	4/30/2012	Oxidation Reduction Potential	-119.9	mV			
MW-47-S	4/30/2012	pH	7.91	SU			
MW-47-S	4/30/2012	Specific Conductance	0.484	umhos/cm			
MW-47-S	4/30/2012	Temperature	11.6	C			
MW-47-S	4/30/2012	Turbidity	2.8	ntu			
MW-47-S	4/30/2012	Methane	0.0076	mg/l	JQ	0.015	0.0050
MW-47-S	4/30/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-47-S	4/30/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-47-S	4/30/2012	Carbon dioxide	4.9	mg/l	JQ	12	4.0
MW-47-S	4/30/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-47-S	4/30/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-47-S	4/30/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	4/30/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	4/30/2012	Chloroethane	1	ug/l	U	5	1
MW-47-S	4/30/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-47-S	4/30/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	4/30/2012	Trichloroethene (TCE)	1	ug/l	U	5	1

Table 2
2012 Analytical Results
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Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-49-S	5/2/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-49-S	5/2/2012	Sulfate	0.3	mg/l		1.0	0.30
MW-49-S	5/2/2012	Chloride	65.7	mg/l		8.0	4.0
MW-49-S	5/2/2012	Alkalinity, Total (As CaCO3)	187	mg/l		2.0	0.70
MW-49-S	5/2/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-49-S	5/2/2012	Total Organic Carbon (TOC)	1.2	mg/l		1.0	0.50
MW-49-S	5/2/2012	Iron	1.2	mg/l			
MW-49-S	5/2/2012	Dissolved Oxygen	0.74	mg/l			
MW-49-S	5/2/2012	Oxidation Reduction Potential	-131.2	mV			
MW-49-S	5/2/2012	pH	7.58	SU			
MW-49-S	5/2/2012	Specific Conductance	0.68	umhos/cm			
MW-49-S	5/2/2012	Temperature	13.34	C			
MW-49-S	5/2/2012	Turbidity	2.3	ntu			
MW-49-S	5/2/2012	Carbon dioxide	8.7	mg/l	JQ	12	4.0
MW-49-S	5/2/2012	Methane	0.0083	mg/l	JQ	0.015	0.0050
MW-49-S	5/2/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-49-S	5/2/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-49-S	5/2/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-49-S	5/2/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-49-S	5/2/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	5/2/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	5/2/2012	Chloroethane	1	ug/l	U	5	1
MW-49-S	5/2/2012	Vinyl Chloride	4	ug/l	JQ	5	1
MW-49-S	5/2/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	5/2/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-50-S	4/30/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-50-S	4/30/2012	Sulfate	61.5	mg/l		10.0	3.0
MW-50-S	4/30/2012	Chloride	82.6	mg/l		20.0	10.0
MW-50-S	4/30/2012	Alkalinity, Total (As CaCO3)	151	mg/l		2.0	0.70
MW-50-S	4/30/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-50-S	4/30/2012	Total Organic Carbon (TOC)	1.4	mg/l		1.0	0.50
MW-50-S	4/30/2012	Iron	0	mg/l			
MW-50-S	4/30/2012	Dissolved Oxygen	0.6	mg/l			
MW-50-S	4/30/2012	Oxidation Reduction Potential	-14.8	mV			
MW-50-S	4/30/2012	pH	7.53	SU			
MW-50-S	4/30/2012	Specific Conductance	0.627	umhos/cm			
MW-50-S	4/30/2012	Temperature	12.09	C			
MW-50-S	4/30/2012	Turbidity	0.9	ntu			
MW-50-S	4/30/2012	Methane	0.011	mg/l	JQ	0.015	0.0050
MW-50-S	4/30/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-50-S	4/30/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-50-S	4/30/2012	Carbon dioxide	9.1	mg/l	JQ	12	4.0
MW-50-S	4/30/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-50-S	4/30/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-50-S	4/30/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	4/30/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	4/30/2012	Chloroethane	1	ug/l	U	5	1
MW-50-S	4/30/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-50-S	4/30/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	4/30/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-54-SRX	4/30/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-54-SRX	4/30/2012	Sulfate	56.2	mg/l		10.0	3.0
MW-54-SRX	4/30/2012	Chloride	34.6	mg/l		4.0	2.0
MW-54-SRX	4/30/2012	Alkalinity, Total (As CaCO3)	140	mg/l		2.0	0.70
MW-54-SRX	4/30/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-54-SRX	4/30/2012	Total Organic Carbon (TOC)	1.3	mg/l		1.0	0.50
MW-54-SRX	4/30/2012	Iron	0.7	mg/l			
MW-54-SRX	4/30/2012	Dissolved Oxygen	0.6	mg/l			
MW-54-SRX	4/30/2012	Oxidation Reduction Potential	-82.7	mV			
MW-54-SRX	4/30/2012	pH	7.8	SU			
MW-54-SRX	4/30/2012	Specific Conductance	0.461	umhos/cm			
MW-54-SRX	4/30/2012	Temperature	10.55	C			
MW-54-SRX	4/30/2012	Turbidity	1.6	ntu			
MW-54-SRX	4/30/2012	Methane	0.0061	mg/l	JQ	0.015	0.0050
MW-54-SRX	4/30/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-54-SRX	4/30/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-54-SRX	4/30/2012	Carbon dioxide	5.5	mg/l	JQ	12	4.0
MW-54-SRX	4/30/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-54-SRX	4/30/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-54-SRX	4/30/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-SRX	4/30/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-SRX	4/30/2012	Chloroethane	1	ug/l	U	5	1
MW-54-SRX	4/30/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-54-SRX	4/30/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-SRX	4/30/2012	Trichloroethene (TCE)	1	ug/l	U	5	1

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Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
PW-03	5/3/2012	Nitrogen, nitrate	0.46	mg/l		0.10	0.050
PW-03	5/3/2012	Sulfate	32.9	mg/l		10.0	3.0
PW-03	5/3/2012	Chloride	21.2	mg/l		4.0	2.0
PW-03	5/3/2012	Alkalinity, Total (As CaCO3)	223	mg/l		2.0	0.70
PW-03	5/3/2012	Sulfide	0.6	mg/l	U	2.0	0.60
PW-03	5/3/2012	Total Organic Carbon (TOC)	2.2	mg/l		1.0	0.50
PW-03	5/3/2012	Iron	0	mg/l			
PW-03	5/3/2012	Dissolved Oxygen	0.82	mg/l			
PW-03	5/3/2012	Oxidation Reduction Potential	85.7	mV			
PW-03	5/3/2012	pH	7.94	SU			
PW-03	5/3/2012	Specific Conductance	0.519	umhos/cm			
PW-03	5/3/2012	Temperature	13.12	C			
PW-03	5/3/2012	Turbidity	2.1	ntu			
PW-03	5/3/2012	Carbon dioxide	5.4	mg/l	JQ	12	4.0
PW-03	5/3/2012	Methane	0.005	mg/l	U	0.015	0.0050
PW-03	5/3/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-03	5/3/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-03	5/3/2012	Chlorobenzene	5	ug/l		5	0.8
PW-03	5/3/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-03	5/3/2012	cis-1,2-Dichloroethene	100	ug/l		5	0.8
PW-03	5/3/2012	trans-1,2-Dichloroethene	130	ug/l		5	0.8
PW-03	5/3/2012	Chloroethane	1	ug/l	U	5	1
PW-03	5/3/2012	Vinyl Chloride	14	ug/l		5	1
PW-03	5/3/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-03	5/3/2012	Trichloroethene (TCE)	2	ug/l	JQ	5	1
PW-04	5/1/2012	Nitrogen, nitrate	0.23	mg/l		0.10	0.050
PW-04	5/1/2012	Sulfate	35.9	mg/l		10.0	3.0
PW-04	5/1/2012	Chloride	24.4	mg/l		4.0	2.0
PW-04	5/1/2012	Alkalinity, Total (As CaCO3)	191	mg/l		2.0	0.70
PW-04	5/1/2012	Sulfide	0.6	mg/l	U	2.0	0.60
PW-04	5/1/2012	Total Organic Carbon (TOC)	3.2	mg/l		1.0	0.50
PW-04	5/1/2012	Iron	0	mg/l			
PW-04	5/1/2012	Dissolved Oxygen	1.41	mg/l			
PW-04	5/1/2012	Oxidation Reduction Potential	63.9	mV			
PW-04	5/1/2012	pH	8.23	SU			
PW-04	5/1/2012	Specific Conductance	0.461	umhos/cm			
PW-04	5/1/2012	Temperature	11.11	C			
PW-04	5/1/2012	Turbidity	0.7	ntu			
PW-04	5/1/2012	Carbon dioxide	4.4	mg/l	JQ	12	4.0
PW-04	5/1/2012	Methane	0.005	mg/l	U	0.015	0.0050
PW-04	5/1/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-04	5/1/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-04	5/1/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-04	5/1/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-04	5/1/2012	cis-1,2-Dichloroethene	1	ug/l	JQ	5	0.8
PW-04	5/1/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-04	5/1/2012	Chloroethane	1	ug/l	U	5	1
PW-04	5/1/2012	Vinyl Chloride	1	ug/l	U	5	1
PW-04	5/1/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-04	5/1/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
PW-05	5/1/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
PW-05	5/1/2012	Sulfate	61	mg/l		10.0	3.0
PW-05	5/1/2012	Chloride	73.6	mg/l		8.0	4.0
PW-05	5/1/2012	Alkalinity, Total (As CaCO3)	219	mg/l		2.0	0.70
PW-05	5/1/2012	Sulfide	0.6	mg/l	U	2.0	0.60
PW-05	5/1/2012	Total Organic Carbon (TOC)	1	mg/l		1.0	0.50
PW-05	5/1/2012	Iron	1.9	mg/l			
PW-05	5/1/2012	Dissolved Oxygen	0.49	mg/l			
PW-05	5/1/2012	Oxidation Reduction Potential	-110.8	mV			
PW-05	5/1/2012	pH	7.44	SU			
PW-05	5/1/2012	Specific Conductance	0.712	umhos/cm			
PW-05	5/1/2012	Temperature	11.13	C			
PW-05	5/1/2012	Turbidity	1.3	ntu			
PW-05	5/1/2012	Carbon dioxide	13	mg/l		12	4.0
PW-05	5/1/2012	Methane	0.0059	mg/l	JQ	0.015	0.0050
PW-05	5/1/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-05	5/1/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-05	5/1/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-05	5/1/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-05	5/1/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	5/1/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	5/1/2012	Chloroethane	1	ug/l	U	5	1
PW-05	5/1/2012	Vinyl Chloride	7	ug/l		5	1
PW-05	5/1/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	5/1/2012	Trichloroethene (TCE)	1	ug/l	U	5	1

Table 2
2012 Analytical Results
Big D Campground Superfund Site
December 30, 2013

Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
PW-08	5/1/2012	Sulfate	36.6	mg/l		10.0	3.0
PW-08	5/1/2012	Chloride	59.1	mg/l		4.0	2.0
PW-08	5/1/2012	Alkalinity, Total (As CaCO3)	189	mg/l		2.0	0.70
PW-08	5/1/2012	Sulfide	0.6	mg/l	U	2.0	0.60
PW-08	5/1/2012	Total Organic Carbon (TOC)	1.3	mg/l		1.0	0.50
PW-08	5/1/2012	Iron	0	mg/l			
PW-08	5/1/2012	Dissolved Oxygen	6.82	mg/l			
PW-08	5/1/2012	Oxidation Reduction Potential	181.4	mV			
PW-08	5/1/2012	pH	8.03	SU			
PW-08	5/1/2012	Specific Conductance	0.589	umhos/cm			
PW-08	5/1/2012	Temperature	11.03	C			
PW-08	5/1/2012	Turbidity	0.9	ntu			
PW-08	5/1/2012	Carbon dioxide	5.3	mg/l	JQ	12	4.0
PW-08	5/1/2012	Methane	0.005	mg/l	U	0.015	0.0050
PW-08	5/1/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-08	5/1/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-08	5/1/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-08	5/1/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-08	5/1/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	5/1/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	5/1/2012	Chloroethane	1	ug/l	U	5	1
PW-08	5/1/2012	Vinyl Chloride	1	ug/l	U	5	1
PW-08	5/1/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	5/1/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
PW-08	9/24/2012	Sulfate	36.7	mg/l		5.0	1.5
MW-03-S	9/27/2012	Hydrogen	5	nm		0.60	0.25
MW-03-S	9/27/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-03-S	9/27/2012	Chloride	141	mg/l		20.0	10.0
MW-03-S	9/27/2012	Sulfate	105	mg/l		50.0	15.0
MW-03-S	9/27/2012	Alkalinity, Total (As CaCO3)	313	mg/l		2.0	0.70
MW-03-S	9/27/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-03-S	9/27/2012	Total Organic Carbon (TOC)	4.1	mg/l		1.0	0.50
MW-03-S	9/27/2012	Iron	0.2	mg/l			
MW-03-S	9/27/2012	Dissolved Oxygen	0.71	mg/l			
MW-03-S	9/27/2012	Oxidation Reduction Potential	-40.7	mV			
MW-03-S	9/27/2012	pH	7.03	SU			
MW-03-S	9/27/2012	Specific Conductance	1.14	umhos/cm			
MW-03-S	9/27/2012	Temperature	13.47	C			
MW-03-S	9/27/2012	Turbidity	0	ntu			
MW-03-S	9/27/2012	Methane	0.07	mg/l		0.015	0.0050
MW-03-S	9/27/2012	Ethane	0.0053	mg/l		0.0050	0.0010
MW-03-S	9/27/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-03-S	9/27/2012	Carbon dioxide	39	mg/l		12	4.0
MW-03-S	9/27/2012	Tetrachloroethene (PCE)	4	ug/l	U	25	4
MW-03-S	9/27/2012	cis-1,2-Dichloroethene	5	ug/l	JQ	25	4
MW-03-S	9/27/2012	trans-1,2-Dichloroethene	4	ug/l	U	25	4
MW-03-S	9/27/2012	Chloroethane	5	ug/l	U	25	5
MW-03-S	9/27/2012	Vinyl Chloride	5	ug/l	U	25	5
MW-03-S	9/27/2012	1,1-Dichloroethene	4	ug/l	U	25	4
MW-03-S	9/27/2012	Trichloroethene (TCE)	5	ug/l	U	25	5
MW-03-S	9/27/2012	Chlorobenzene	2900	ug/l		250	40
MW-07-DR	9/28/2012	Iron	3.2	mg/l			
MW-07-DR	9/28/2012	Dissolved Oxygen	1.81	mg/l			
MW-07-DR	9/28/2012	Oxidation Reduction Potential	10.4	mV			
MW-07-DR	9/28/2012	pH	5.93	SU			
MW-07-DR	9/28/2012	Specific Conductance	5.095	umhos/cm			
MW-07-DR	9/28/2012	Temperature	13.45	C			
MW-07-DR	9/28/2012	Turbidity	7.1	ntu			
MW-07-DR	9/28/2012	Chlorobenzene	230	ug/l		5	0.8
MW-07-DR	9/28/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-07-DR	9/28/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-07-DR	9/28/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-07-DR	9/28/2012	Chloroethane	1	ug/l	U	5	1
MW-07-DR	9/28/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-07-DR	9/28/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-07-DR	9/28/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-07-DR	9/28/2012	2,4-Diaminotoluene	48	ug/l	U	96	48
MW-07-SR	9/28/2012	Iron	3.6	mg/l			
MW-07-SR	9/28/2012	Dissolved Oxygen	1.38	mg/l			
MW-07-SR	9/28/2012	Oxidation Reduction Potential	-46.6	mV			
MW-07-SR	9/28/2012	pH	6.37	SU			
MW-07-SR	9/28/2012	Specific Conductance	3.1	umhos/cm			
MW-07-SR	9/28/2012	Temperature	15.82	C			
MW-07-SR	9/28/2012	Turbidity	7.1	ntu			
MW-07-SR	9/28/2012	Tetrachloroethene (PCE)	40	ug/l	U	250	40
MW-07-SR	9/28/2012	cis-1,2-Dichloroethene	40	ug/l	U	250	40
MW-07-SR	9/28/2012	trans-1,2-Dichloroethene	40	ug/l	U	250	40
MW-07-SR	9/28/2012	Chloroethane	50	ug/l	U	250	50
MW-07-SR	9/28/2012	Vinyl Chloride	50	ug/l	U	250	50
MW-07-SR	9/28/2012	1,1-Dichloroethene	40	ug/l	U	250	40
MW-07-SR	9/28/2012	Trichloroethene (TCE)	50	ug/l	U	250	50
MW-07-SR	9/28/2012	Chlorobenzene	15000	ug/l		2500	400
MW-07-SR	9/28/2012	2,4-Diaminotoluene	93	ug/l	J	96	48

Table 2
2012 Analytical Results
Big D Campground Superfund Site
December 30, 2013

Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-17-S	9/26/2012	Nitrogen, nitrate	0.42	mg/l		0.10	0.050
MW-17-S	9/26/2012	Sulfate	48.4	mg/l		5.0	1.5
MW-17-S	9/26/2012	Chloride	13.7	mg/l		2.0	1.0
MW-17-S	9/26/2012	Alkalinity, Total (As CaCO3)	291	mg/l		2.0	0.70
MW-17-S	9/26/2012	Sulfide	1.1	mg/l	JQ	2.0	0.60
MW-17-S	9/26/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-17-S	9/26/2012	Iron	0	mg/l			
MW-17-S	9/26/2012	Dissolved Oxygen	3.69	mg/l			
MW-17-S	9/26/2012	Oxidation Reduction Potential	158.9	mV			
MW-17-S	9/26/2012	pH	7.12	SU			
MW-17-S	9/26/2012	Specific Conductance	0.665	umhos/cm			
MW-17-S	9/26/2012	Temperature	13.08	C			
MW-17-S	9/26/2012	Turbidity	0	ntu			
MW-17-S	9/26/2012	Carbon dioxide	33	mg/l		12	4.0
MW-17-S	9/26/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-17-S	9/26/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-17-S	9/26/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-17-S	9/26/2012	Chlorobenzene	1	ug/l	JQ	5	0.8
MW-17-S	9/26/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-17-S	9/26/2012	cis-1,2-Dichloroethene	7	ug/l		5	0.8
MW-17-S	9/26/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-17-S	9/26/2012	Chloroethane	1	ug/l	U	5	1
MW-17-S	9/26/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-17-S	9/26/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-17-S	9/26/2012	Trichloroethene (TCE)	19	ug/l		5	1
MW-17-S	9/26/2012	2,4-Diaminotoluene	47	ug/l	U	95	47
MW-18-S	9/26/2012	Sulfate	62.6	mg/l		5.0	1.5
MW-18-S	9/26/2012	Chloride	17.9	mg/l	J	2.0	1.0
MW-18-S	9/26/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-18-S	9/26/2012	Alkalinity, Total (As CaCO3)	314	mg/l	J	2.0	0.70
MW-18-S	9/26/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-18-S	9/26/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-18-S	9/26/2012	Iron	0.2	mg/l			
MW-18-S	9/26/2012	Dissolved Oxygen	1.39	mg/l			
MW-18-S	9/26/2012	Oxidation Reduction Potential	-15.5	mV			
MW-18-S	9/26/2012	pH	6.98	SU			
MW-18-S	9/26/2012	Specific Conductance	0.761	umhos/cm			
MW-18-S	9/26/2012	Temperature	12.44	C			
MW-18-S	9/26/2012	Turbidity	0	ntu			
MW-18-S	9/26/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-18-S	9/26/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-18-S	9/26/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-18-S	9/26/2012	Carbon dioxide	40	mg/l	J	12	4.0
MW-18-S	9/26/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-18-S	9/26/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-18-S	9/26/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	9/26/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	9/26/2012	Chloroethane	1	ug/l	U	5	1
MW-18-S	9/26/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-18-S	9/26/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-18-S	9/26/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-18-S	9/26/2012	2,4-Diaminotoluene	47	ug/l	U	95	47
MW-20-S	9/27/2012	Hydrogen	1	nm	J	0.60	0.074
MW-20-S	9/27/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-20-S	9/27/2012	Sulfate	415	mg/l		100	30.0
MW-20-S	9/27/2012	Chloride	233	mg/l		40.0	20.0
MW-20-S	9/27/2012	Alkalinity, Total (As CaCO3)	381	mg/l	J	2.0	0.70
MW-20-S	9/27/2012	Sulfide	0.6	mg/l	J	2.0	0.60
MW-20-S	9/27/2012	Total Organic Carbon (TOC)	9.6	mg/l		1.0	0.50
MW-20-S	9/27/2012	Iron	0.1	mg/l			
MW-20-S	9/27/2012	Dissolved Oxygen	0.74	mg/l			
MW-20-S	9/27/2012	Oxidation Reduction Potential	8.6	mV			
MW-20-S	9/27/2012	pH	6.81	SU			
MW-20-S	9/27/2012	Specific Conductance	1.99	umhos/cm			
MW-20-S	9/27/2012	Temperature	13.32	C			
MW-20-S	9/27/2012	Turbidity	0	ntu			
MW-20-S	9/27/2012	Methane	0.029	mg/l		0.015	0.0050
MW-20-S	9/27/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-20-S	9/27/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-20-S	9/27/2012	Carbon dioxide	71	mg/l		12	4.0
MW-20-S	9/27/2012	Tetrachloroethene (PCE)	160	ug/l	J	25	4
MW-20-S	9/27/2012	cis-1,2-Dichloroethene	130	ug/l	J	25	4
MW-20-S	9/27/2012	trans-1,2-Dichloroethene	4	ug/l	U	25	4
MW-20-S	9/27/2012	Chloroethane	5	ug/l	U	25	5
MW-20-S	9/27/2012	Vinyl Chloride	11	ug/l	JQ	25	5
MW-20-S	9/27/2012	1,1-Dichloroethene	4	ug/l	U	25	4
MW-20-S	9/27/2012	Trichloroethene (TCE)	330	ug/l		25	5
MW-20-S	9/27/2012	Chlorobenzene	12000	ug/l		250	40

Table 2
2012 Analytical Results
Big D Campground Superfund Site
December 30, 2013

Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-27-S	9/25/2012	Sulfate	10	mg/l		1.0	0.30
MW-27-S	9/25/2012	Chloride	2.4	mg/l		0.40	0.20
MW-27-S	9/25/2012	Alkalinity, Total (As CaCO3)	20.4	mg/l		2.0	0.70
MW-27-S	9/25/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-27-S	9/25/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-27-S	9/25/2012	Iron	0	mg/l			
MW-27-S	9/25/2012	Dissolved Oxygen	10.53	mg/l			
MW-27-S	9/25/2012	Oxidation Reduction Potential	213.4	mV			
MW-27-S	9/25/2012	pH	5.95	SU			
MW-27-S	9/25/2012	Specific Conductance	0.094	umhos/cm			
MW-27-S	9/25/2012	Temperature	14.82	C			
MW-27-S	9/25/2012	Turbidity	0	ntu			
MW-27-S	9/25/2012	Carbon dioxide	26	mg/l		12	4.0
MW-27-S	9/25/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-27-S	9/25/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-27-S	9/25/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-27-S	9/25/2012	Chlorobenzene	1	ug/l	JQ	5	0.8
MW-27-S	9/25/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-27-S	9/25/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	9/25/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	9/25/2012	Chloroethane	1	ug/l	U	5	1
MW-27-S	9/25/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-27-S	9/25/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-27-S	9/25/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-32-S	9/25/2012	Nitrogen, nitrate	2.4	mg/l		0.10	0.050
MW-32-S	9/25/2012	Sulfate	32.8	mg/l		5.0	1.5
MW-32-S	9/25/2012	Chloride	61	mg/l		8.0	4.0
MW-32-S	9/25/2012	Alkalinity, Total (As CaCO3)	201	mg/l		2.0	0.70
MW-32-S	9/25/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-32-S	9/25/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-32-S	9/25/2012	Iron	0	mg/l			
MW-32-S	9/25/2012	Dissolved Oxygen	4.64	mg/l			
MW-32-S	9/25/2012	Oxidation Reduction Potential	87.9	mV			
MW-32-S	9/25/2012	pH	6.91	SU			
MW-32-S	9/25/2012	Specific Conductance	0.686	umhos/cm			
MW-32-S	9/25/2012	Temperature	12.46	C			
MW-32-S	9/25/2012	Turbidity	0.9	ntu			
MW-32-S	9/25/2012	Carbon dioxide	34	mg/l		12	4.0
MW-32-S	9/25/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-32-S	9/25/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-32-S	9/25/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-32-S	9/25/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-32-S	9/25/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-32-S	9/25/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	9/25/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	9/25/2012	Chloroethane	1	ug/l	U	5	1
MW-32-S	9/25/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-32-S	9/25/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-32-S	9/25/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-34-S	9/27/2012	Hydrogen	0.87	nm		0.60	0.25
MW-34-S	9/27/2012	Sulfate	61.5	mg/l		5.0	1.5
MW-34-S	9/27/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-34-S	9/27/2012	Chloride	42.5	mg/l		4.0	2.0
MW-34-S	9/27/2012	Alkalinity, Total (As CaCO3)	217	mg/l		2.0	0.70
MW-34-S	9/27/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-34-S	9/27/2012	Total Organic Carbon (TOC)	0.54	mg/l	JQ	1.0	0.50
MW-34-S	9/27/2012	Iron	0.8	mg/l			
MW-34-S	9/27/2012	Dissolved Oxygen	0.77	mg/l			
MW-34-S	9/27/2012	Oxidation Reduction Potential	-71	mV			
MW-34-S	9/27/2012	pH	7.24	SU			
MW-34-S	9/27/2012	Specific Conductance	0.64	umhos/cm			
MW-34-S	9/27/2012	Temperature	11.95	C			
MW-34-S	9/27/2012	Turbidity	0	ntu			
MW-34-S	9/27/2012	Methane	0.0096	mg/l	JQ	0.015	0.0050
MW-34-S	9/27/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-34-S	9/27/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-34-S	9/27/2012	Carbon dioxide	18	mg/l		12	4.0
MW-34-S	9/27/2012	Tetrachloroethene (PCE)	4	ug/l	U	25	4
MW-34-S	9/27/2012	cis-1,2-Dichloroethene	230	ug/l		25	4
MW-34-S	9/27/2012	trans-1,2-Dichloroethene	4	ug/l	U	25	4
MW-34-S	9/27/2012	Chloroethane	5	ug/l	U	25	5
MW-34-S	9/27/2012	Vinyl Chloride	17	ug/l	JQ	25	5
MW-34-S	9/27/2012	1,1-Dichloroethene	4	ug/l	U	25	4
MW-34-S	9/27/2012	Trichloroethene (TCE)	66	ug/l		25	5
MW-34-S	9/27/2012	Chlorobenzene	2800	ug/l		250	40

Table 2
2012 Analytical Results
Big D Campground Superfund Site
December 30, 2013

Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-37-S	9/25/2012	Sulfate	32.4	mg/l		5.0	1.5
MW-37-S	9/25/2012	Chloride	42.2	mg/l		4.0	2.0
MW-37-S	9/25/2012	Alkalinity, Total (As CaCO3)	220	mg/l		2.0	0.70
MW-37-S	9/25/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-37-S	9/25/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-37-S	9/25/2012	Iron	0	mg/l			
MW-37-S	9/25/2012	Dissolved Oxygen	2.09	mg/l			
MW-37-S	9/25/2012	Oxidation Reduction Potential	87.4	mV			
MW-37-S	9/25/2012	pH	7.18	SU			
MW-37-S	9/25/2012	Specific Conductance	0.635	umhos/cm			
MW-37-S	9/25/2012	Temperature	12.3	C			
MW-37-S	9/25/2012	Turbidity	0	ntu			
MW-37-S	9/25/2012	Carbon dioxide	21	mg/l		12	4.0
MW-37-S	9/25/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-37-S	9/25/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-37-S	9/25/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-37-S	9/25/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-37-S	9/25/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-37-S	9/25/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	9/25/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	9/25/2012	Chloroethane	1	ug/l	U	5	1
MW-37-S	9/25/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-37-S	9/25/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-37-S	9/25/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-39-S	9/26/2012	Hydrogen	4.2	nm		0.60	0.25
MW-39-S	9/26/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-39-S	9/26/2012	Sulfate	76.1	mg/l		20.0	6.0
MW-39-S	9/26/2012	Chloride	59	mg/l		8.0	4.0
MW-39-S	9/26/2012	Alkalinity, Total (As CaCO3)	189	mg/l		2.0	0.70
MW-39-S	9/26/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-39-S	9/26/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-39-S	9/26/2012	Iron	1.2	mg/l			
MW-39-S	9/26/2012	Dissolved Oxygen	0.48	mg/l			
MW-39-S	9/26/2012	Oxidation Reduction Potential	-125.6	mV			
MW-39-S	9/26/2012	pH	7.4	SU			
MW-39-S	9/26/2012	Specific Conductance	0.683	umhos/cm			
MW-39-S	9/26/2012	Temperature	11.8	C			
MW-39-S	9/26/2012	Turbidity	0	ntu			
MW-39-S	9/26/2012	Carbon dioxide	15	mg/l		12	4.0
MW-39-S	9/26/2012	Methane	0.0057	mg/l	JQ	0.015	0.0050
MW-39-S	9/26/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-39-S	9/26/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-39-S	9/26/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-39-S	9/26/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-39-S	9/26/2012	cis-1,2-Dichloroethene	48	ug/l		5	0.8
MW-39-S	9/26/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-39-S	9/26/2012	Chloroethane	1	ug/l	U	5	1
MW-39-S	9/26/2012	Vinyl Chloride	6	ug/l		5	1
MW-39-S	9/26/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-39-S	9/26/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-43-S	9/26/2012	Hydrogen	4.7	nm		0.60	0.25
MW-43-S	9/26/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-43-S	9/26/2012	Sulfate	48.4	mg/l		10.0	3.0
MW-43-S	9/26/2012	Chloride	34.2	mg/l		4.0	2.0
MW-43-S	9/26/2012	Alkalinity, Total (As CaCO3)	134	mg/l		2.0	0.70
MW-43-S	9/26/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-43-S	9/26/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-43-S	9/26/2012	Iron	0.4	mg/l			
MW-43-S	9/26/2012	Dissolved Oxygen	0.33	mg/l			
MW-43-S	9/26/2012	Oxidation Reduction Potential	-104.1	mV			
MW-43-S	9/26/2012	pH	7.54	SU			
MW-43-S	9/26/2012	Specific Conductance	0.446	umhos/cm			
MW-43-S	9/26/2012	Temperature	11.34	C			
MW-43-S	9/26/2012	Turbidity	0	ntu			
MW-43-S	9/26/2012	Carbon dioxide	5.4	mg/l	JQ	12	4.0
MW-43-S	9/26/2012	Methane	0.0088	mg/l	JQ	0.015	0.0050
MW-43-S	9/26/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-43-S	9/26/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-43-S	9/26/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-43-S	9/26/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-43-S	9/26/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	9/26/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	9/26/2012	Chloroethane	1	ug/l	U	5	1
MW-43-S	9/26/2012	Vinyl Chloride	12	ug/l		5	1
MW-43-S	9/26/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-43-S	9/26/2012	Trichloroethene (TCE)	1	ug/l	U	5	1

Table 2
2012 Analytical Results
Big D Campground Superfund Site
December 30, 2013

Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-45-S	9/24/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-45-S	9/24/2012	Chloride	69.8	mg/l		10.0	5.0
MW-45-S	9/24/2012	Alkalinity, Total (As CaCO3)	201	mg/l		2.0	0.70
MW-45-S	9/24/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-45-S	9/24/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-45-S	9/24/2012	Iron	1	mg/l			
MW-45-S	9/24/2012	Dissolved Oxygen	0.45	mg/l			
MW-45-S	9/24/2012	Oxidation Reduction Potential	-120.1	mV			
MW-45-S	9/24/2012	pH	7.46	SU			
MW-45-S	9/24/2012	Specific Conductance	0.699	umhos/cm			
MW-45-S	9/24/2012	Temperature	12.21	C			
MW-45-S	9/24/2012	Turbidity	0	ntu			
MW-45-S	9/24/2012	Carbon dioxide	13	mg/l		12	4.0
MW-45-S	9/24/2012	Methane	0.0072	mg/l	JQ	0.015	0.0050
MW-45-S	9/24/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-45-S	9/24/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-45-S	9/24/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-45-S	9/24/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-45-S	9/24/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	9/24/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	9/24/2012	Chloroethane	1	ug/l	U	5	1
MW-45-S	9/24/2012	Vinyl Chloride	2	ug/l	JQ	5	1
MW-45-S	9/24/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-45-S	9/24/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-47-S	9/24/2012	Sulfate	60.5	mg/l		5.0	1.5
MW-47-S	9/24/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-47-S	9/24/2012	Chloride	33.9	mg/l		4.0	2.0
MW-47-S	9/24/2012	Alkalinity, Total (As CaCO3)	133	mg/l		2.0	0.70
MW-47-S	9/24/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-47-S	9/24/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-47-S	9/24/2012	Iron	0.9	mg/l			
MW-47-S	9/24/2012	Dissolved Oxygen	0.29	mg/l			
MW-47-S	9/24/2012	Oxidation Reduction Potential	-102.4	mV			
MW-47-S	9/24/2012	pH	7.53	SU			
MW-47-S	9/24/2012	Specific Conductance	0.48	umhos/cm			
MW-47-S	9/24/2012	Temperature	12.52	C			
MW-47-S	9/24/2012	Turbidity	0.2	ntu			
MW-47-S	9/24/2012	Carbon dioxide	8.5	mg/l	JQ	12	4.0
MW-47-S	9/24/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-47-S	9/24/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-47-S	9/24/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-47-S	9/24/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-47-S	9/24/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-47-S	9/24/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	9/24/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	9/24/2012	Chloroethane	1	ug/l	U	5	1
MW-47-S	9/24/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-47-S	9/24/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-47-S	9/24/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-49-S	9/26/2012	Hydrogen	4.1	nm		0.60	0.25
MW-49-S	9/26/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-49-S	9/26/2012	Sulfate	77.9	mg/l		20.0	6.0
MW-49-S	9/26/2012	Chloride	70.7	mg/l		8.0	4.0
MW-49-S	9/26/2012	Alkalinity, Total (As CaCO3)	184	mg/l	J	2.0	0.70
MW-49-S	9/26/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-49-S	9/26/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-49-S	9/26/2012	Iron	1	mg/l			
MW-49-S	9/26/2012	Dissolved Oxygen	1.03	mg/l			
MW-49-S	9/26/2012	Oxidation Reduction Potential	-135.6	mV			
MW-49-S	9/26/2012	pH	7.53	SU			
MW-49-S	9/26/2012	Specific Conductance	0.709	umhos/cm			
MW-49-S	9/26/2012	Temperature	12.95	C			
MW-49-S	9/26/2012	Turbidity	0	ntu			
MW-49-S	9/26/2012	Carbon dioxide	12	mg/l	JQ	12	4.0
MW-49-S	9/26/2012	Methane	0.0077	mg/l	JQ	0.015	0.0050
MW-49-S	9/26/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-49-S	9/26/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-49-S	9/26/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-49-S	9/26/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-49-S	9/26/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	9/26/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	9/26/2012	Chloroethane	1	ug/l	U	5	1
MW-49-S	9/26/2012	Vinyl Chloride	6	ug/l		5	1
MW-49-S	9/26/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-49-S	9/26/2012	Trichloroethene (TCE)	1	ug/l	U	5	1

Table 2
2012 Analytical Results
Big D Campground Superfund Site
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Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
MW-50-S	9/24/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-50-S	9/24/2012	Chloride	78.2	mg/l		10.0	5.0
MW-50-S	9/24/2012	Alkalinity, Total (As CaCO3)	161	mg/l		2.0	0.70
MW-50-S	9/24/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-50-S	9/24/2012	Total Organic Carbon (TOC)	0.69	mg/l	JQ	1.0	0.50
MW-50-S	9/24/2012	Iron	0.3	mg/l			
MW-50-S	9/24/2012	Dissolved Oxygen	0.38	mg/l			
MW-50-S	9/24/2012	Oxidation Reduction Potential	-60.7	mV			
MW-50-S	9/24/2012	pH	7.46	SU			
MW-50-S	9/24/2012	Specific Conductance	0.66	umhos/cm			
MW-50-S	9/24/2012	Temperature	12.6	C			
MW-50-S	9/24/2012	Turbidity	0	ntu			
MW-50-S	9/24/2012	Carbon dioxide	11	mg/l	JQ	12	4.0
MW-50-S	9/24/2012	Methane	0.015	mg/l		0.015	0.0050
MW-50-S	9/24/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-50-S	9/24/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-50-S	9/24/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-50-S	9/24/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-50-S	9/24/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	9/24/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	9/24/2012	Chloroethane	1	ug/l	U	5	1
MW-50-S	9/24/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-50-S	9/24/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-50-S	9/24/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-52-D	9/28/2012	Iron	3.4	mg/l			
MW-52-D	9/28/2012	Dissolved Oxygen	1.18	mg/l			
MW-52-D	9/28/2012	Oxidation Reduction Potential	-20.6	mV			
MW-52-D	9/28/2012	pH	6.31	SU			
MW-52-D	9/28/2012	Specific Conductance	3.511	umhos/cm			
MW-52-D	9/28/2012	Temperature	14.56	C			
MW-52-D	9/28/2012	Turbidity	7.7	ntu			
MW-52-D	9/28/2012	Tetrachloroethene (PCE)	2	ug/l	U	10	2
MW-52-D	9/28/2012	cis-1,2-Dichloroethene	2	ug/l	U	10	2
MW-52-D	9/28/2012	trans-1,2-Dichloroethene	2	ug/l	U	10	2
MW-52-D	9/28/2012	Chloroethane	2	ug/l	U	10	2
MW-52-D	9/28/2012	Vinyl Chloride	2	ug/l	U	10	2
MW-52-D	9/28/2012	1,1-Dichloroethene	2	ug/l	U	10	2
MW-52-D	9/28/2012	Trichloroethene (TCE)	2	ug/l	U	10	2
MW-52-D	9/28/2012	Chlorobenzene	3300	ug/l		100	16
MW-52-D	9/28/2012	2,4-Diaminotoluene	98	ug/l	J	99	50
MW-53-D	9/28/2012	Iron	1.6	mg/l			
MW-53-D	9/28/2012	Dissolved Oxygen	1.96	mg/l			
MW-53-D	9/28/2012	Oxidation Reduction Potential	-76.7	mV			
MW-53-D	9/28/2012	pH	6.72	SU			
MW-53-D	9/28/2012	Specific Conductance	5.017	umhos/cm			
MW-53-D	9/28/2012	Temperature	14.23	C			
MW-53-D	9/28/2012	Turbidity	7.6	ntu			
MW-53-D	9/28/2012	Chlorobenzene	2	ug/l	JQ	5	0.8
MW-53-D	9/28/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-53-D	9/28/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-53-D	9/28/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-53-D	9/28/2012	Chloroethane	1	ug/l	U	5	1
MW-53-D	9/28/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-53-D	9/28/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-53-D	9/28/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
MW-53-D	9/28/2012	2,4-Diaminotoluene	48	ug/l	U	96	48
MW-54-SRX	9/24/2012	Sulfate	55.8	mg/l		5.0	1.5
MW-54-SRX	9/24/2012	Chloride	29	mg/l		2.0	1.0
MW-54-SRX	9/24/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
MW-54-SRX	9/24/2012	Alkalinity, Total (As CaCO3)	139	mg/l		2.0	0.70
MW-54-SRX	9/24/2012	Sulfide	0.6	mg/l	U	2.0	0.60
MW-54-SRX	9/24/2012	Total Organic Carbon (TOC)	0.5	mg/l	U	1.0	0.50
MW-54-SRX	9/24/2012	Iron	1	mg/l			
MW-54-SRX	9/24/2012	Dissolved Oxygen	0.31	mg/l			
MW-54-SRX	9/24/2012	Oxidation Reduction Potential	-95	mV			
MW-54-SRX	9/24/2012	pH	7.71	SU			
MW-54-SRX	9/24/2012	Specific Conductance	0.47	umhos/cm			
MW-54-SRX	9/24/2012	Temperature	12.22	C			
MW-54-SRX	9/24/2012	Turbidity	0.6	ntu			
MW-54-SRX	9/24/2012	Carbon dioxide	7.1	mg/l	JQ	12	4.0
MW-54-SRX	9/24/2012	Methane	0.005	mg/l	U	0.015	0.0050
MW-54-SRX	9/24/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
MW-54-SRX	9/24/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
MW-54-SRX	9/24/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
MW-54-SRX	9/24/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
MW-54-SRX	9/24/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-SRX	9/24/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-SRX	9/24/2012	Chloroethane	1	ug/l	U	5	1
MW-54-SRX	9/24/2012	Vinyl Chloride	1	ug/l	U	5	1
MW-54-SRX	9/24/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
MW-54-SRX	9/24/2012	Trichloroethene (TCE)	1	ug/l	U	5	1

Table 2
2012 Analytical Results
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Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
PW-03	9/27/2012	Sulfate	58.1	mg/l		5.0	1.5
PW-03	9/27/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
PW-03	9/27/2012	Chloride	39.2	mg/l		4.0	2.0
PW-03	9/27/2012	Alkalinity, Total (As CaCO3)	276	mg/l		2.0	0.70
PW-03	9/27/2012	Sulfide	0.6	mg/l	U	2.0	0.60
PW-03	9/27/2012	Total Organic Carbon (TOC)	2	mg/l		1.0	0.50
PW-03	9/27/2012	Iron	0.1	mg/l			
PW-03	9/27/2012	Dissolved Oxygen	0.61	mg/l			
PW-03	9/27/2012	Oxidation Reduction Potential	-2.5	mV			
PW-03	9/27/2012	pH	7.23	SU			
PW-03	9/27/2012	Specific Conductance	0.735	umhos/cm			
PW-03	9/27/2012	Temperature	12.82	C			
PW-03	9/27/2012	Turbidity	2.8	ntu			
PW-03	9/27/2012	Methane	0.0081	mg/l	JQ	0.015	0.0050
PW-03	9/27/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-03	9/27/2012	Ethylene	0.0033	mg/l	JQ	0.0050	0.0010
PW-03	9/27/2012	Carbon dioxide	23	mg/l		12	4.0
PW-03	9/27/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-03	9/27/2012	Chloroethane	1	ug/l	U	5	1
PW-03	9/27/2012	Vinyl Chloride	290	ug/l		5	1
PW-03	9/27/2012	1,1-Dichloroethene	5	ug/l	JQ	5	0.8
PW-03	9/27/2012	Trichloroethene (TCE)	94	ug/l		5	1
PW-03	9/27/2012	Chlorobenzene	790	ug/l		50	8
PW-03	9/27/2012	cis-1,2-Dichloroethene	1200	ug/l		50	8
PW-03	9/27/2012	trans-1,2-Dichloroethene	1400	ug/l		50	8
PW-04	9/25/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
PW-04	9/25/2012	Sulfate	41.7	mg/l		10.0	3.0
PW-04	9/25/2012	Chloride	32.7	mg/l		4.0	2.0
PW-04	9/25/2012	Alkalinity, Total (As CaCO3)	238	mg/l		2.0	0.70
PW-04	9/25/2012	Sulfide	0.6	mg/l	U	2.0	0.60
PW-04	9/25/2012	Total Organic Carbon (TOC)	2.3	mg/l		1.0	0.50
PW-04	9/25/2012	Iron	0	mg/l			
PW-04	9/25/2012	Dissolved Oxygen	1.39	mg/l			
PW-04	9/25/2012	Oxidation Reduction Potential	-2.8	mV			
PW-04	9/25/2012	pH	7.75	SU			
PW-04	9/25/2012	Specific Conductance	0.639	umhos/cm			
PW-04	9/25/2012	Temperature	13.81	C			
PW-04	9/25/2012	Turbidity	0	ntu			
PW-04	9/25/2012	Carbon dioxide	10	mg/l	JQ	12	4.0
PW-04	9/25/2012	Methane	0.0072	mg/l	JQ	0.015	0.0050
PW-04	9/25/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-04	9/25/2012	Ethylene	0.0022	mg/l	JQ	0.0050	0.0010
PW-04	9/25/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-04	9/25/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-04	9/25/2012	cis-1,2-Dichloroethene	81	ug/l		5	0.8
PW-04	9/25/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-04	9/25/2012	Chloroethane	1	ug/l	U	5	1
PW-04	9/25/2012	Vinyl Chloride	59	ug/l		5	1
PW-04	9/25/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-04	9/25/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
PW-05	9/25/2012	Nitrogen, nitrate	0.05	mg/l	U	0.10	0.050
PW-05	9/25/2012	Sulfate	48.3	mg/l		5.0	1.5
PW-05	9/25/2012	Chloride	72.8	mg/l		8.0	4.0
PW-05	9/25/2012	Alkalinity, Total (As CaCO3)	218	mg/l		2.0	0.70
PW-05	9/25/2012	Sulfide	0.6	mg/l	U	2.0	0.60
PW-05	9/25/2012	Total Organic Carbon (TOC)	0.83	mg/l	JQ	1.0	0.50
PW-05	9/25/2012	Iron	0.8	mg/l			
PW-05	9/25/2012	Dissolved Oxygen	1.17	mg/l			
PW-05	9/25/2012	Oxidation Reduction Potential	-86.2	mV			
PW-05	9/25/2012	pH	7.3	SU			
PW-05	9/25/2012	Specific Conductance	0.754	umhos/cm			
PW-05	9/25/2012	Temperature	12.22	C			
PW-05	9/25/2012	Turbidity	0.7	ntu			
PW-05	9/25/2012	Carbon dioxide	18	mg/l		12	4.0
PW-05	9/25/2012	Methane	0.0086	mg/l	JQ	0.015	0.0050
PW-05	9/25/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-05	9/25/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-05	9/25/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-05	9/25/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-05	9/25/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	9/25/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	9/25/2012	Chloroethane	1	ug/l	U	5	1
PW-05	9/25/2012	Vinyl Chloride	10	ug/l		5	1
PW-05	9/25/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-05	9/25/2012	Trichloroethene (TCE)	1	ug/l	U	5	1

Table 2
2012 Analytical Results
Big D Campground Superfund Site
December 30, 2013

Well ID	Date	Analyte	Result	Units	Validation Qualifiers	Reporting Limit	Detection Limit
PW-08	9/24/2012	Chloride	45.4	mg/l		10.0	5.0
PW-08	9/24/2012	Alkalinity, Total (As CaCO3)	215	mg/l		2.0	0.70
PW-08	9/24/2012	Sulfide	0.6	mg/l	U	2.0	0.60
PW-08	9/24/2012	Total Organic Carbon (TOC)	1.1	mg/l		1.0	0.50
PW-08	9/24/2012	Iron	0	mg/l			
PW-08	9/24/2012	Dissolved Oxygen	4.59	mg/l			
PW-08	9/24/2012	Oxidation Reduction Potential	81.5	mV			
PW-08	9/24/2012	pH	7.76	SU			
PW-08	9/24/2012	Specific Conductance	0.64	umhos/cm			
PW-08	9/24/2012	Temperature	12.76	C			
PW-08	9/24/2012	Turbidity	0	ntu			
PW-08	9/24/2012	Carbon dioxide	8.4	mg/l	JQ	12	4.0
PW-08	9/24/2012	Methane	0.005	mg/l	U	0.015	0.0050
PW-08	9/24/2012	Ethane	0.001	mg/l	U	0.0050	0.0010
PW-08	9/24/2012	Ethylene	0.001	mg/l	U	0.0050	0.0010
PW-08	9/24/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
PW-08	9/24/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
PW-08	9/24/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	9/24/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	9/24/2012	Chloroethane	1	ug/l	U	5	1
PW-08	9/24/2012	Vinyl Chloride	1	ug/l	U	5	1
PW-08	9/24/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
PW-08	9/24/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
SW-01	9/28/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
SW-01	9/28/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
SW-01	9/28/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-01	9/28/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-01	9/28/2012	Chloroethane	1	ug/l	U	5	1
SW-01	9/28/2012	Vinyl Chloride	1	ug/l	U	5	1
SW-01	9/28/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
SW-01	9/28/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
SW-01	9/28/2012	2,4-Diaminotoluene	48	ug/l	U	96	48
SW-02	9/28/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
SW-02	9/28/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
SW-02	9/28/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-02	9/28/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-02	9/28/2012	Chloroethane	1	ug/l	U	5	1
SW-02	9/28/2012	Vinyl Chloride	1	ug/l	U	5	1
SW-02	9/28/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
SW-02	9/28/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
SW-02	9/28/2012	2,4-Diaminotoluene	48	ug/l	U	96	48
SW-03	9/28/2012	Chlorobenzene	0.8	ug/l	U	5	0.8
SW-03	9/28/2012	Tetrachloroethene (PCE)	0.8	ug/l	U	5	0.8
SW-03	9/28/2012	cis-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-03	9/28/2012	trans-1,2-Dichloroethene	0.8	ug/l	U	5	0.8
SW-03	9/28/2012	Chloroethane	1	ug/l	U	5	1
SW-03	9/28/2012	Vinyl Chloride	1	ug/l	U	5	1
SW-03	9/28/2012	1,1-Dichloroethene	0.8	ug/l	U	5	0.8
SW-03	9/28/2012	Trichloroethene (TCE)	1	ug/l	U	5	1
SW-03	9/28/2012	2,4-Diaminotoluene	49	ug/l	U	98	49

Units:
nm = Nanomoles
mg/L = Milligrams per liter
ug/L = Micrograms per liter
SU = Standard pH units
C = Celsius
mV = Millivolts
umhos/cm = Micromhos per centimeter
NTU = Nephelometric turbidity units

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TETRACHLOROETHENE
CONCENTRATION DISTRIBUTION
MAY 2012

JOB NO. 6107130023

FIGURE:

amec

OLIN CORPORATION
BIG D CAMPGROUND

PREPARED BY/DATE THP 3/21/13

CHECKED BY/DATE KPW 3/25/13

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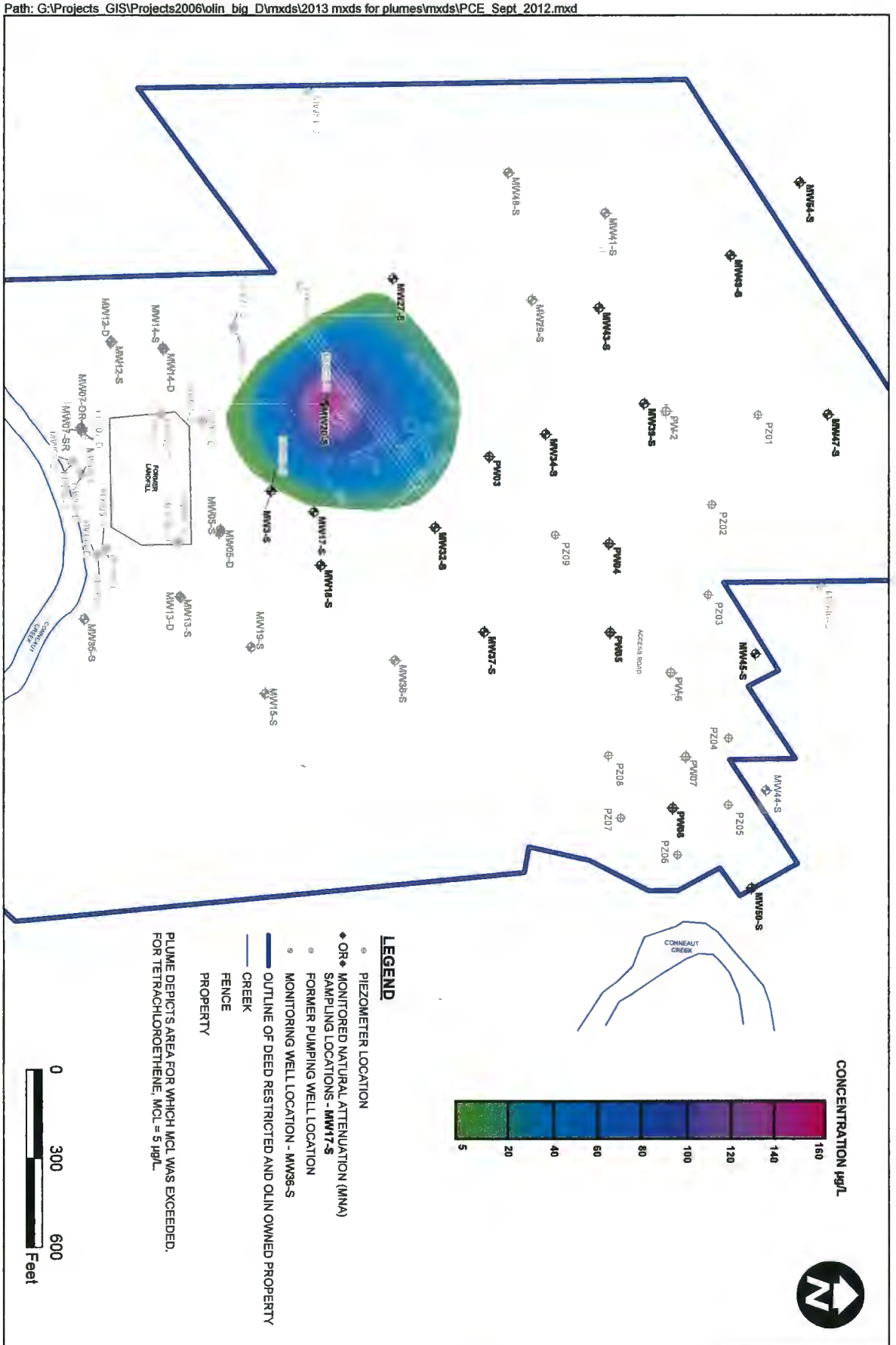

OLIN CORPORATION BIG D CAMPGROUND	amec	TETRACHLOROETHENE CONCENTRATION DISTRIBUTION SEPTEMBER 2012 JOB NO. 6107130023 FIGURE:

PREPARED BY/DATE THP 3/21/13 CHECKED BY/DATE KPW 3/25/13

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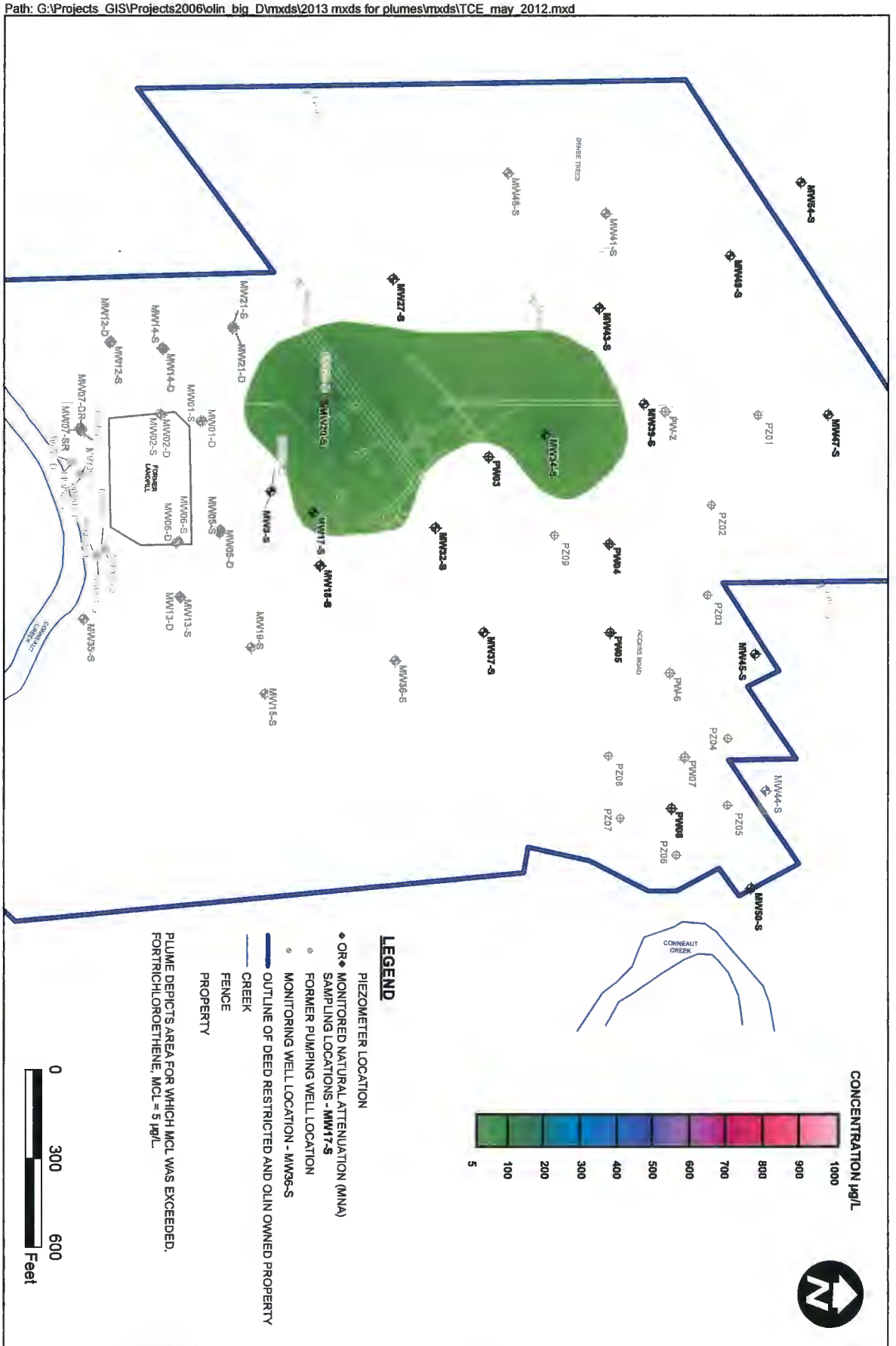

OLIN CORPORATION BIG D CAMPGROUND	amec	TRICHLOROETHENE CONCENTRATION DISTRIBUTION MAY 2012 JOB NO. 6107130023 FIGURE:

PREPARED BY/DATE THP 3/21/13 CHECKED BY/DATE KPW 3/25/13

TRICHLOROETHENE
CONCENTRATION DISTRIBUTION
SEPTEMBER 2012

FIGURE:

JOB NO. 6107130023

amec

OLIN CORPORATION
BIG D CAMPGROUND

PREPARED BY/DATE THP 3/2/13

CHECKED BY/DATE KPW 3/25/13

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CONCENTRATION µg/L
3500
3000
2500
2000
1500
1000
500
70
LEGEND
PIEZOMETER LOCATION
MONITORED NATURAL ATTENUATION (MNA) SAMPLING LOCATIONS - MW17-S
FORMER PUMPING WELL LOCATION
MONITORING WELL LOCATION - MW36-S
OUTLINE OF DEED RESTRICTED AND OLIN OWNED PROPERTY
CREEK
FENCE
PROPERTY
PLUME DEPICTS AREA FOR WHICH MCL WAS EXCEEDED.
FOR CIS-1,2-DICHLOROETHENE, MCL = 70 µg/L.
0
300
600
Feet
CIS-1,2-DICHLOROETHENE
CONCENTRATION DISTRIBUTION
MAY 2012
JOB NO. 6107130023
FIGURE:
OLIN CORPORATION
BIG D CAMPGROUND
PREPARED BY/DATE THP 3/21/13
CHECKED BY/DATE KPM 3/25/13
MW54-S
MW47-S
MW49-S
PZ01
PZ02
PZ03
MW45-S
MW44-S
PZ04
PZ05
MW50-S
PW07
PW08
PZ06
PW-2
MW39-S
PW-6
ACCESS ROAD
CONNEAUT CREEK
MW41-S
MW43-S
PW04
PW05
PZ08
PZ07
RENEE TREES
PZ09
MW34-S
MW29-S
MW48-S
PW03
MW37-S
MW32-S
PW-1
MW27-S
MW36-S
MW20-D
MW20-S
MW17-S
MW18-S
MW33-S
MW03-D
MW3-S
MW19-S
MW15-S
MW21-S
MW21-D
MW05-D
MW05-S
MW13-S
MW13-D
MW14-D
MW14-S
FORMER LANDFILL
MW12-S
MW12-D
MW35-S

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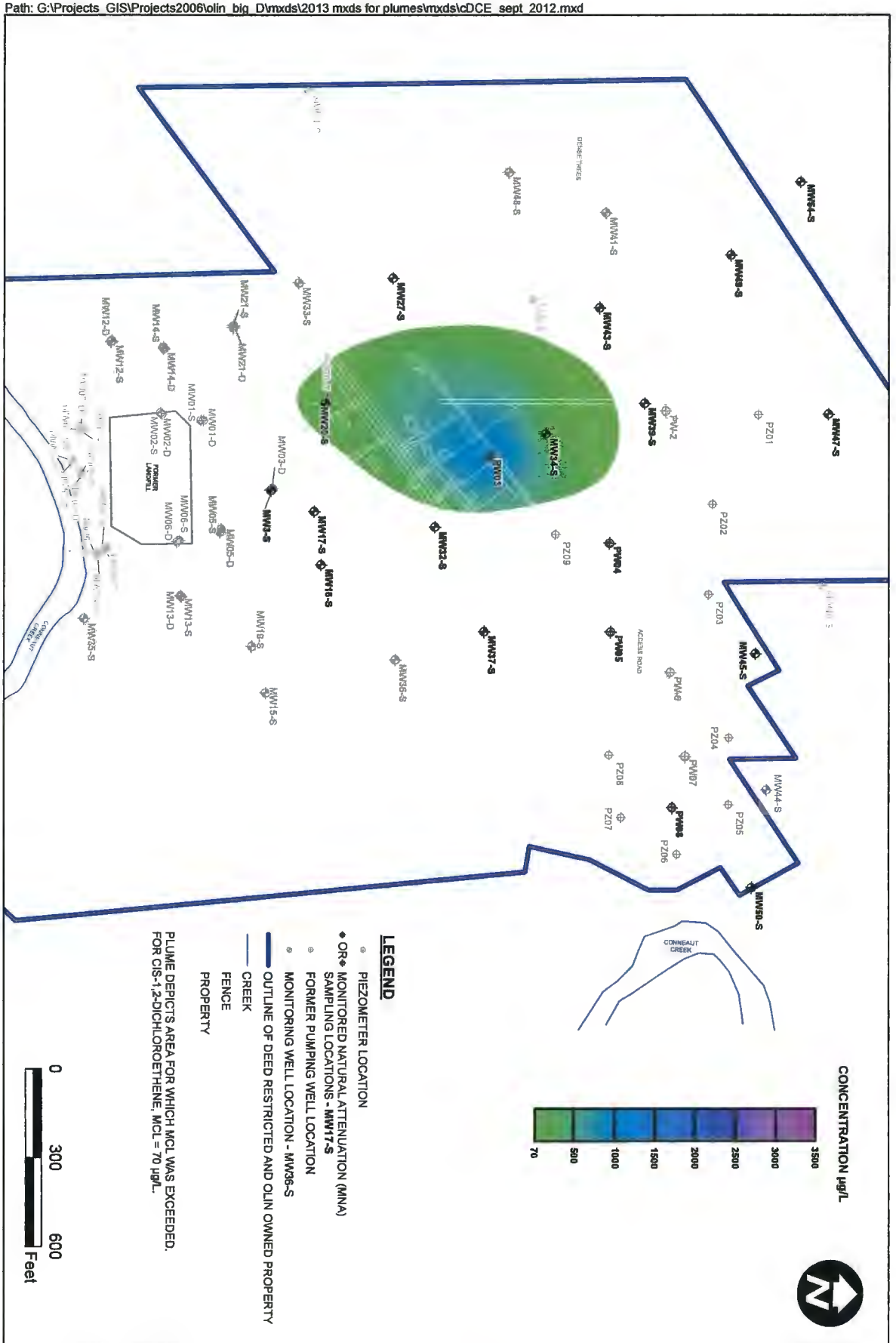

OLIN CORPORATION BIG D CAMPGROUND	amec	CIS-1,2-DICHLOROETHENE CONCENTRATION DISTRIBUTION SEPTEMBER 2012 JOB NO. 6107130023 FIGURE:

PREPARED BY/DATE THP 3/21/13 CHECKED BY/DATE KPW 3/25/13

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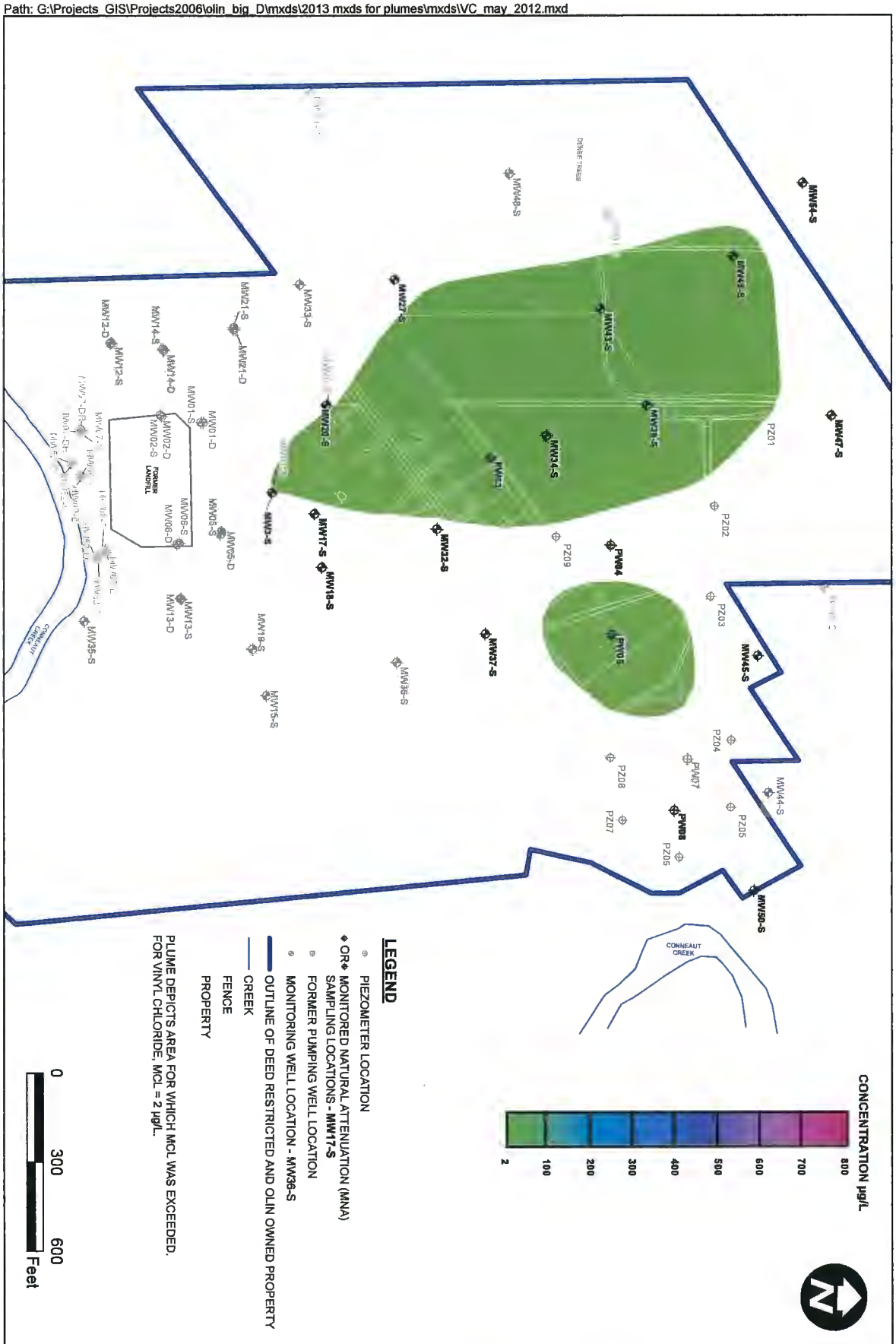

OLIN CORPORATION BIG D CAMPGROUND	amec	VINYL CHLORIDE CONCENTRATION DISTRIBUTION MAY 2012 JOB NO. 6107130023 FIGURE:

PREPARED BY/DATE THP 3/21/13 CHECKED BY/DATE KPW 3/25/13

VINYL CHLORIDE
CONCENTRATION DISTRIBUTION
SEPTEMBER 2012

JOB NO. 6107130023

FIGURE:

amec

OLIN CORPORATION
BIG D CAMPGROUND

PREPARED BY/DATE THP 3/21/13

CHECKED BY/DATE KPW 3/25/13

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MW47-S
MW54-S
PZ01
MW49-S
PZ02
PZ03
MW45-S
MW44-S
MW50-S
PZ04
PZ05
PW07
PW08
PZ06
PW-6
PW-2
MW39-S
ACCESS ROAD
MW41-S
MW43-S
PW04
PW05
PZ08
PZ07
DENSE TREES
PZ09
MW34-S
MW48-S
PW03
MW37-S
MW32-S
MW27-S
MW36-S
MW20-S
MW17-S
MW18-S
MW3-S
MW15-S
MW19-S
MW05-D
MW05-S
MW13-S
MW13-D
MW14-D
MW14-S
FORMER LANDFILL
MW12-S
MW12-D
MW35-S
MW07-DR
MW07-SR
CONCENTRATION µg/L
15000
14000
12000
10000
8000
6000
4000
2000
100
LEGEND
PIEZOMETER LOCATION
OR MONITORED NATURAL ATTENUATION (MNA) SAMPLING LOCATIONS - MW17-S
FORMER PUMPING WELL LOCATION
MONITORING WELL LOCATION - MW36-S
OUTLINE OF DEED RESTRICTED AND OLIN OWNED PROPERTY
CREEK
FENCE
PROPERTY
PLUME DEPICTS AREA FOR WHICH MCL WAS EXCEEDED.
FOR MONOCHLOROBENZENE, MCL = 100 µg/L.
0
300
600
Feet
MONOCHLOROBENZENE
CONCENTRATION DISTRIBUTION
MAY 2012
JOB NO. 6107130023
FIGURE:
amec
OLIN CORPORATION
BIG D CAMPGROUND
PREPARED BY/DATE THP 3/21/13
CHECKED BY/DATE KPW 3/25/13
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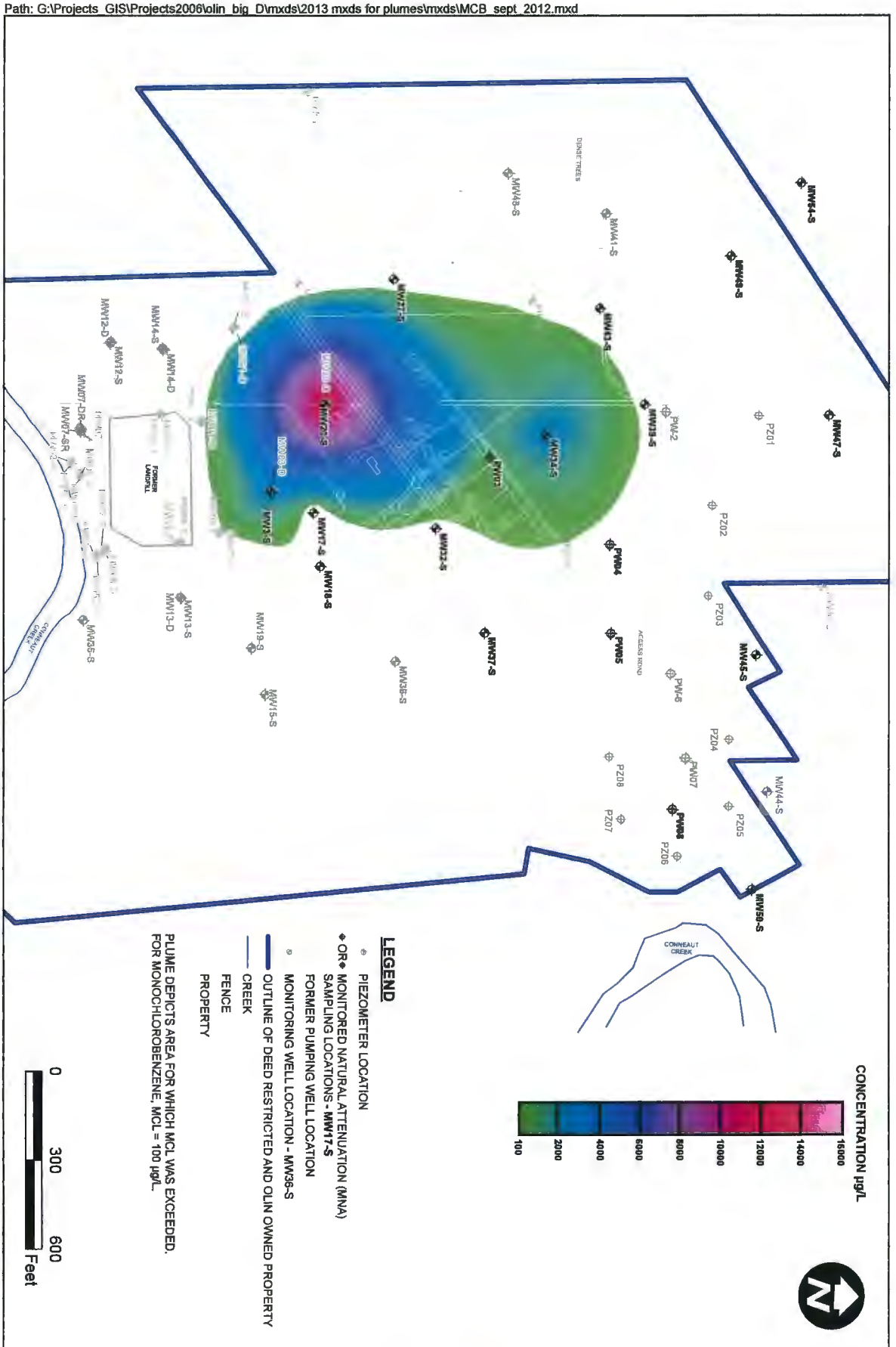

OLIN CORPORATION BIG D CAMPGROUND	amec	MONOCHLOROBENZENE CONCENTRATION DISTRIBUTION SEPTEMBER 2012 JOB NO. 6107130023 FIGURE:

PREPARED BY/DATE THP 3/21/13 CHECKED BY/DATE KPW 3/25/13

Attachment I

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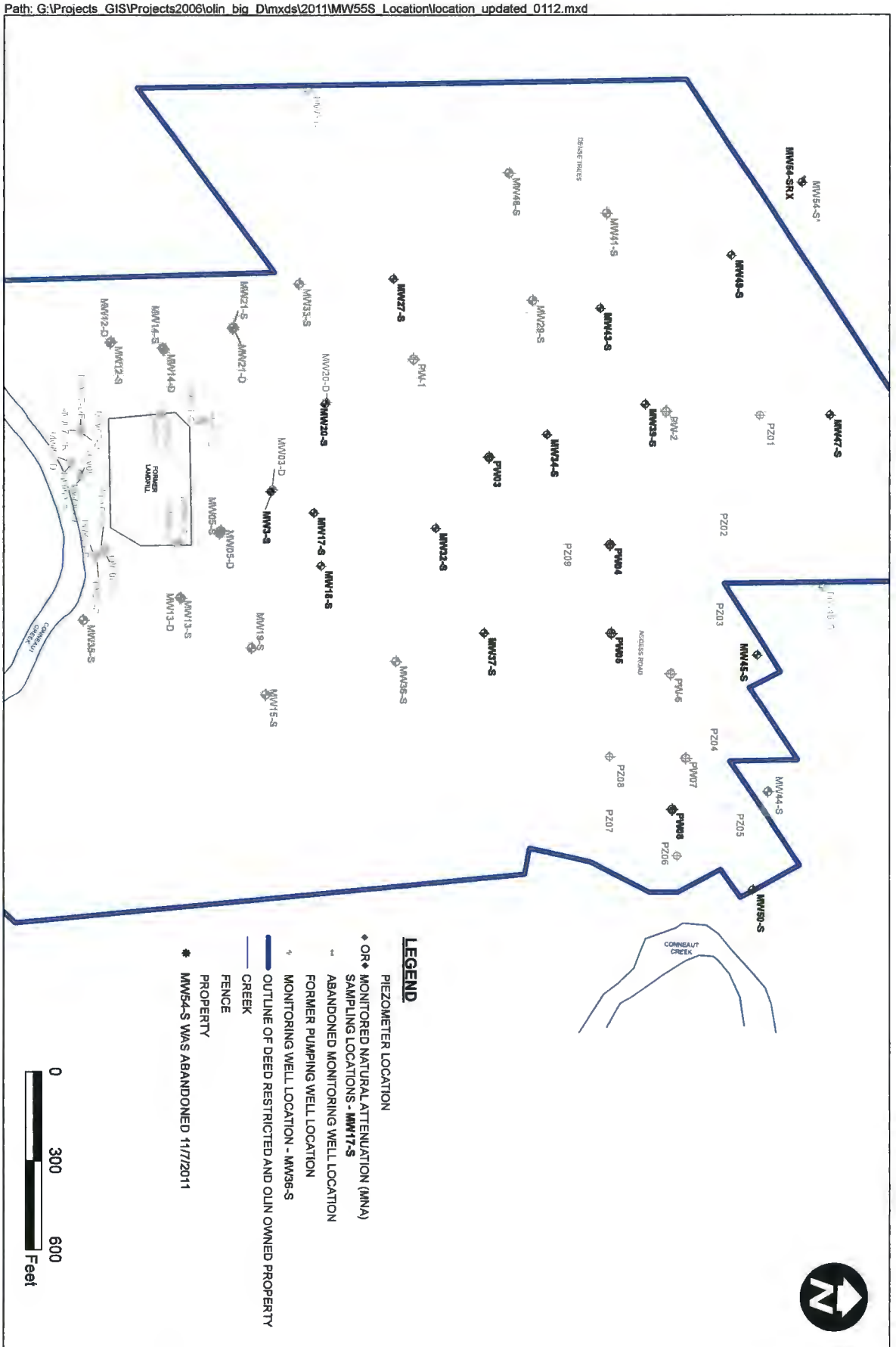

OLIN CORPORATION BIG D CAMPGROUND	AMEC E&I 3200 Town Point Drive, Suite 100 Kennesaw, Georgia 30144 (770) 421-3400	Site Location Map JOB NO. 6107110023 FIGURE: 1

PREPARED BY/DATE SLW 1/16/11 CHECKED BY/DATE KPW 1/16/11