SIXTH FIVE-YEAR REVIEW REPORT FOR

FINDETT CORP/HAYFORD BRIDGE ROAD GROUNDWATER SUPERFUND SITE

ST. CHARLES COUNTY, MISSOURI

Prepared by

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LIST OF ABBREVIATIONS AND ACRONYMS

ASAOC	Administrative Settlement Agreement and Order on Consent
BERA	Baseline Ecological Risk Assessment
bgs	Below Ground Surface
CAG	Community Advisory Group
CD	Consent Decree
CFR	Code of Federal Regulations
cis-1,2-DCE	cis-1,2-Dichloroethene
COC	Contaminant of Concern
COPEC	Contaminant of Potential Ecological Concern
CPAR	Contingency Plan Action Report
DCA	Dichloroethane
DCE	Dichloroethene
EE/CA	Engineering Evaluation/Cost Analysis
EPA	U.S. Environmental Protection Agency
EPWF	Elm Point Well Field
ESD	Explanation of Significant Differences
FYR	Five-Year Review
GETS	Groundwater Extraction and Treatment System
gpm	Gallons per minute
HBR	Hayford Bridge Road
ICs	Institutional Controls
MCL	Maximum Contaminant Level
mg/kg	Milligrams per kilogram
MNA	Monitored Natural Attenuation
MoDNR	Missouri Department of Natural Resources
NPL	National Priorities List
OU	Operable Unit
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
ppb	Parts per billion
ppm	Parts per million
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RCP	Remedial Contingency Plan
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Responsible Party
RSL	Regional Screening Level
SLERA	Screening Level Ecological Risk Assessment
TCA	Trichloroethane
TCE	Trichloroethene
ug/kg	Micrograms per kilogram
ug/L	Micrograms per liter
USACE	U.S. Army Corps of Engineers

UU/UE	Unlimited use and unrestricted exposure
VC	Vinyl chloride
VOC	Volatile Organic Compound

I. INTRODUCTION

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

The U.S. Environmental Protection Agency is preparing this FYR pursuant to the *Comprehensive Environmental Response, Compensation, and Liability Act* Section 121, consistent with the *National Oil and Hazardous Substances Pollution Contingency Plan* (40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the sixth FYR for the Findett Corp./Hayford Bridge Road Groundwater Superfund site. The triggering action for this statutory FYR is the signature date of the previous FYR. The FYR has been prepared because hazardous substances, pollutants or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure.

The site consists of four Operable Units in total. However, only OU1, OU2, and OU3 are included in this FYR. OU1 addresses surface soils on the former Findett Corporation property as well as contaminated groundwater on the former Findett and Cadmus Corporation properties. OU2 addresses surface soil contamination on the former Cadmus property. OU3 addresses affected groundwater that has migrated beyond the OU1 and OU2 property boundaries. Lastly, OU4 addresses a separate and distinct contaminated source area associated with the Huster Road Substation owned by Ameren Missouri. OU4, the Ameren Huster Road Substation, is not addressed in this FYR because a final remedy has not been implemented.

This sixth FYR for the Findett Corp./Hayford Bridge Road Groundwater Superfund site was led by James Curry (EPA Remedial Project Manager). Participants included Jessica Evans (EPA Community Involvement Coordinator), Daniel O'Crowley (EPA Hydrogeologist), Keke Gibb (EPA Ecological Risk Assessor), Ann Jacobs (EPA Human Health Risk Assessor), Daniel Lyskowski (EPA attorney-advisor) and Jonathan Clark (MoDNR Project Manager). The potentially responsible parties were notified of the initiation of the FYR. The review began on May 30, 2024.

Site Background

The site is located within the city of St. Charles, Missouri near the intersection of Elm Point Road and Huster Road. The site is defined as the properties formerly owned by Findett and Cadmus (OU1/OU2), the extent of groundwater contamination that migrated from OU1 and OU2 (Hayford Bridge Road Groundwater – OU3), and the extent of soil and groundwater contamination from the Huster Road Substation owned by Ameren (Huster Road Substation – OU4).

The site is in an area comprised of mixed industrial, agricultural, and residential uses in the flood plain of the Mississippi River. Commercial and residential development is expected to increase around the site due to the proximity to Highway 370, which acts as a bypass around the city and Interstate Highway 70. The former Findett and Cadmus properties were purchased by a private party via tax sale in early 2024. Commercial development is anticipated at these properties in the future. The site is near the Elm Point Wellfield which provides water for the residents of the city of St. Charles, Missouri as well as portions of the surrounding county.

Findett Service Company began operating in 1962 as an industrial facility, which reprocessed heat transfer fluids, hydraulic fluids, solvents, and catalysts for several companies and corporations. The catalyst business spun off as a separate company, Cadmus, in 1973. The process fluids and materials contained hazardous substances, including volatile organic compounds and polychlorinated biphenyls . Releases of VOC and PCB contamination into soils and groundwater occurred due to inadequate waste management practices while the businesses were operating.

FYR Summary Form

Site Name: Findett Corp./Hayford Bridge Road Superfund site		
EPA ID: MOD006333975		
Region: 7	**State:** MO	**City/County:** St. Charles/St. Charles
NPL Status: Non-NPL		
Multiple OUs? Yes	**Has the site achieved construction completion?** No	
Lead agency: EPA		
Author name (Federal or State Project Manager): James Curry		
Author affiliation: EPA		
Review period: 5/30/2024 - 5/20/2025		
Date of site inspection: 10/23/2024		
Type of review: Statutory		
Review number: 6		
Triggering action date: 7/20/2020		
Due date *(five years after triggering action date)*: 7/20/2025		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

Exposures to contaminated soil and groundwater at the three OUs evaluated in this FYR are associated with significant human health risks due to the exceedance of the EPA's risk management criteria for reasonable maximum exposure scenarios. The following hazardous substances have been identified at the source area and are considered contaminants of concern in both soil and groundwater: PCBs, benzene, 2-butanone (methyl ethyl ketone), chlorobenzene, chloroethane, 1,1-dichloroethane (DCA), 1,1-dichloroethene (DCE), cis-1,2-DCE, 1,1,1-trichloroethane (TCA), 1,1,2,2-perchloroethane (PCA), perchloroethene (PCE), 1,1,2-TCA, trichloroethene (TCE), toluene, vinyl chloride (VC), and xylene.

A focused risk assessment and Engineering Evaluation/Cost-Analysis was conducted for OU2 and found that PCB and VOC-contaminated surface soils on the Cadmus property posed a direct contact human health threat as well as a continuing threat of groundwater contamination.

The OU3 human health risk assessment found that contaminated groundwater poses an unacceptable risk due to potential exposure of contaminated groundwater from either private wells or the EPWF. The EPA also evaluated the possibility of groundwater contamination emanating into homes via vapor intrusion. It was determined, based on groundwater concentrations, that this pathway was not a concern. Finally, the EPA evaluated ecological risks associated with OU3 and found that there were no ecological receptors for groundwater.

Response Actions

OU1

The site originally came to the attention of the EPA in the late 1970s when the Findett Corporation reported handling PCBs. During an EPA inspection, an unlined ”quench pond“ was identified on the boundary between the Findett and Cadmus properties. Findett utilized the quench pond by releasing hot residues from the recycling processes into it. In 1977 and 1981, Findett excavated the pond and disposed of contaminated soils off the site. OU1 was established to address shallow contaminated groundwater on and beneath the former Findett and Cadmus properties as well as surface and near-surface soils around the quench pond on the Findett property.

The OU1 Record of Decision, signed on December 28, 1988, did not explicitly define Remedial Action Objectives. However, the ROD indicated that the goal of the remedy was to contain groundwater contamination in the shallow aquifer.

The selected remedial actions included:

- Hydraulic control of the shallow contaminated plume using groundwater extraction wells screened in the upper granular unit;
- Groundwater treatment using air stripping to remove organic contaminants, with an option for further treatment of groundwater using Granular Activated Carbon;
- Discharge of treated groundwater to the sewage treatment plant; and
- Off-site disposal and treatment of contaminated surface and near-surface soil excavated around the Findett quench pond.

Of note, the OU1 ROD did not call for Institutional Controls at the site.

A ROD amendment was signed on September 25, 1995. The amendment specified that bioremediation would be performed and expected to achieve a 50% reduction in PCB concentrations in soil within 2 years and achieve the 25 parts per million performance standards within 5 years. If these performance standards were not achieved on schedule, then the original excavation and off-site disposal remedy would be implemented.

In 2003, Findett requested to drop the bioremediation remedy due to logistical issues and instead proceed with surface and near-surface soil excavation. A soil removal was conducted at OU1 in April 2003 primarily to address PCBs, but VOCs were also present. The excavation was to reach a maximum depth of 5 feet below ground surface; however, the actual excavation never exceeded 3.5 feet bgs, due to the shallow water table. The lateral extent of excavation was based on a 25-ppm action level for PCBs in shallow soils. Additional backfill was placed to within 6 inches of grade. Seventy-one truckloads of contaminated soil were removed and transported to the Clean Harbors Lone Mountain Facility in Waynoka, Oklahoma.

OU2

In 1995, the EPA completed an evaluation of the Cadmus property, designated as OU2, which resulted in an EE/CA to address the PCB-contaminated soil at the site. Threats to human health and the environment led to a Non-Time-Critical Removal Action entailing the excavation and off-site disposal of contaminated soils on the Cadmus property. The OU2 Removal Action Memorandum, signed on November 7, 1995, does not explicitly define RAOs. However, the proposed Removal Action included:

- Excavation and off-site disposal of all soils contaminated with PCBs above 25 ppm and located above the water table at the Cadmus property.

Like OU1, a soil excavation completed at OU2 in 2001 was based on a 25-ppm PCB action level and advanced to a maximum depth of 5 feet bgs, or to the groundwater table, whichever came first. The depth of excavation was stopped short of 5 feet at most locations due to the shallow groundwater table and the presence of an active oil pipeline along the southern boundary of the Cadmus property. Approximately 1,075 cubic yards of soil were removed. The extent of the OU2 Removal Action can be found in Appendix B.

OU3

Contaminants, including benzene, VC, cis-1,2-DCE, and chloroethane, were found above Maximum Contaminant Levels in monitoring wells located just north of the Findett property and migrating towards the EPWF, which serves as the source of drinking water for St. Charles. This groundwater plume was identified and addressed as OU3.

The EPA issued a ROD for OU3 on September 28, 2005. A CD was entered on July 3, 2007 with the OU3 RPs – Findett, The Goodyear Tire & Rubber Company, Mallinckrodt LLC, General Motors Corporation, ACF Industries, and Pharmacia Corporation (collectively, the HBR OU3 Group). The RAO for OU3 was to protect human health by eliminating exposure to groundwater contaminated above regulatory standards or risk-based standards for site-related contaminants. Cleanup levels for the OU3 COCs are as follows:

Table 1: OU3 Cleanup Levels

Contaminant	**Cleanup Level (ug/L)**
Cis-1,2-DCE	70
Vinyl Chloride	2
Benzene	5
Chloroethane	5

Major components of the selected remedy included:

- Monitored natural attenuation to prevent contamination from reaching the EPWF (Appendix B, Figure 2) and reduce the contamination in the aquifer to achieve performance standards within an estimated cleanup time frame between 10 and 20 years.
- Groundwater monitoring to measure and track: (1) the degradation rate(s) of the COCs in the body of the plume, (2) the boundaries of the plume to verify that they are not expanding, (3) the EPWF to verify that this system remains protected, and (4) the influent stream to the city's water treatment plant to verify that it remains uncontaminated.
- Upgrade of the aeration unit at the city's Elm Point Water Treatment Plant to effectively remove VOCs at the concentrations documented in the OU3 aquifer and to minimize maintenance for the city to operate.
- A Remedial Contingency Plan to require timely action if the natural attenuation processes do not achieve the expected outcomes of 1) maintaining an uncontaminated Elm Point Well Field, and 2) achieving performance standards in the aquifer within 10 to 20 years. If necessary, additional Remedial Actions – unspecified to allow for the use of new technologies – could be required by the contingency plan.
- Institutional Controls to ensure that no drinking water wells would be installed in the OU3 contaminated aquifer, contaminated groundwater would not be used for potable purposes and ponds/lakes would not be constructed below the upper cohesive soils and into the contaminated aquifer.

OU4

In December 2010, contamination was discovered at CW-5, located just north of a nearby substation operated by Ameren. On March 25, 2011, the EPA invoked an Emergency Contingency Plan Response under OU3 that required the RPs to collect more data and prepare an Emergency Action Response Report. The requirements to address what was then believed to be migration of contamination from OU1/OU3 were included in an administrative settlement agreement and order on consent for Emergency Response Action signed by the Hayford Bridge Road OU3 Group on September 28, 2012.

The EPA subsequently entered an Enforcement Action Memorandum with the HBR OU3 Group to investigate around the substation, which was completed in April 2012. A final Removal Action Report was issued in 2015 confirming the contamination found in groundwater at monitoring well CW-5 was not a result of the OU3 plume and instead originated from a separate source area at the Ameren Huster Road substation.

Due to the discovery of a different source and responsible party (Ameren), the EPA issued a Notice of Completion of Work in May 2015 to the OU3 RPs. On January 2, 2018, the EPA entered an ASAOC with Ameren to complete an RI/FS. Work under the RI/FS is ongoing, and a final remedy has yet to be selected.

Status of Implementation

OU1

On May 14, 1990, Findett and the EPA entered a Consent Decree requiring Findett to conduct the Remedial Actions for this OU to address shallow contaminated groundwater near the source area as well as surface soils at the Findett property. The EPA required Findett to construct, operate and maintain a groundwater extraction and treatment system that would hydraulically contain contamination in the shallow groundwater and prevent migration from the source area. The OU1 ROD also stipulated that treated water is to be discharged to the sanitary sewer system.

Following the October 1991 approval by the EPA and city of St. Charles, Missouri, Findett began operating the GETS on November 21, 1991. The GETS was originally designed with one extraction well, EW-1. However, low pumping rates from EW-1 – approximately 0.5 gpm – led to Findett modifying the design to include monitoring well MW-6 as an additional extraction well. The modification was completed in April 1992 and increased the total extraction rate to 12-14 gpm (PDT, 1992).

Although the design of the GETS was modified to include the additional extraction well, the system itself was not designed or constructed to withstand temperatures below 40 degrees Fahrenheit. For the first 13 years of operation, the OU1 GETS was shut down every year between October and April to keep the system from freezing and breaking.

The GETS was modified in 2004 to withstand lower temperatures so it would operate year-round. However, the system was still subject to freezing and extended periods of downtime when temperatures fell below 15 degrees Fahrenheit (USACE, 2015).

The site has also been flooded multiple times throughout its history, including during the historic floods of 1993 as well as smaller floods in 2008 and 2019. Moreover, the high iron content of the groundwater at the source area has been a recurring issue that impacts the operability of the GETS and presents significant maintenance challenges.

Consistent with the remedy selected for surface soils in the 1990 ROD, Findett submitted a remedial design plan to excavate and dispose of contaminated surface soils off-site in May 1992. On June 28, 1994, Findett submitted results from a bioremediation field trial and requested amendment of the ROD to allow implementation of the technology. The EPA amended the OU1 ROD in 1995 to document the change but kept the excavation and off-site disposal as an alternative due to uncertainty with bioremediation, because it was considered an innovative technique at the time.

The EPA finalized and approved Findett's design for the biotreatment process on July 23, 1997. Construction activities were completed and biotreatment was initiated by August 1999. Within 2 years the biotreatment process had achieved a promising 80% reduction in PCB concentrations. Findett then proposed ending the biotreatment effort and conducting the excavation and off-site disposal method due to logistical and scheduling issues for Findett. The EPA and Missouri Department of Natural Resources approved the corresponding work plans, resulting in completion of the soils Remedial Action in April 2003. A final estimated volume of excavated soils was never provided.

In August 2020, the company operating the OU1 remedy on behalf of Findett, SantoLubes, submitted ability-to-pay information to the EPA demonstrating that they were unable to pay for the continued operation and maintenance of the GETS at OU1. In September 2020, the EPA was informed that SantoLubes would no longer continue to operate the GETS. A cash-out CD was entered on April 22, 2024, with SantoLubes Manufacturing LLC and several related parties.

The EPA assumed operational control of the GETS in February 2021 on an interim basis with the intent to negotiate a settlement with other RPs for OU1. The EPA installed a new extraction well, EW-2, in 2022 to replace the low-production extraction well, EW-1. A new tray air stripper treatment unit was also installed in 2023.

The new tray air stripper treatment unit was placed inside one of the last remaining structures on the former Findett property to help increase its resiliency to extreme cold temperatures. Despite the redesign of the system, the GETS continues to be plagued by much of the same issues previously noted. For instance, an extended period of extreme cold temperatures in January 2024 caused water in the treatment unit to freeze and pipes to burst. This incident resulted in the system being inoperable for 2-3 weeks.

Noting the challenges that have impacted the operability of the GETS since 1991, and the possible corresponding impacts to the downgradient groundwater plume of OU3, the EPA is enforcing the RCP of the OU3 ROD and CD to evaluate additional Remedial Actions for the source area that would be more resilient, aggressive and accelerate the cleanup of the site. At the time of writing for this FYR, the HBR OU3 Group is conducting investigative work to delineate the extent of VOCs present at the source area. Additionally, based on the continual challenges with the GETS, the EPA shut down the system in February 2025 to allow further study of the mobility of the source area and the overall efficacy of the system. The EPA expects to receive a Contingency Plan Action Report in summer 2025 that will recommend additional remedial options to accelerate the remedial timeframe in addition to ensuring the protection of the EPWF.

Lastly, a Screening Level Ecological Risk Assessment has never been conducted for OU1 and OU2. Previous FYRs included a SLERA as an Issue and Recommendation, citing the lack of confirmation sampling from the OU2 Removal Action in 2001 as well as data gaps from previous sampling efforts at OU1 and OU3. The EPA is in discussions with the HBR OU3 Group to conduct a SLERA to address these data gaps.

OU2

Pursuant to an ASAOC the EPA issued on October 4, 2000, responsible parties conducted a Removal Action in 2001 for PCB-contaminated surface soils. The parties responsible for the OU2 Removal Action were ACF Industries, Cadmus, General Motors Company, The Goodyear Tire & Rubber Company, Mallinckrodt Inc. and Pharmacia Corporation (formerly known as Monsanto Company).

Excavation and off-site disposal of contaminated soils at OU2 began on June 11, 2001. All soil excavation, disposal, backfilling, compaction of backfill, and demobilization was completed by July 10, 2001. Verification soil sampling of the excavation sidewalls and floor was not required per the ASAOC. However, soil sampling conducted during source investigations in the 1980’s identified elevated concentrations of PCBs and volatile organic compounds at depths exceeding 5 feet below ground surface (CH2M Hill, 1990). All PCB-remediation waste was transported to Safety-Kleen's permitted landfill for this material in Waynoka, Oklahoma. Contaminated groundwater beneath the OU2 excavation is considered part of the source area for OU3.

OU3

On July 3, 2007, the court entered a CD requiring the HBR OU3 Group to implement the MNA remedy, consistent with the 2005 ROD. The design was completed in April 2008, and the construction of the monitoring well network was completed during the summer of 2008. The Remedial Design/Remedial Action Construction Completion Report was submitted in December 2008, which the EPA conditionally approved in May 2009. The city ordinance to implement the required groundwater ICs was approved in February 2010 (Appendix L).

The 2005 ROD and subsequent 2007 CD called for an upgrade to the city's aeration treatment unit at the city's water treatment plant. A Design Report for Contingent Air Stripping Towers was submitted in February 2011 but never implemented. The HBR OU3 Group and the city of St. Charles agreed to change the aeration upgrade requirement to a contingency in the spring of 2010 so the city could proceed in implementing their own planned improvements. The EPA concurred with the change.

On March 25, 2011, the EPA invoked an Emergency Contingency Plan Response that required the OU3 RPs to collect more data and to prepare an Emergency Action Response because cis-1,2-DCE had been detected in the EPWF. Between 2011 and 2015, the OU3 Group performed additional investigations and response actions to address this additional area of contamination.

Based on the analytical data collected by the OU3 Group in 2011, as well as independent testing by Ameren in 2012, the EPA subsequently identified the Ameren substation as a "major source of contamination contributing significantly to the contamination in the EPWF" (EPA, 2013a).

The EPA conducted a limited vapor intrusion evaluation in January 2023 at the Deerfield Village mobile home park, located east of Huster road. All contaminants were detected at more than one order of magnitude below respective removal management levels, which are the levels at which EPA Region 7 often requires installation of a vapor intrusion mitigation system. In addition, groundwater concentrations near the Deerfield Village mobile home park were found to be below vapor intrusion screening levels for shallow groundwater vapor source.

In November 2023, the EPA triggered the Non-Emergency Response Contingency Action of the OU3 RCP due to exceedances of MCLs at point of compliance wells and the estimated remedial timeframe for OU3 exceeding the 10-20-year timeframe established in the ROD. A Contingency Plan Summary Report was submitted to the EPA on December 26, 2023. The EPA proceeded with the non-emergency contingency response approach and requested submittal of a CPAR with proposal of additional response actions to address the exceedances and timeframe in a May 10, 2024 letter to the HBR OU3 Group.

On June 26, 2024, the EPA received an MNA Evaluation Report from the HBR OU3 Group. The EPA identified issues with the OU3 remedy, particularly with the aquifers ability to fully degrade site COCs. The EPA responded to the MNA Evaluation Report in a comment letter on August 13, 2024, clarifying expectations for additional response work within the OU3 aquifer to address this concern. HBR OU3 Group submitted their CPAR Work Plan on September 6, 2024, within the required 120-day timeframe. Field work for the CPAR Work Plan began in December 2024 and includes soil sampling and analysis to evaluate additional Remedial Actions to target residual contamination in the source area.

IC Summary Table

Table 2: 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)
Soils	Yes	No	Former Findett and Cadmus Properties	Restrict residential land use. Restrict soil disturbance. Require notice to construction workers. Restrict building construction.	environmental covenant implemented May 2, 2019.
Groundwater	Yes	No	Former Findett and Cadmus Properties	Restrict the drilling of wells and prohibit the use of groundwater.	environmental covenant Implemented May 2, 2019.
Groundwater	Yes	Yes	Former Findett and Cadmus Properties, and OU3	Restrict the drilling of drinking water wells and the constructions of ponds or lakes below the confining clay layer.	City Ordinance implemented February 19, 2010.

Of note, ICs were not required in the OU2 Action Memorandum.

Systems Operations/Operation and Maintenance

As noted above, the EPA operated the OU1 GETS during most of the FYR period. The operability of the OU1 GETS continues to be impacted by issues that have plagued it since it was first constructed in November 1991. These issues include environmental and technical challenges, such as periods of extreme cold temperatures, iron fouling of the extraction pumps, well screens, and floods. Residual soil contamination at the OU1 source area continues to be a threat to the remedial timeframe for OU3. The EPA is using the existing OU3 enforcement agreement to pursue additional Remedial Actions for the source area that are more aggressive and effective at treating soil contamination at the source area. As noted above, the EPA has shut down the GETS to better understand whether it is achieving the results intended when it was selected as part of the OU1 remedy.

At OU3, CW8 and its sentinel wells are currently sampled monthly by the OU3 Group. Interior wells MW-C8, MW-C13, MW-C15 and sentinel wells MW-C16, MW-C17, MW-C18, and MW-C19 are sampled semiannually.The rest of the OU3 monitoring well network is sampled annually. Nested monitoring wells MW-C18 and MW-C19 were placed in a marshy area that is subject to recurrent floods and often prevents access during annual monitoring events (Figure 4). A gravel pad was installed in May 2025 to resolve this flooding issue and ensure these monitoring wells can be accessed for sampling as necessary.

III. PROGRESS SINCE THE LAST REVIEW

This section includes the protectiveness determinations and statements from the most recent FYR as well as the recommendations from the most recent FYR and the status of those recommendations.

Table 3: Protectiveness Determinations/Statements from the 2020 FYR

OU #	Protectiveness Determination	Protectiveness Statement
1	Protectiveness Deferred	A protectiveness determination of the remedy at OU1 cannot be made until further information is obtained. Further information will be obtained by performing a SLERA and collecting additional soil samples to document that the soil is below ecological risk management levels. In addition, the remedy will need to be assessed to determine whether there are other Remedial Actions that can be taken at OU1 to maintain hydraulic containment and lessen the remedial timeframe for OU3 to meet the RAOs.
2	Protectiveness Deferred	A protectiveness determination of the remedy at OU2 cannot be made until further information is obtained. Further information will be obtained by performing a SLERA and collecting additional soil samples to document that the soil is below both human health and ecological risk management levels.
3	Protective	The OU3 remedy continues to be protective through MNA. Long-term protectiveness of the Remedial Action will continue to be verified through semiannual sampling of the downgradient groundwater.

Table 4: Status of Recommendations from the 2020 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
OU1/OU2	The continued contaminant mass flux from OU1 into OU3 increases the remedial timeframe for both OUs; and eventually the added contaminant mass load into OU3 may adversely impact the ability of OU3 to achieve its RAOs in a reasonable timeframe.	Evaluate options for augmentation of the OU1 remedy. This could consist of targeted source treatment activities within OU1, additional extraction wells and/or higher pumping rates for existing extraction wells.	Ongoing	The HBR OU3 Group is conducting investigative work to delineate the extent of VOCs present at the source area. The EPA expects to receive a CPAR in 2025 that will recommend additional remedial options to accelerate the remedial timeframe.	Ongoing
OU1/OU2	No ecological risk assessment has been conducted to date in OUs 1 and 2. In addition, since 1,4-dioxane is associated with 1,1,1-TCA, which was recently detected in OU1 soil, 1,4-dioxane should be included in the required SLERA.	A SLERA needs to be performed for soils for both terrestrial and aquatic habitats in OU1 and OU2. A SLERA would include all available site data and would also assess data gaps. If data gaps are found, samples need to be collected. Once the necessary data are collected, the SLERA would screen all site chemicals of potential ecological concern	Ongoing	The EPA has requested the HBR OU3 Group prepare a SLERA Work Plan.	Ongoing

		(COPECs). If the hazard quotients are greater than 1, that COPEC moves into a baseline ecological risk assessment (BERA). If PCBs are found, then the SLERA immediately moves into a BERA.			
OU2	Confirmation soil sampling was not conducted after the 2003 PCB soil Removal Action.	Conduct soil sampling in areas of previous Removal Action to determine whether soil levels are below human health risk levels.	Ongoing	Additional soil sampling is being completed during the OU3 CPAR process.	Ongoing

IV. FYR PROCESS

Community Notification, Involvement and Site Interviews

The EPA guidance allows for different levels of outreach and public engagement during the FYR process, depending on the nature of the site and the level of community interest. Community involvement activities during a FYR typically include notifying the community that the FYR will be conducted and, again, when it is completed. Because the Findett Corp./Hayford Bridge Road site has significant public interest, the EPA expanded its community involvement activities for this site during this FYR process.

The agency provided opportunities for project stakeholders to be involved throughout the FYR process by establishing an active and robust FYR team, communicating with stakeholders face-to-face and via conference call and providing updates at regularly scheduled Community Advisory Group meetings. The EPA held official FYR interviews within a 31-day window starting on October 21st and ending on November 21st, 2024. Additionally, EPA project staff have been accessible and available throughout the FYR process to answer questions from stakeholders and members of the public.

A public notice was made available by newspaper postings, press release and e-mail notifications. Public notice of the FYR start was posted in the *Mid Rivers News Magazine* and the *St. Charles County Community News* newspaper on June 5, 2024, stating that the EPA has started the sixth FYR and inviting the public to attend a meeting with the EPA on June 26, 2024. The EPA also issued a press release, sent emails to the site's email distribution lists and posted a public notice in the magazines referenced above inviting the public to participate in interviews with the EPA to support the FYR. The results of the review and the report will be made available on the Site Profile Page for the Findett Corp./Hayford Bridge Road Superfund site at: http://www.epa.gov/superfund/findettcorp. Members of the public who might not have internet access can view the documents online at this location: Kathryn Linnemann Branch Public Library, 2323 Elm St, St Charles, MO 63301.

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy that has been implemented to date. Of note, the interviews for this FYR were conducted between October-November 2024, prior to the start of field work for the CPAR. Interview records to support this FYR can be found in Appendix I. The results of these interviews are summarized below.

- The city of St. Charles and broader community are concerned about the migration of the OU3 plume towards the EPWF, as well as the remedial timeframe and ability of the aquifer to attenuate contaminants.
- The city of St. Charles, the CAG, and the OU3 Group are concerned that the OU1 GETS is not effectively containing contaminants and preventing migration from OU1 and OU2 into OU3.
- The city of St. Charles and members of the CAG have expressed their concerns regarding the performance and lines of evidence to support the OU3 MNA remedy and would like to see a more active approach to achieving the cleanup goals.
- The city of St. Charles believes the site poses a vapor intrusion risk and does not agree with the limited evaluation conducted by the EPA in 2023. The EPA found there is no current risk from vapor intrusion to the residents residing in the Deerfield Village mobile home park.
- The city of St. Charles expressed their concern regarding the transfer of ownership of the former Findett and Cadmus properties overlaying the OU3 source area.
- The city of St. Charles and the CAG are dissatisfied with the design of the Site Profile Page, stating that the website is too cumbersome and difficult to navigate.
- The city of St. Charles and the CAG have expressed concern and interest with engaging the broader community for the site. Specifically, local school districts, Universities, the County of St. Charles, the trauma center at St. Joseph Hospital the Developmental Disability Resource Board of St. Charles County, local grocery stores, and the county health department were all recommended as groups or organizations the EPA should reach out to for current and future community engagement activities for the site.
- The city of St. Charles, CAG and individuals in the community have shared that the EPA needs to improve its ability to effectively communicate technical information with members of the public who often have no scientific or engineering backgrounds.

Since the last FYR, the EPA has significantly increased engagement efforts to ensure outreach activities address the needs and concerns of the community. A summary of these efforts is described below. As the site continues to move through the Superfund process, the agency is dedicated to remaining flexible and evolving what tools and resources are used to stay engaged with the community and stakeholders:

- An independent technical advisor has been assigned to interpret and present highly technical site documents.
- A local EPA resource has been assigned to the site and is available to meet and discuss site information with the community or stakeholders.
- Updated fact sheets were developed in 2024 with background information and updates.
- The EPA provided a technical advisor in 2023 to support the formation of the CAG and remains available as a resource for the group.
- The EPA participates in routine meetings with the city of St. Charles to discuss site technical information.
- A facilitator has been obtained through the EPA to facilitate the meetings between the EPA and the city of St. Charles to ensure the discussions are productive, organized, and all questions/concerns from the participants are addressed.
- The site team has made improvements to the Site Profile Page to address feedback received from the community and stakeholders. This has included highlighting recently added documents and organizing the site information presented.
- The EPA posts draft documents to the Site Profile pages and includes associated comments.
- Weekly site updates are sent to members of the CAG.
- The EPA reached out to organizations that were recommended by the FYR interview participants.
- The EPA is evaluating the use of other resources and tools to engage with the broader community.

Data Review

This FYR included a review of relevant information contained in a variety of site-related documents. The information review primarily focused on documents produced after July 2020 (start of the FYR timeframe), but also included older information necessary for an adequate understanding of the site history. Well figures, COC tables, trend charts and remedial timeframe calculations, are contained in Appendices B, C, G, and H.

OU1

Due to SantoLubes' inability to pay for operation of the GETS, as well as the associated groundwater monitoring, the EPA assumed operational control of the OU1 GETS in February 2021, including associated groundwater monitoring. During this FYR period, the EPA conducted groundwater monitoring in September 2021, October 2022, September 2023, and May 2024.

Routine monitoring currently consists of sampling seventeen monitoring wells, two extraction wells and the effluent of the treatment system. The seventeen monitoring wells are: MW-2, MW-4, MW-5, MW-5B, UA-2, LA-3, UA-3, LA-4, UA-4, LA-5, MW-7, MW-8, MW-9, UA-11, UA-12, UA-13, and EW-1. The two extraction wells are: EW-2 and MW-6. A summary of the sampling results from May 2024 is included in Table 5 (TetraTech, 2024b). Tables containing groundwater monitoring results from September 2021 through May 2024 can be found in Appendix C. A map of the OU1 well network can be found in Appendix B.

Table 5. OU1 Groundwater Monitoring Results May 2024

Monitoring Well	1,1-DCA	1,1-DCE	Cis-1,2-DCE	VC	1,4-Dioxane	1,2-DCB	1,4-DCB	Chlorobenzene	Benzene	PCBs
MCL/RSL	2.8*	7	70	2	0.46*	600	75	100	5	0.5
MW-2	5.3	ND	ND	18	3.1	ND	ND	ND	1.9	ND
MW-4	1.5	ND	ND	3.8	12	ND	ND	ND	ND	ND
MW-5	ND	ND	61	75	2.1	ND	ND	ND	ND	ND
MW-5B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
UA-2	5.6	ND	ND	8.5	15	ND	ND	ND	2.4	ND
LA-3	ND	ND	4.5	2	ND	0.50	0.63	1.6	ND	ND
UA-3	0.79	ND	20	6.2	2.7	1.5	1.9	7.3	ND	ND
LA-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
UA-4	ND	ND	ND	ND	0.23	ND	ND	ND	ND	ND
LA-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	4.0	ND	ND	2.1	7.9	ND	ND	ND	ND	2.1
MW-8	ND	ND	14	16	1.6	ND	ND	ND	2.8	3.9
MW-9	8.9	5.8	ND	19	0.98	ND	ND	ND	8.3	ND
UA-11	3.3	41	840	270 J	0.71	0.52	0.57	1.1	4.3	ND
UA-12	160	ND	18,000 J	8,700 J	510	530	800	1,600	100	4.7 J
UA-13	2	ND	4.3	2.4	10	ND	ND	ND	ND	17 J
EW-1	85	19	8,800 J	3,100 J	380	920	1,400	1,600	76	132 J
EW-2	8.4	0.79	130 J	93 J	8.1	ND	ND	ND	120 J	1.2
MW-6	44	10	460 J	180 J	71	4.9	0.63	4.9	91	1.5
Influent	29	4.7	690	270 J	34	1.8	0.50	2.6	100	1.6
Effluent	ND	ND	0.83	ND	33	ND	ND	ND	ND	ND

Notes:

- * No EPA MCL established. Cleanup levels rounded to two significant figures and based upon 1E-06 excess lifetime cancer risk (EPA, 2024).
- Of note, the remedy for OU1 is a containment remedy, not a restoration remedy. Therefore, there are no cleanup goals for OU1.
- MCL or regional screening level exceedances are highlighted.
- RSL = Regional Screening Level
- ND = not detected at laboratory reporting limit
- J = Estimated Value
- All concentrations in micrograms per liter
- 1,2-DCB = 1,2-dichlorobenzene
- 1,4-DCB = 1,4-dichlorobenzene
- Data Source: Tetra Tech, 2024b

As indicated in Table 4, multiple compounds exceeded their respective MCL or regional screening level throughout OU1. Most groundwater contamination was identified in monitoring wells screened in the shallow groundwater. Monitoring wells screened in the deeper groundwater, MW-5B, LA-3, LA-4 and LA-5, showed few detections for site contaminants of concern, apart from the detection of vinyl chloride at 2 ug/L in LA-3.

The highest concentrations of COCs were identified in former extraction well EW-1 and UA-12, which are within a few feet of each other in the former quench pond area. Monitoring well UA-11, which is the only monitoring well located on the former Cadmus property, had MCL or RSL exceedances for 1,1-DCA, 1,1-DCE, cis-1,2-DCE, vinyl chloride, and 1,4-dioxane. This is a possible indicator that residual soil contamination not addressed during the OU2 Removal Action is contributing to the groundwater plume.

1,4-Dioxane, which is not currently a COC, was identified in multiple wells throughout the site at levels exceeding the EPA RSL.

In 2024, the HBR OU3 Group conducted Mann-Kendall and Sen’s Slope analyses for select OU1 monitoring wells as part of their OU3 MNA evaluation (UES, 2024a). The analyses were conducted using data collected from August 2008 to September 2023. The trend analysis data are included in Appendix G. A summary of the Mann-Kendall analyses is provided in Table 6 below.

Table 6: Mann-Kendall Analyses OU1

Monitoring Well	TCE	1,2-DCE (total)	Vinyl Chloride	Benzene
MW-2	NA	Decreasing	Decreasing	Decreasing
MW-4	NA	Increasing	No Trend	No Trend
MW-5	Decreasing	Decreasing	Decreasing	Decreasing
UA-2	NA	No Trend	Decreasing	Decreasing
LA-3	Decreasing	Decreasing	Decreasing	NA
UA-3	NA	Decreasing	No Trend	Decreasing
EW-1	Decreasing	No Trend	Decreasing	Decreasing
MW-6	Decreasing	No Trend	Decreasing	Decreasing

Notes:

- No Trend = Trend not significant at 95% confidence interval.
- N/A = not applicable
- Increasing trends highlighted
- Data Source: UES, 2024a

Most of the monitoring wells indicated decreasing or no trend for the site contaminants of concern analyzed. The only identified increasing trend was 1,2-DCE in monitoring well MW-4. Additionally, the calculated Sen's Slope for vinyl chloride in MW-4 was 0.2225. A positive Sen's Slope can be an indicator of a future increasing trend. MW-4 is located north and off-site of the Findett property. The increasing trend of 1,2-DCE, as well as the positive Sen's Slope for vinyl chloride, in MW-4 is an indication that groundwater contamination in OU1 is contributing to the OU3 groundwater plume.

As part of the OU3 MNA Evaluation (UES, 2024a), a mass flux analysis was conducted and calculated the following mass flux rates for deeper contaminant migration from OU1 to OU3:

- Benzene: 0.044 kg/year
- 1,2-DCE (total): 0.57 kg/year
- Vinyl Chloride: 0.42 kg/year

Based on the calculated flux rates, it appears the OU1 GETS is not exerting sufficient hydraulic capture to contain the OU1 groundwater plume.

In March 2024, the EPA collected direct-push groundwater samples at two boring locations along the southern extent of the former Cadmus property, and two boring locations south, upgradient, of the former Cadmus property. Samples were collected at multiple depths. Multiple site contaminants of concern were identified in groundwater samples from borings located on the Cadmus property. The following contaminants of concern were detected at one or more locations at concentrations exceeding their respective MCLs: cis-1,2-DCE, TCE, and vinyl chloride.

The following contaminants of potential concern that were detected above regulatory levels but are not currently listed contaminants of concern for the site are: 1,1,2-TCA, 1,2,3-trichloropropane, 1,2-DCA, chloroform and methylene chloride (Tetra Tech, 2024a). No site contaminants of concern were identified in samples collected upgradient of the Cadmus property. These results indicate the potential for residual soil contamination that was not addressed during the OU2 Removal Action is an ongoing source the OU1 groundwater plume. A map of the boring locations and the associated data can be found in Appendix C.

In March 2024, the EPA collected eight soil gas samples in the vicinity of the Cadmus property and in the city right-of-way south and west of the Cadmus property (Tetra Tech, 2024a). Soil gas sample results were compared to the EPA's vapor intrusion screening levels for exterior soil gas with a Target Risk Value of 10^{-6} and a hazard quotient of 1.0 The highest concentrations of volatile organic compounds were identified in sampling location SG-9, located adjacent to the former quench pond. Vapor intrusion screening levels exceedances were also noted in SG-01 through SG-03, located along the city right of way west of the Cadmus property. The following compounds were identified in one or more locations at concentrations exceeding the exterior soil gas vapor intrusion screening levels: 1,2,4-trimethylbenzene, 1,2-dichlorobenzene, 1,3-butadiene, 1,4-dichlorobenzene, benzene, chlorobenzene, ethylbenzene, m and/or p-Xylene, trichloroethane, and vinyl chloride. A map of the boring locations and the associated soil gas data can be found in Appendix C.

OU2

There is no monitoring data to review for this OU. The remedy for OU2 was a PCB soil removal. Wells for the OU1 remedy are in both OU1 and OU2.

OU3

The OU3 monitoring network consists of fourteen perimeter compliance point monitoring wells, MW-C1 through MW-C10 and MW-C16 through MW-C19, five interior monitoring wells within the affected area, MW-C11 through MW-C15, as well as City Well W-8. Influent/effluent sampling is currently being conducted by Ameren under OU4 and those data are shared with the HBR OU3 Group. The HBR OU3 Group conducts annual sampling of the entire OU3 monitoring network, and semi-annual monitoring of certain designated sampling locations.

The latest annual sampling event was conducted in November through December 2023. A summary of the sampling results is included in Table 8 below. Historical sampling results can be found in Appendix C.

Table 7: Annual Groundwater Monitoring Results November-December 2023

Monitoring Well	1,1-DCA	Trans-1,2-DCE	Cis-1,2-DCE	Vinyl Chloride	Benzene	1,4-Dioxane
MCL/RSL	2.8*	100	70	2	5	0.46*
MW-C3	ND	ND	0.9J	0.3J	ND	ND
MW-C4	ND	ND	ND	ND	ND	1.03
MW-C8	ND	ND	2.5	7.4	ND	0.92
MW-C11	1.0J	ND	11.2	1.9	0.2J	ND
MW-C12	0.3J	ND	7.9	0.3J	ND	ND
MW-C13	4.2	0.2J	22	9.0	16.6	6.59
MW-C15	6.1	ND	40.5	59.1	16.9	4.08
MW-C16	ND	ND	0.4J	ND	ND	ND
MW-C17	1.1J	ND	4.4	4.3	ND	ND

Notes:

- All units in ug/L
- * No EPA MCL established. Cleanup levels rounded to two significant figures and based upon 1E-06 excess lifetime cancer risk (EPA, 2024).
- Listed contaminants of concern for OU3 are shaded in.
- MCL or regional screening level exceedances are highlighted.
- Monitoring wells MW-C1, MW-C2, MW-C5, MW-C6, MW-C7, MW-C9, MW-C10, and MW-C14 were not included on this table due to no detections of site contaminants of concern.
- ND = Not detected at laboratory reporting limit
- J = Analyte detected at the laboratory reporting limit

As indicated in Table 8, concentrations of vinyl chloride in monitoring wells MW-C8, MW-C13, MW-C15, and MW-C17 exceeded the MCL. Concentrations of benzene in MW-C13 and MW-C15 exceeded the MCL. Additionally, concentrations of 1,4-dioxane, which is not currently a site contaminant of concern, exceeded the regional screening level in MW-C4, MW-C8, MW-C13, and MW-C15. Site contaminants of concern were not detected in the following monitoring wells: MW-C1, MW-C2, MW-C5, MW-C6, MW-C7, MW-C9, MW-C10, and MW-C14.

City Well W-8 was sampled multiple times during this FYR period, see Appendix C. Vinyl chloride was detected multiple times at concentrations up to 1.7 ug/L, cis-1,2-DCE was detected multiple times at concentrations up to 1.0J ug/L, and 1,1-DCA was detected during two sampling events at 0.1 J ug/L. There were no MCL or risk-based cleanup level exceedances for OU3 COCs in CW8 during this FYR period.

In 2024, the HBR OU3 Group conducted a MNA Evaluation of the well network (UES, 2024a). As part of the MNA Evaluation, Mann-Kendall analyses was conducted for select monitoring wells. For most of the monitoring wells, the analyses were conducted using data collected from August 2008 to November/December 2023. A date range of June 2018 to December 2023 was used for CW-16 and CW-17 to exclude non-detect values from earlier sampling events. The trend analysis data are included in Appendix G. A summary of the Mann-Kendall analyses is provided in Table 7 below.

Table 8: Mann-Kendall Analyses OU3

Monitoring Well	Cis-1,2-DCE	Vinyl Chloride	Benzene
MW-C3	N/A	Decreasing	N/A
MW-C8	No Trend	No Trend	N/A
MW-C11	Decreasing	Decreasing	Decreasing
MW-C12	Decreasing	Decreasing	Decreasing
MW-C13	No Trend	No Trend	Decreasing
MW-C15	Increasing	Increasing	Increasing
MW-C16	No Trend	No Trend	N/A
MW-C17	Increasing	Increasing	N/A

Notes:

- No Trend = Trend not significant at 95% confidence interval.
- N/A = not applicable
- Increasing trends highlighted

The Mann-Kendall analyses identified increasing trends of vinyl chloride and cis-1,2-DCE in monitoring wells MW-C15 and MW-C17, as well as benzene in MW-C15. Decreasing trends of cis-1,2-DCE, vinyl chloride and benzene were identified in MW-C11, MW-C12, as well as a decreasing trend of vinyl chloride in MW-C3, and a decreasing trend of benzene in MW-C13. The trend analysis did not identify a significant trend at a 95% confidence interval for cis-1,2-DCE and vinyl chloride in MW-C8, MW-C13, and MW-C16.

The MNA Evaluation concluded that concentration trends in the OU3 groundwater plume were related to natural attenuation processes, as well as migration from OU1 due to incomplete hydraulic containment.

The MNA Evaluation also included hydrographs from the OU3 monitoring well network. The hydrographs show a 5-foot difference in groundwater elevation between the shallow and deep monitoring wells, which are screened with just a 10-foot vertical difference. This difference in groundwater elevation indicates that a downward hydraulic vertical gradient could be driving contamination deeper. Hydrographs for OU3 are provided in Appendix H.

Site Inspection

The inspection of the site was conducted on October 22, 2024. In attendance were EPA Remedial Project Manager James Curry, EPA Section Supervisor Susan Fisher, MoDNR Project Manager Jonathan Clark, and the current owner of the former Findett and Cadmus properties. The purpose of the inspection was to assess the protectiveness of the remedy. During the site inspection, monitoring wells for the site were examined for locks and any needs for repairs or replacement. Components of the OU1 GETS were also inspected, including the extraction well pumps and piping, tray air stripper blower and tower, and the discharge and exhaust were checked for any leaks or blockages.

The most significant OU1 issue identified during the FYR site inspection was the lack of a sealed and locked cover for well EW-1. This was resolved by installing a locked and sealed cover shortly after the site inspection. No other issues that could impact remedy protectiveness were observed. The site Inspection Checklist and pictures can be found in Appendices F and K.

V. TECHNICAL ASSESSMENT

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

OU1 Question A Summary:

The OU1 groundwater remedy documented in the 1988 Record of Decision is a containment remedy, not a restoration remedy. Thus, cleanup goals were never defined for OU1. Sampling data from OU1 and the adjacent OU3 has documented that migration of contamination in the shallow aquifer continues to impact off-site areas in OU3, located hydraulically downgradient from OU1. Thus, the OU1 groundwater remedy does not appear to be functioning as intended by the OU1 Record of Decision. Risk of direct contact exposure to contamination was addressed in April 2003, when surface soils were excavated and disposed of off the site.

Additional treatment of the source area is currently being evaluated by the HBR OU3 Group via the OU3 Contingency Plan to address residual contamination in the subsurface at the source area for the benefit of the OU3 remedy (UES, 2024b). The EPA approved a work plan from the HBR OU3 Group to investigate the source area in November 2024. The outcome of the CPAR being prepared by the HBR OU3 Group is expected to result in a more effective means of remediating residual contamination in the source area contributing to the OU3 plume and ensure the long-term protection of the EPWF.

OU1 Remedial Action Performance

Increasing trends of site contaminants of concern have been identified in OU1 monitoring well MW-4 and OU3 monitoring wells MW-C15 and MW-C17, indicating insufficient capture is exerted by the groundwater extraction and treatment system to prevent off-site migration from OU1.

This contaminant mass flux impacts the effectiveness of the OU3 MNA remedy and demonstrates that insufficient capture is being exerted by the groundwater extraction and treatment system. The previous excavation to 3.5 feet bgs has removed the potential for direct contact exposure at the source area. However, some residual contaminant mass is present below the limit of excavation and is contributing to the OU1 groundwater plume.

It is recommended that focused source characterization and treatment be completed to better define and reduce the mass of the remaining groundwater contamination and mitigate off-site migration from OU1. Additionally, a thorough evaluation of the existing groundwater extraction and treatment system is recommended to determine its effectiveness and determine if improvements would be appropriate.

OU1 System Operations and Maintenance

The EPA assumed operations and maintenance of the groundwater extraction and treatment system from Santolubes in February 2021. Due to diminished capacity because of iron-fouling and deterioration, extraction well EW-1 was replaced by a new extraction well EW-2, which was installed at a better location on the site in 2022. In August 2023, the EPA installed a new tray-style air stripper at the site. The OU1 GETS has generally operated consistently throughout the FYR period with some shutdown intervals due to pump failures, well screen cleaning, iron fouling, which is a persistent problem, routine treatment system maintenance of extraction wells, and periods of extreme cold temperatures causing the water to freeze and pipes to burst. Scheduled and unscheduled shutdown durations varied from a few hours to a few weeks.

No ongoing operations and maintenance are necessary for OU1 soils.

OU1 Implementation of Institutional Controls and Other Measures

ICs are in place to prohibit installation of domestic and public water supply wells and containing restrictions on the construction of ponds or lakes in areas of known groundwater contamination and to restrict land use at the former Findett and Cadmus properties. EPA approval is required prior to disturbance of soils or construction of onsite buildings. Residential use of the property is prohibited.

OU1 Expected Progress Towards Meeting Remedial Action Objectives

The OU1 Record of Decision did not explicitly define Remedial Action Objectives. However, the Record of Decision indicated that the goal of the remedy was to contain groundwater contamination in the shallow aquifer. Based on data collected in OU1 and OU3, it appears the groundwater extraction and treatment system has not exerted sufficient hydraulic capture to contain the OU1 groundwater plume. Insufficient time for performance monitoring has elapsed since installation of the new extraction well to determine if capture has been successful. However, historical groundwater migration from OU1 appears to be impacting OU3.

OU2 Question A Summary:

The shallow contaminated soils in OU2 were addressed through excavation on the former Cadmus property pursuant to an ASAOC with multiple RPs. The excavation and soil removal were consistent with the EE/CA and Action Memorandum and were effective in removing hazardous substances to slightly less than 5 feet bgs. Confirmation samples of the excavation floor and sidewall were not required per the ASAOC. Additional characterization of OU2 soils is currently being evaluated through the CPAR by the HBR OU3 Group to determine whether OU2 soils are contributing to OU1 groundwater contamination to enhance the OU3 remedy (UES, 2024b).

OU2 Remedial Action Performance

Removal of contaminated soils have addressed the potential for direct contact exposure at and above the limit of excavation at OU2. However, some residual contaminant mass may be present below the limit of excavation and could be contributing to the OU1 groundwater plume. The EPA recommends that additional focused source characterization and treatment be completed to better define and reduce any remaining contaminant mass remaining in OU2 soils.

Expected Progress Towards Meeting Remedial Action Objectives

The OU2 Action Memorandum did not explicitly define Remedial Action Objectives. However, the primary objective of the Removal Action was to remove direct contact exposure to surface soils impacted by PCBs and other hazardous substances while also reducing the contribution of soil contamination to OU1 groundwater contamination. This objective has been met, although there may still be soil contamination below the limit of excavation in OU2 contributing to OU1 groundwater contamination.

OU3 Question A Summary:

The RAO for OU3 as defined in the ROD is to "protect human health by eliminating exposure to groundwater contaminated above regulatory standards or risk-based standards for site contaminants." This is currently being achieved through the utilization of the Wellhead Protection District ordinance which addresses the IC requirements of the OU3 ROD. The district ordinance prohibits the drilling of private drinking water wells and construction of ponds or lakes 15-ft bgs. Consistent with the *National Oil and Hazardous Substances Pollution Contingency Plan*, the OU3 remedy is intended to restore the aquifer to unlimited uses. However, the projected remedial timeframe for OU3 is extending beyond the 20-year timeframe established in the ROD, and contamination is being detected above cleanup levels at point of compliance wells. Therefore, the remedy is not functioning as intended by the decision document and additional remedial actions will be implemented through the ongoing OU3 remedial contingency process.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and Remedial Action Objectives (RAOs) used at the time of the remedy selection still valid?

Question B Summary:

For OU1, the ROD did not explicitly define RAOs. However, the ROD indicated that the goal of the remedy was to contain groundwater contamination in the shallow aquifer. The remedial goal of containing contaminated groundwater and preventing migration remains valid but is not currently being achieved.

For OU2, the EPA completed an evaluation of the Cadmus property, designated as OU2, which resulted in an EE/CA primarily to address PCB-contaminated soil at the site. The OU2 Action Memorandum, signed on November 7, 1995, does not explicitly define RAOs. However, the proposed Removal Action required the excavation of PCB-contaminated soils and off-site disposal of all soils contaminated with PCBs above 25 ppm and located above the water table at the Cadmus property. Those removal goals remain valid.

For OU3, the Remedial Action Objective was to protect human health by eliminating exposure to groundwater contaminated above regulatory standards or risk-based standards for site-related contaminants. This RAO remains valid.

The cleanup levels identified for soil and groundwater contaminants of concern at the time of remedy selection remain valid. However, future groundwater monitoring reports should use the EPA's current tapwater regional screening levels for 1,1-dichloroethane, for which toxicity values have changed since the time of remedy selection, and for 1,4-dioxane, which has been detected in multiple monitoring efforts and should be added to the list of contaminants of concern.

Changes in Standards and To Be Considereds

For OU1 groundwater, chemical-specific cleanup levels were not identified in the 1988 Record of Decision, which called for hydraulic containment. Thus, there have been no changes in standards identified as applicable or relevant and appropriate requirements or in To Be Considered.

For OU1 and OU2 soil, the PCB cleanup level of 25 ppm was selected based on the Toxic Substances Control Act PCB Spill Cleanup Policy for low occupancy areas, which was determined a To Be Considered requirement. The last update to the Toxic Substances Control Act PCB Spill Cleanup policy was on August 29, 2023. It became effective on February 26, 2024, see https://www.ecfr.gov/current/title-40/chapter-I/subchapter-R/part-761. These updates impacted the implementation of the policy but did not change the cleanup levels. The current cleanup level of 25 ppm for PCB at this site remains valid in accordance with 40 CFR Part 761.61(a)(4). However, if development of OU1 and OU2 were to occur, the cleanup level for low occupancy areas would no longer be valid.

For OU3 groundwater, four contaminants of concern were identified in the 2005 ROD. MCLs, which are Federal Applicable or Relevant and Appropriate Requirements, were used to identify the cleanup levels for three of the contaminants of concern: benzene (5 µg/L), cis-1,2-DCE (70 µg/L) and VC (2 µg/L).

These values remain unchanged today. For the fourth contaminant of concern, chloroethane, a risk-based concentration of 5 µg/L, based on the Region 9 PRG Table, was identified in the Record of Decision as the cleanup level. The Region 9 PRG Table relied upon an outdated toxicity value. Today, the current EPA tapwater regional screening level for chloroethane, based on a non-cancer hazard quotient of 1, is 8,300 µg/L. This value is considered appropriate for sites in industrial/nonresidential settings where access is restricted. Because the cleanup level is lower than the current regional screening level, it remains valid for the protection of human health.

Table 10. Comparison of OU3 groundwater cleanup levels to current MCLs or tapwater regional screening levels.

Contaminant	Performance Standard (ppb) in 2005 ROD	Current MCL or RSL
Benzene	5(a)	5
cis-1,2-Dichloroethene	70(a)	70
Chloroethane or Ethyl Chloride	5(b)	8300(c)
Vinyl Chloride	2(a)	2

Note:

- All units in ug/L (ppb)
- (a)National Primary Drinking Water Regulations https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations
- (b) Risk-based cleanup level in Record of Decision
- (c) Current tapwater screening level based on noncancer hazard quotient of 1.0 (EPA, 2024)

Changes in Toxicity and Other Contaminant Characteristics

As noted above, the cleanup levels identified for soil and groundwater contaminants of concern remain valid. However, additional contaminants are being monitored in site groundwater.

Although identified as a chemical of potential concern, 1,1-DCA was screened out as a contaminant of concern in the 2005 Record of Decision because the detected concentrations were less than the risk-based concentration at that time, which was 810 µg/L. Cancer toxicity values were not available for 1,1-DCA in 2005 but have since become available. Using these new toxicity values, the current EPA tapwater regional screening level based on an excess cancer risk of 1 x 10^{-6} (one in one million) is 2.8 µg/L, meaning that the risk-based concentration used in 2005 poses greater than a 1 x 10^{-4} (one in 10,000) excess cancer risk in comparison with the regional screening level.

1,4-dioxane and 1,1-DCA should be added as contaminants of concern for groundwater.

For OU3, the HBR OU3 Group will be conducting further source area sampling events during the FYR period to determine the extent of residual contamination that could be remediated to further enhance performance in OU3. Establishing soil cleanup goals for those COCs contributing to groundwater contamination is appropriate.

Changes in Risk Assessment Methods

There have been no changes in risk assessment methodologies since the last FYR that would affect the protectiveness of the remedy.

Changes in Exposure Pathways

Human Health Risk Assessment

The former Findett and Cadmus properties were purchased by a private party in early 2024. The purchaser informed the EPA that they intend to use the properties for aboveground storage. The EPA made the purchaser aware of the environmental covenant on the two properties that prohibits the disturbance of soils on the two parcels. The EPA has also advised the purchaser to install a vapor mitigation system to ensure VOCs do not accumulate within the former Cadmus building, which is the only viable structure on the two parcels.

For OU3, a developer has expressed interest in establishing residential uses for a 23-acre parcel near OU3. The EPA determined that the proposed expansion plans were not incompatible with the selected remedy for the site and issued a comfort letter for the 23-acre parcel on April 26, 2024. However, should site conditions change, follow-up on future residential development will be important to ensure that there are no new exposure pathways created by development of the 23-acre parcel.

As stated in the previous FYR, the potential for vapor intrusion should be further investigated if there is a change or anticipated change in land use at OU1 or OU2. Ownership of the OU1 and OU2 properties has changed during this FYR period. The EPA understands the new owner intends to use these two parcels for above ground storage. This use is not incompatible with existing environmental covenants on the site. The new owner is currently using the former Cadmus building for storage purposes and spends 1-2 hours per week onsite (EPA, 2025).

The EPA is not aware of any unanticipated toxic byproducts or daughter products as the breakdown chemicals of PCE have been included as COCs. The EPA is not aware of any physical site changes that have occurred during this FYR period that would impact the protectiveness of the remedy.

Ecological Risk

A SLERA was completed for the 2005 OU3 RI/FS. The findings from that assessment, as confirmed in the 2005 ROD, stated there is no complete pathway between OU3 groundwater and ecological receptors since groundwater does not discharge to surface water.

No ecological risk assessment has been conducted to date in OU1 and OU2. The previous FYR indicated that soil hotspots had been removed, confirmation soil samples had not been analyzed, and therefore the residual levels of PCBs in soil had not been confirmed.
Consistent with the findings of the previous FYR, there remains a potential for ecological receptors to be adversely impacted in the site's ecological habitats. The completion of a SLERA has been recommended in the previous two FYRs citing the lack of soil confirmation sampling during the OU2

Removal Action and historical samples taken from a nearby creek. Therefore, a SLERA should be completed within this FYR period. If soil or sediment samples show concentrations of PCBs above the ecological screening levels listed in Table 12, then the SLERA moves into a BERA and additional data collection may be necessary.

Table 12. Total PCB Ecological Screening Levels (EPA 2018)

	Chronic (ug/L)	Acute (ug/L)	(ug/kg)	(mg/kg)
Freshwater	0.014	0.014		
Sediment			59.8	
Soil (wildlife based-soil invertebrates)				0.33

1,4-dioxane is associated with 1,1,1-TCA which has been detected in OU1 soil, so 1,4-dioxane should be included in the required screening level ecological risk assessment in OU1 and OU2.

The completed SLERA will need to be included as an addendum to the sixth FYR.

Regarding species with special species status during this FYR period, the species status of the tri-colored bat has been changed to proposed endangered and the monarch butterfly and the western regal fritillary have been added as a proposed threatened species. The Suckley's cuckoo bumble bee was listed as proposed endangered. However, no critical habitats for any threatened or endangered species have been identified near the site.

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

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the FYR:
None

OU1/OU2	**Issue Category:** Other ***Note:*** *There is potential ecological risk due to historic discharges and lack of confirmation sampling from previous response actions.*			
	Issue: No ecological risk assessment has been conducted to date in OUs 1 and 2. Soil confirmation sampling was also not conducted for the previous excavations at the site. Additionally, there were historic discharges of PCB-contaminated liquids to nearby ditches. Historic investigations indicate the potential presence of PCBs above ecological concern, but below human health concern, in these ditches.			
	Recommendation: Perform a SLERA for soils and sediment in and around OU1 and OU2 for both terrestrial and aquatic habitats.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA/State	7/1/2026

Issues and Recommendations Identified in the FYR:				
OU1, OU2, OU3	**Issue Category:** Remedy Performance			
	Issue: Continued contaminant migration from OU1 and OU2 into OU3 impacts the remedial timeframe for OU3. Contaminant migration into OU3 has already pushed the estimated remedial timeframe outside of the 20-year goal established in the OU3 ROD.			
	Recommendation: Complete the ongoing OU3 contingency process to evaluate and implement additional remedial actions to prevent contaminant migration. A thorough evaluation of the existing groundwater extraction and treatment system should be completed to determine its effectiveness and if improvements would be appropriate.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA/State	7/1/2026

OU3	**Issue Category:** Remedy Performance

	Issue: The estimated remedial timeframe for OU3 is longer than the 10-20-year timeframe established in the ROD.			
	Recommendation: Complete the ongoing contingency process for OU3 and implement additional remedial actions to accelerate the remedial timeframe for OU3 and restore the aquifer to unlimited use and unrestricted exposure.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA/State	7/1/2026

OU3	**Issue Category:** Remedy Performance			
	Issue: Vinyl chloride routinely exceeds the MCL at point of compliance well MW-C17 and fluctuates at point of compliance well MW-C16. Increasing trends of COCs have also been observed at monitoring wells MW-C15 and MW-C17. In addition, differences in groundwater elevations between the shallow and deep monitoring wells indicate a downward vertical gradient that could draw contamination deeper in the aquifer.			
	Recommendation: Complete the ongoing contingency process for OU3 and implement additional remedial actions to mitigate the risk to the EPWF and restore the aquifer to unlimited use and unrestricted exposure. Conduct additional sampling to confirm the vertical extent of contamination.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA/State	7/1/2026

Other Findings

In addition, the following are recommendations that were identified during the FYR but do not affect current and/or future protectiveness:

- Cancer toxicity values were not available for 1,1-DCA in 2005 but have since become available. 1,1-DCA is recommended to be added as a COC for the site.
- Add 1,4-dioxane as a COC.
- Establish soil cleanup goals for OU1 and OU2 for benzene, cis-1,2-dichloroethene, chloroethane (ethyl chloride), and vinyl chloride.
- The environmental covenant for OU1 and OU2 restricts the construction of enclosed buildings on the parcels without EPA approval. Follow-up on property developments at the site to ensure no new pathways of exposure are created as part of the redevelopment and that land use restrictions, redevelopment requirements, and institutional controls are properly implemented to protect human health.
- If the OU1 GETS continues operating in the future, then the Operation & Maintenance plan should be updated to increase resiliency to extreme weather events, prevent excessive iron buildup, and increase extraction rates.
- Modifications to decision documents should be made to include the existing institutional controls for the former Findett and Cadmus properties.
- An ESD should be produced for OU3 to clarify that the aeration treatment upgrade at the city's drinking water treatment plant is no longer a requirement but is instead a potential contingency action.
- Fire response records indicate that a 3% foaming solution was used at the site in response to the April 2009 explosion at the Findett facility. The EPA recommends further assessment of potential PFAS contamination at the site.

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement(s)		
Operable Unit: 01	*Protectiveness Determination:* Protectiveness Deferred	*Planned Addendum Completion Date:* 07/31/2026
Protectiveness Statement: A protectiveness determination of the remedy at OU1 cannot be made at this time until further information is obtained. Further information will be obtained by performing a SLERA and collecting additional soil and sediment samples to document that the media is below ecological risk management levels. In addition, to ensure that the remedy is protective in the long-term, the remedy will need to be assessed to determine whether there are other Remedial Actions that can be taken at OU1 to treat residual contamination and lessen the remedial timeframe for OU3 to meet the RAOs.		

Protectiveness Statement(s)

Operable Unit: 02	*Protectiveness Determination:* Protectiveness Deferred	*Planned Addendum Completion Date:* 07/31/2026
Protectiveness Statement: A protectiveness determination of the remedy at OU2 cannot be made until further information is obtained. Further information will be obtained by performing a SLERA and collecting additional soil samples to document that the soil is below ecological risk management levels.		

Protectiveness Statement(s)		
Operable Unit: 03	*Protectiveness Determination:* Short-term Protective	*Planned Addendum Completion Date:* N/A
Protectiveness Statement: The remedy at OU3 currently protects human health and the environment because no current exposures to the groundwater contamination in OU3 have been identified. However, for the remedy to be protective in the long-term, the following actions need to be taken to ensure long-term protectiveness: implement additional remedial actions to mitigate exceedances at point of compliance wells and risk to the EPWF, remediate contamination at the source area to restore the aquifer to unlimited use and unrestricted exposure, and conduct additional sampling to confirm the vertical extent of the plume.		

VIII. NEXT REVIEW

The next FYR report for the Findett Corp./Hayford Bridge Road Superfund site is required 5 years from the completion date of this review.

APPENDIX A – REFERENCE LIST

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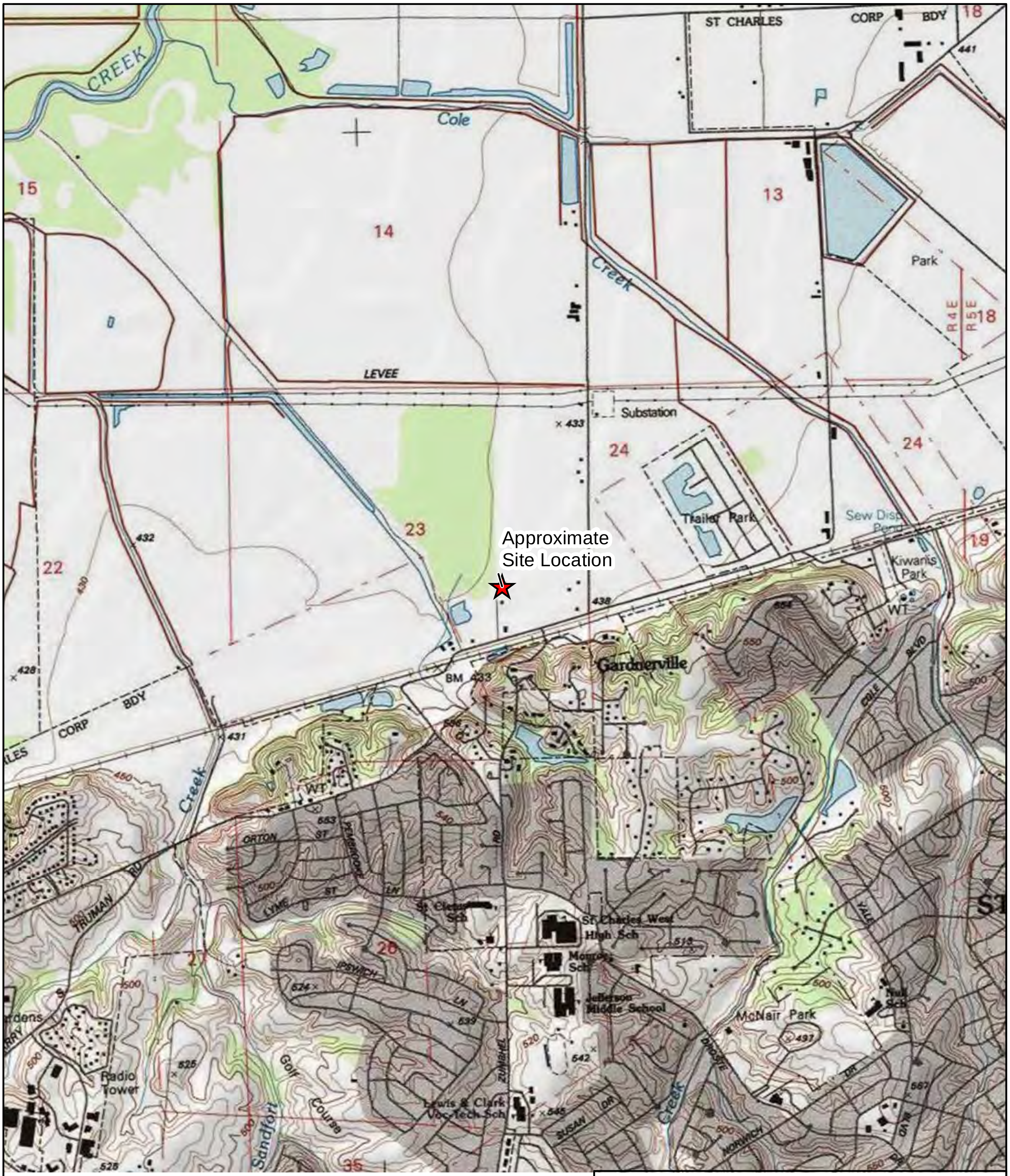
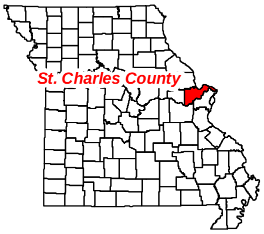
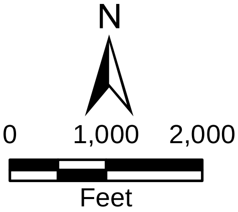
APPENDIX B – FIGURES







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Source: USGS 7.5 Minute Topo: Kampville, MO 1994

Findett Site
St. Charles, Missouri

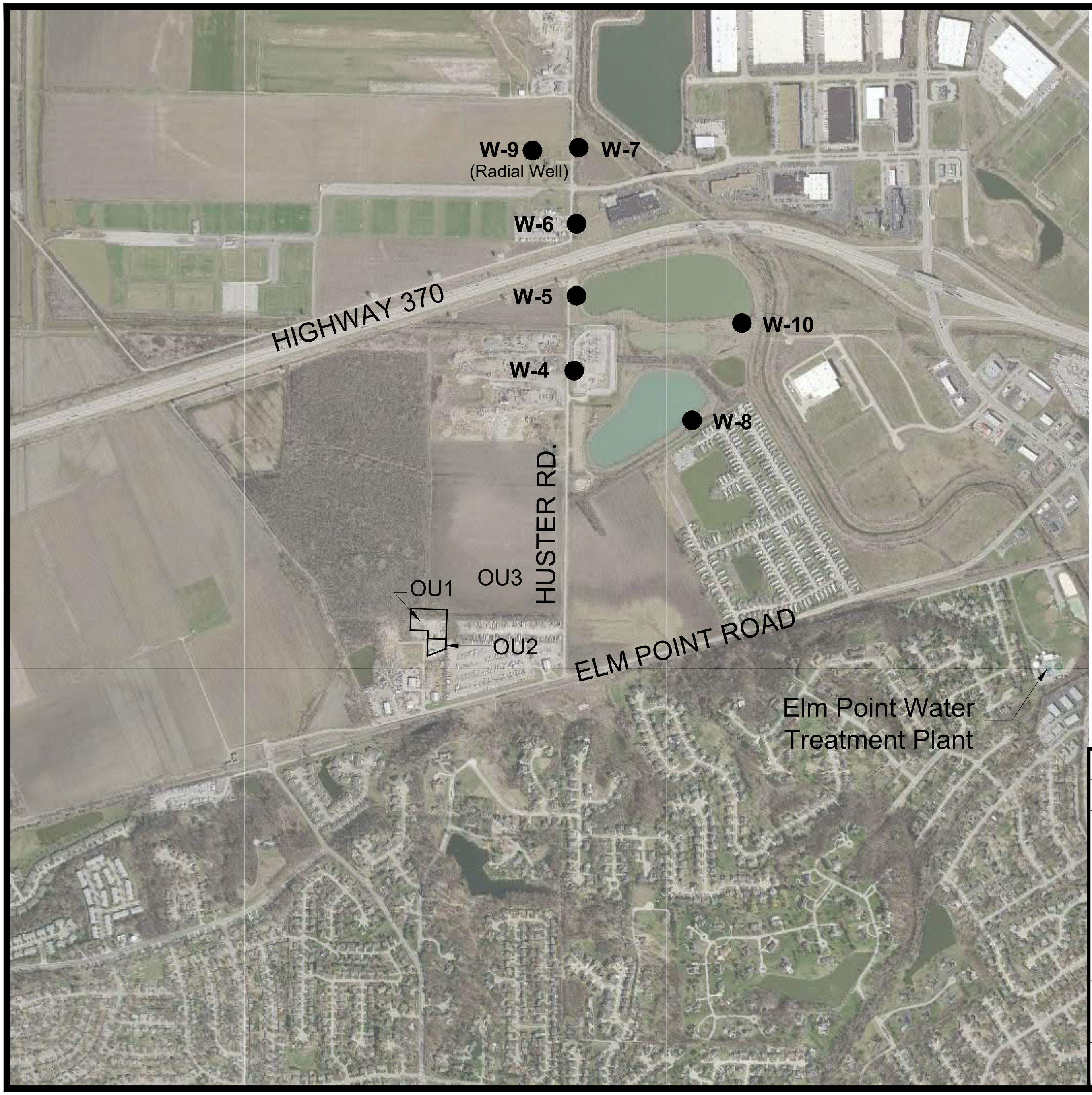
Figure 1
Site Location Map

TETRA TECH

Date: 12/13/2021

Drawn By: Clayton Hayes

Project No: X903021F0033.000



NOTES

1. Plan adapted from "2015 Aerial Imagery for the St. Louis Region" supplied by East-West Gateway Council of Governments.

LEGEND

● Elm Point Well Field Supply Well

Drawn By: WAH	Ck'd By: JYG	App'vd By: KJH
Date: 12-27-23	Date: 1-23-24	Date: 1-30-24

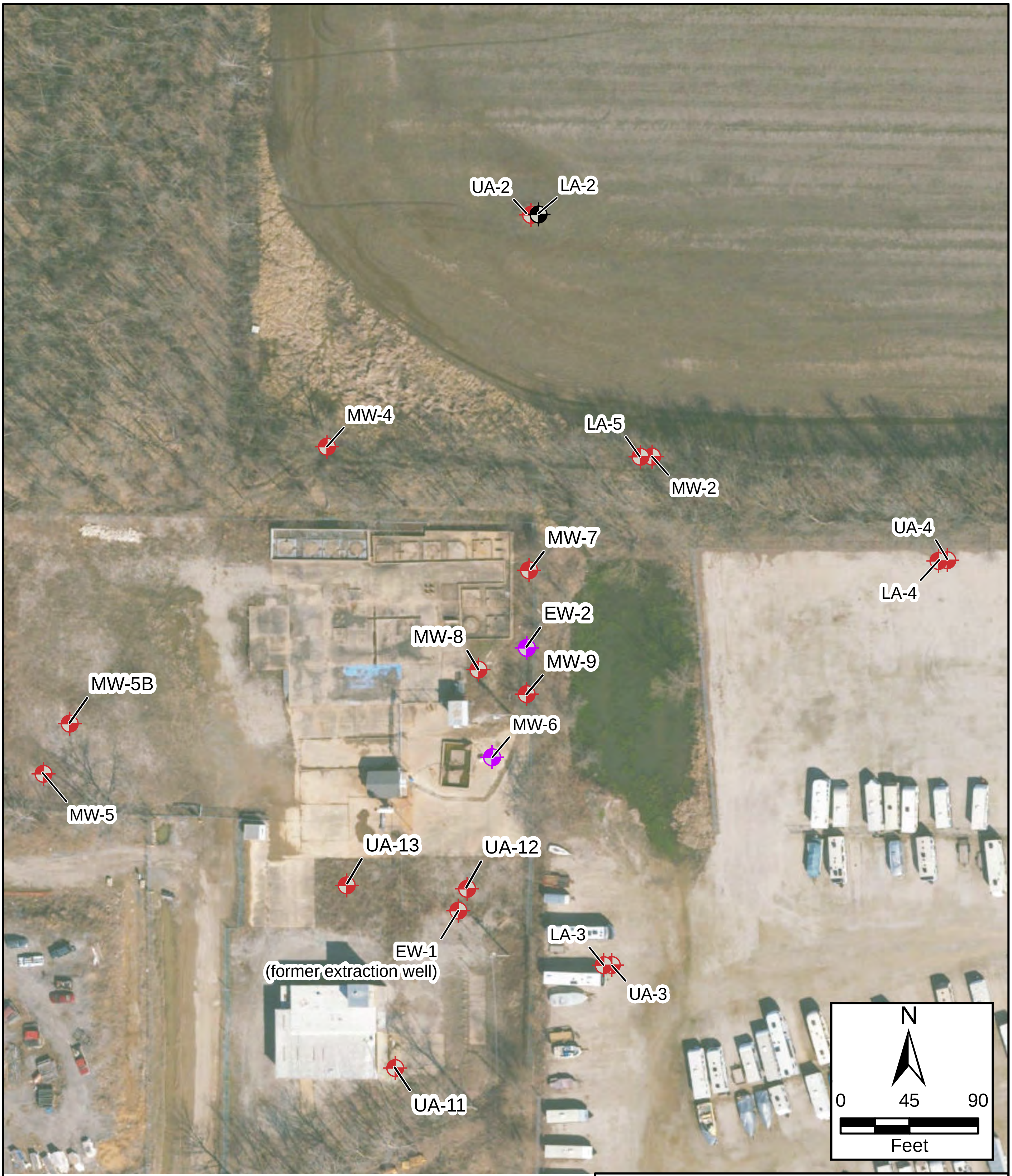
UES™

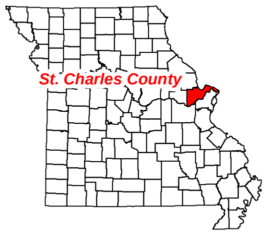
Operable Unit 3
Hayford Bridge Road Groundwater Site
St. Charles, Missouri

AERIAL SITE PLAN

Project Number
J006295.11

FIGURE 2





Legend

- ⊕ Not sampled monitoring well location (well broken)
- ⊕ Sampled extraction well location
- ⊕ Sampled monitoring well location

Source: The source of the basemap is ESRI, used by EPA with ESRI's permission.

Findett Site
St. Charles, Missouri

Figure 3
Well Sampling Locations Map

TETRA TECH

Date: 7/24/2024 Drawn By: Nick Wiederholt Project No: X903021F0033.000

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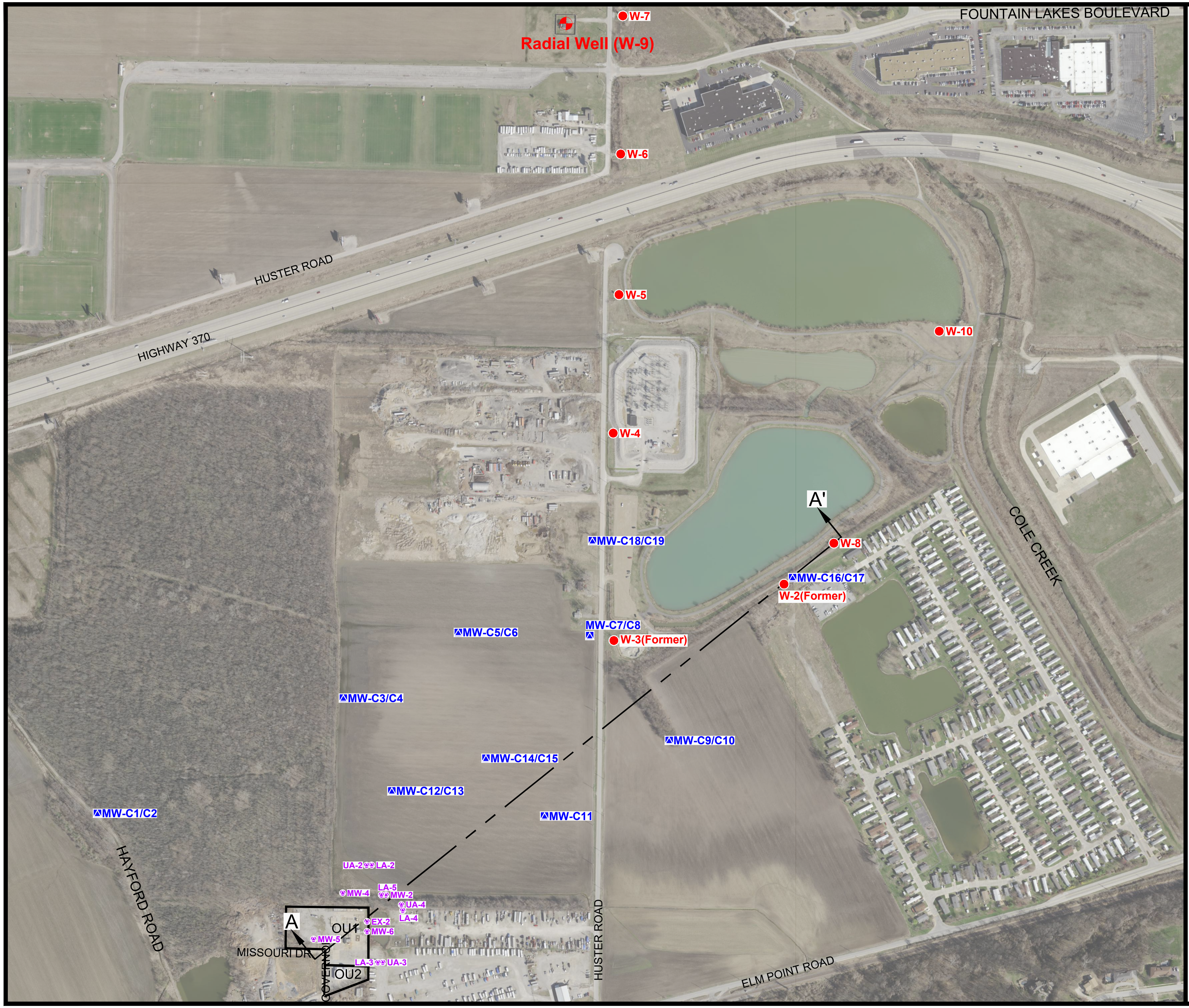


NOTES

1. Plan adapted from "2015 Aerial Imagery for the St. Louis Region" supplied by East-West Gateway Council of Governments.
2. All features are shown approximate only.
3. See Figure 3 for Cross-Section A-A'.

LEGEND:

- ● Well of Elm Point Well Field
- ◐ Radial Well - Elm Point Well Field
- ▲ OU3 Monitoring Well Location (Existing)
- ▲ OU1 Monitoring Well Location (Existing)

N

0 500 1000

APPROXIMATE SCALE IN FEET

Drawn By: WAH	Ck'd By: KJH	App'vd By: KJH
Date: 12-5-23	Date: 12-6-23	Date: 12-6-23

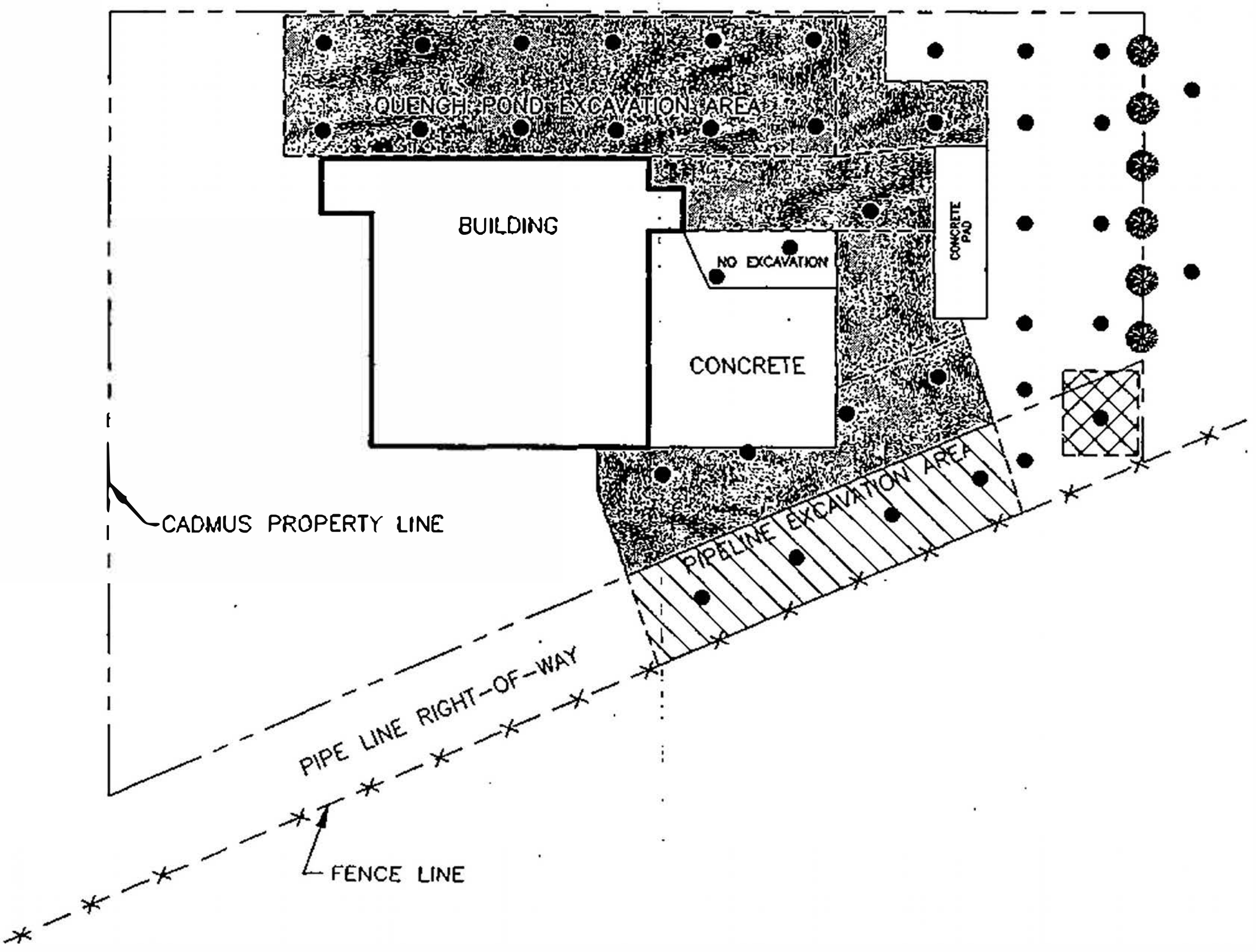
GEOTECHNOLOGY
A UES Company

Operable Unit 3
Hayford Bridge Road Groundwater Site
St. Charles, Missouri

AERIAL SITE MAP

Project Number
J006295.11

FIGURE 4



LEGEND

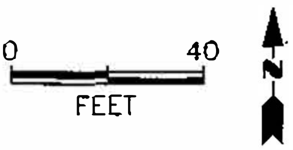
● PREVIOUS INVESTIGATION SAMPLE LOCATION

✺ TREE LOCATION

▩ EXCAVATION TO 1.5 FEET

▧ EXCAVATION TO 3 FEET

▓ EXCAVATION TO 5 FEET



COL. 624\01127A-008

PSC
PHILIP SERVICES CORP.

TITLE:
EXCAVATION AREAS

DWN: TMM
DES.: JM
CHKD:
APPD:
DATE: 8/2/01
REV.: 4

PROJECT NO.: 62401170
CADMUS CORPORATION
ST. CHARLES, MISSOURI

FIGURE 5

NOTES

1. Plan adapted from "2015 Aerial Imagery for the St. Louis Region" supplied by East-West Gateway Council of Governments.

2. All features are approximate.

LEGEND

- Monitoring Well Location (OU1)
- Monitoring Well Location (OU3)
- Extraction Well Location (OU1)

Vinyl Chloride Concentration - MCL = 2 ppb

🟪	> 5,000 ppb
🟦	500ppb - 5,000 ppb
🟦	50 ppb - 500 ppb
🟩	10 ppb - 50 ppb
🟨	2 ppb - 10 ppb

N

0 250 500

SCALE IN FEET

Drawn By: WAH	Ck'd By: KJH	App'vd By: KJH
Date: 11-13-24	Date: 12-17-24	Date: 12-17-24

UES

Operable Unit 3
St. Charles, Missouri

VINYL CHLORIDE PLUME

Project Number
J006295.11

FIGURE 6

APPENDIX C – TABLES

TABLE 1
Fall 2021
GROUNDWATER SAMPLE SUMMARY AND RESULTS
FINDETT CORP. SITE – ST. CHARLES, MISSOURI

Well Number	Monitoring Well Location	Sample Date	Measured SWL (ft amsl)	Lab Sample Number	Benzene[1]	Chloro-benzene[1]	1,1-DCA[1]	1,1-DCE[1]	*cis* -1,2-DCE[1]	TCE[1]	VC[1]	1,4 Dioxane[2]	PCBs (Aroclors)[3]
					Concentration (µg/L)								
				EPA MCL	**5**	**100**	**NE**	**7**	**70**	**5**	**2**	**NE**	**0.5**
MONITORING WELLS													
MW-2	North of Findett property along brushline in agricultural field	9/20/2021	420.46	9030-4	1.0 U	1.0 U	1.3	1.0 U	1.0 U	1.0 U	1.8	0.62	1.0 U
MW-4	North of Findett property along brushline in agricultural field	9/20/2021	420.15	9030-2	3.2	1.0 U	2.8	1.0 U	6.0	1.0 U	**25**	7.7	1.0 U
MW-5	Southwest corner of Findett property	9/22/2021	NA	9030-14	1.0 U	1.0 U	1.0 U	1.0 U	**79**	1.0 U	**64**	0.89	1.0 U
MW-5B	Southwest corner of Findett property	9/22/2021	NA	9030-15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	1.0 U
LA-2*	North of Findett property in agricultural field	NS	NS	NA	--	--	--	--	--	--	--	--	--
UA-2	North of Findett property in agricultural field	9/20/2021	420.24	9030-1	2.2	1.0 U	6.0	1.0 U	3.4	1.0 U	**5.9**	13	1.0 U
LA-3	Western part of RV storage lot east of the Findett property	9/21/2021	415.71	9030-7	1.0 U	1.0 U	1.0 U	1.0 U	3.6	1.0 U	**2.6**	0.20 U	1.0 U
UA-3	Western part of RV storage lot east of the Findett property	9/21/2021	425.01	9030-8	1.0 U	12	1.0 U	1.0 U	3.2	1.0 U	**6.7**	0.98	1.0 U
LA-4	Northern part of RV storage lot east of the Findett property	9/21/2021	411.71	9030-6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	1.0 U
UA-4	Northern part of RV storage lot east of the Findett property	9/21/2021	423.84	9030-5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	1.0 U
LA-5	North of Findett property along brushline in agricultural field	9/20/2021	411.62	9030-3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U	1.0 U
GROUNDWATER EXTRACTION AND TREATMENT SYSTEM													
EW-1	Former Extraction Well	9/21/2021	426.56	9030-10	**130**	**2,200**	130	4.8	**28,000**	1.0 U	**7,800**	310	**10**
MW-6	Current Extraction Well	9/21/2021	381.34	9030-11	**170**	2.3	32	3.7	**740**	1.0 U	**330**	22	**1.7 J**
				9030-11-FD	**170**	2.0	31	3.5	**730**	1.0 U	**330**	19	**1.9 J**
Air Stripper Effluent	Air stripper spigot in system piping prior to discharge to sanitary sewer	9/21/2021	NA	9030-9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	17	1.0 U

Notes:

[1] Analyzed EPA SW-846 Method 8260

[2] Analyzed via EPA Method 8260 SIM

[3] Analyzed via EPA Method 8082

Bold values exceed the MCL

* Well is broken; unable to collect sample

--	No sample collected	NS	Not sampled
amsl	Above mean sea level	PCE	Tetrachloroethene
DCA	Dichloroethane	SWL	Static water level
DCE	Dichloroethene	TCA	Trichloroethane
EPA	U.S. Environmental Protection Agency	TCE	Trichloroethene
ft	Feet	U	Not detected at concentration at or above reporting limit
FD	Field duplicate	VC	Vinyl chloride
J	Estimated value		
MCL	EPA Maximum Contaminant Level		
µg/L	Micrograms per liter		
NA	Not applicable		
NE	Not established		

TABLE 2
Fall 2022
GROUNDWATER SAMPLE SUMMARY AND RESULTS
FINDETT CORP. SITE – ST. CHARLES, MISSOURI

Well Number	Monitoring Well Location	Sample Date	Top of Casing (ft amsl)	Depth to Water (ft btoc)	Measured SWL (ft amsl)	Lab Sample Number	Benzene^{1,4}	Chloro-benzene^{1}	1,2-DCB^{1,4}	1,4-DCB^{1,4}	1,1-DCA^{1,4}	1,1-DCE^{1,4}	*cis* -1,2-DCE^{1,4}	*trans* -1,2-DCE^{1,4}	TCE^{1,4}	VC^{1,4}	1,4-Dioxane^{2}	PCBs (All Aroclors)^{3}
							Concentration (µg/L)											
						EPA MCL	**5**	**100**	**600**	**75**	**NE**	**7**	**70**	**100**	**5**	**2**	**NE**	**0.5**
MONITORING WELLS																		
MW-2	North of Findett property along brush line in agricultural field	10/3/2022	431.76	14.31	417.45	2200333-04	1.0 U	1.0 U	1.0 U	1.0 U	2.9 J	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	**7.2**	3.4 J	1.0 U
MW-4	North of Findett property along brush line in agricultural field	10/3/2022	433.15	16.25	416.90	2200333-02	**5.8**	1.0 U	1.0 U	1.0 U	2.2 J	1.0 UJ	8.1 UJ	1.0 UJ	1.0 U	**14**	8.0 J	1.0 U
MW-5	Southwest corner of Findett property	10/5/2022	431.50	9.60	421.90	2200333-16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	39	1.0 U	1.0 U	**25**	0.19 UJ	1.0 U
MW-5B	Southwest corner of Findett property	10/5/2022	431.50	19.90	411.60	2200333-17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 UJ	**1.1**
LA-2*	North of Findett property in agricultural field	NS	431.90	NA	NA	NS	--	--	--	--	--	--	--		--	--	--	--
UA-2	North of Findett property in agricultural field	10/3/2022	432.05	15.05	417.00	2200333-01	1.0 U	1.0 U	1.0 U	1.0 U	2.0 J	1.0 UJ	1.1 UJ	1.0 UJ	1.0 U	**2.1**	12 J	1.0 U
LA-3	Western part of RV storage lot east of the Findett property	10/4/2022	431.21	15.55	415.66	2200333-11	1.0 U	1.8	1.0 U	1.0 U	1.0 UJ	1.0 UJ	3.3 UJ	1.0 UJ	1.0 U	**3.0**	0.19 UJ	1.0 U
UA-3	Western part of RV storage lot east of the Findett property	10/4/2022	431.31	8.00	423.31	2200333-12	1.0 U	11	1.6	1.6	1.0 UJ	1.0 UJ	1.2 UJ	1.0 UJ	1.0 U	**3.2**	1.1 J	1.0 U
LA-4	Northern part of RV storage lot east of the Findett property	10/4/2022	432.11	19.80	412.31	2200333-10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	0.19 UJ	1.0 U
UA-4	Northern part of RV storage lot east of the Findett property	10/4/2022	432.12	10.25	421.87	2200333-09	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	0.19 UJ	1.0 U
LA-5	North of Findett property along brush line in agricultural field	10/3/2022	431.92	19.25	412.67	2200333-03	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	0.19 UJ	1.0 U
MW-7	Northeast corner of Findett property along eastern side of property	10/4/2022	434.21	17.65	416.56	2200333-13	1.0 U	1.0 U	1.0 U	1.0 U	3.0	1.0 U	1.0 U	1.0 U	1.0 U	1.1	6.1 J	**12.3**
MW-8	Along eastern side of property near new extraction well (EW-2)	10/4/2022	438.10	21.80	416.30	2200333-14	4.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**180**	1.0 U	1.5	**93**	2.4 J	**35**
MW-9	Along eastern side of property south of new extraction well (EW-2)	10/4/2022	431.82	15.44	416.38	2200333-15	**19**	1.0 U	1.0 U	1.0 U	23	1.5	**660**	1.0 U	1.0 U	**160**	7.8 J	1.0 U
GROUNDWATER EXTRACTION AND TREATMENT SYSTEM																		
EW-1	Former Extraction Well	10/5/2022	433.86	8.50	425.36	2200333-18	**94**	**1,900**	**910**	**1,300**	83	**15**	**12,000**	**250**	1.0 U	**3,300**	480 J	**70.1 J**
EW-2	Current Extraction Well	10/4/2022	434.82	38.80	396.02	2200333-07	**160**	1.0 U	1.0 U	1.0 U	13 J	1.8 J	220 UJ	1.0 UJ	1.0 U	**210**	37 J	1.0 U
						2200333-08	**160**	1.0 U	1.0 U	1.0 U	13 J	1.9 J	220 UJ	1.0 UJ	1.0 U	**200**	39 J	1.0 U
MW-6	Current Extraction Well	10/4/2022	432.14	45.25	386.89	2200333-06	**13**	6.3	7.2	1.0 U	62 J	6.2 J	1,200 UJ	3.6 J	**6.7**	**300**	20 J	**2.6**
Air Stripper Effluent	Air stripper spigot in system piping prior to discharge to sanitary sewer	10/4/2022	NA	NA	NA	2200333-05	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	37 J	1.0 U

Notes:

[1] Analyzed via EPA SW-846 Method 8260

[2] Analyzed via EPA Method 8260 SIM

[3] Analyzed via EPA Method 8082

[4] Only VOCs exceeding MCLs are included in the data table.

Bold values exceed the MCL

* Well is broken; unable to collect sample

--	No sample collected
amsl	Above mean sea level
btoc	Below top of casing
DCA	Dichloroethane
DCB	Dichlorobenzene
DCE	Dichloroethene
EPA	U.S. Environmental Protection Agency
ft	Feet
J	Estimated value
MCL	EPA Maximum Contaminant Level
µg/L	Micrograms per liter
NA	Not applicable
NE	Not established
NS	Not sampled
PCB	Polychlorinated biphenyl
SIM	Selected ion monitoring
SWL	Static water level
TCE	Trichloroethene
U	Not detected at concentration at or above reporting limit
UJ	Not detected at concentration at or above reporting limit; the reporting limit is an estimate
VC	Vinyl chloride
VOC	Volatile organic compound

TABLE 3
Fall 2023
GROUNDWATER SAMPLE SUMMARY AND RESULTS
FINDETT CORP. SITE – ST. CHARLES, MISSOURI

Well Number	Monitoring Well Location	Sample Date	Top of Casing (ft amsl)	Depth to Water (ft btoc)	Measured SWL (ft amsl)	Lab Sample Number	Benzene^{1,4}	Chloro-benzene^{1,4}	1,2-DCB^{1,4}	1,4-DCB^{1,4}	1,1-DCA^{1,4}	1,1-DCE^{1,4}	*cis* -1,2-DCE^{1,4}	*trans* -1,2-DCE^{1,4}	TCE^{1,4}	VC^{1,4}	1,4-Dioxane^{2}	PCBs (All Aroclors)^{3}
							Concentration (µg/L)											
						EPA MCL	**5**	**100**	**600**	**75**	**NE**	**7**	**70**	**100**	**5**	**2**	**NE**	**0.5**
MONITORING WELLS																		
MW-2	North of Findett property along brush line in agricultural field	9/18/2023	431.76	13.65	418.11	2300368-04	1.8	0.50 U	0.50 U	0.50 U	3.8	0.50 U	1.7	0.50 U	0.50 U	**18**	2.4	1.0 U
MW-4	North of Findett property along brush line in agricultural field	9/18/2023	433.15	15.30	417.85	2300368-02	4.1	0.24	0.50 U	0.50 U	2.3	0.50 U	5.2	0.50 U	0.50 U	**14**	8.8	1.0 U
MW-5	Southwest corner of Findett property	9/20/2023	431.50	9.24	422.26	2300368-18	0.16	0.36	0.50 U	0.50 U	0.50 U	0.50 U	27 J	0.50 U	0.50 U	**19 J**	3.9	1.0 U
MW-5B	Southwest corner of Findett property	9/20/2023	431.50	17.31	414.19	2300368-17	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.40	0.50 U	0.50 U	0.50 U	14	1.0 U
LA-2*	North of Findett property in agricultural field	NS	431.90	NA	NA	NS	--	--	--	--	--	--	--	--	--	--	--	--
UA-2	North of Findett property in agricultural field	9/18/2023	432.05	14.15	417.90	2300368-01	0.32	0.50 U	0.50 U	0.50 U	0.96	0.50 U	0.97	0.50 U	0.50 U	1.1	2.5	1.0 U
LA-3	Western part of RV storage lot east of the Findett property	9/19/2023	431.21	13.98	417.23	2300368-08	0.50 U	1.7	0.50 U	0.50 U	0.50 U	0.50 U	3.2	0.50 U	0.50 U	**2.4**	0.20 U	1.0 U
UA-3	Western part of RV storage lot east of the Findett property	9/19/2023	431.31	7.40	423.91	2300368-09	0.59	12	2.2	2.8	0.54	0.50 U	2.7	0.50 U	0.50 U	**4.2**	0.88	1.0 UJ
LA-4	Northern part of RV storage lot east of the Findett property	9/19/2023	432.11	9.95	422.16	2300368-07	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.20 U	1.0 U
UA-4	Northern part of RV storage lot east of the Findett property	9/19/2023	432.12	17.54	414.58	2300368-05	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.20 U	1.0 U
						2300368-06	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.20 U	1.0 U
LA-5	North of Findett property along brush line in agricultural field	9/18/2023	431.92	17.35	414.57	2300368-03	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.20 U	1.0 U
MW-7	Northeast corner of Findett property along eastern side of property	9/19/2023	434.21	16.90	417.31	2300368-11	0.25	0.30	0.50 U	0.33	3.6	0.50 U	0.45	0.50 U	0.50 U	0.50 U	10	1.0 U
MW-8	Along eastern side of property near new extraction well (EW-2)	9/19/2023	438.10	21.00	417.10	2300368-12	3.0	0.11	0.50 U	0.50 U	0.34	0.50 U	28 J	0.50 U	0.57	**15**	1.0	**4.4**
MW-9	Along eastern side of property south of new extraction well (EW-2)	9/19/2023	431.82	14.70	417.12	2300368-10	**14**	0.36	0.50 U	0.50 U	23 J	1.1	**310 J**	1.5	0.50 U	**100 J**	7.6 J	1.0 U
UA-13	In rock area in between the two buildings on site	9/20/2023	NA	10.49	NA	2300368-19	0.50 U	0.25	0.50 U	0.50 U	3.3	0.50 U	9.1	0.35	0.27	**7.5**	4.3	**9.2**
GROUNDWATER EXTRACTION AND TREATMENT SYSTEM																		
EW-1	Former Extraction Well	9/19/2023	433.86	6.91	426.95	2300368-13	**150 J**	**2,200 J**	**1,200 J**	**1,800 J**	120 J	**28 J**	**20,000 J**	**460 J**	0.84	**5,100 J**	280	**14**
EW-2	Current Extraction Well	9/20/2023	434.82	50.00	384.82	2300368-15	**120 J**	0.67	0.51	0.42	8.9	0.50 U	**110 J**	0.45	0.50 U	**78 J**	16	1.0 U
MW-6	Current Extraction Well	9/20/2023	432.14	47.00	385.14	2300368-14	**64 J**	4.7	5.1	1.6	52 J	**11**	**1,500 J**	3.3	3.6	**570 J**	45	1.0 U
Air Stripper Effluent	Air stripper spigot in system piping prior to discharge to sanitary sewer	9/20/2023	NA	NA	NA	2300368-16	0.80	0.18	0.50 U	0.50 U	0.20	0.50 U	7.2	0.11	0.50 U	0.50 U	3.8	1.0 U

Notes:

[1] Analyzed via EPA SW-846 Method 8260

[2] Analyzed via EPA Method 8260 SIM

[3] Analyzed via EPA Method 8082

[4] Only VOCs exceeding MCLs are included in the data table.

Bold values exceed the MCL

* Well is broken; unable to collect sample

--	No sample collected
amsl	Above mean sea level
btoc	Below top of casing
DCA	Dichloroethane
DCB	Dichlorobenzene
DCE	Dichloroethene
EPA	U.S. Environmental Protection Agency
ft	Feet
J	Estimated value
MCL	EPA Maximum Contaminant Level
µg/L	Micrograms per liter
NA	Not applicable
NE	Not established
NS	Not sampled
PCB	Polychlorinated biphenyl
SIM	Selected ion monitoring
SWL	Static water level
TCE	Trichloroethene
U	Not detected at concentration at or above reporting limit
UJ	Not detected at concentration at or above reporting limit; the reporting limit is an estimate
VC	Vinyl chloride
VOC	Volatile organic compound

TABLE 4
Spring 2024
GROUNDWATER SAMPLE SUMMARY AND RESULTS FINDETT CORP. SITE – ST. CHARLES, MISSOURI

Well Number	Monitoring Well Location	Sample Date	Top of Casing (ft amsl)	Depth to Water (ft btoc)	Measured SWL (ft amsl)	Lab Sample Number	Benzene[1,4]	Chloro-benzene[1,4]	1,2-DCB[1,4]	1,4-DCB[1,4]	1,1-DCA[1,4]	1,1-DCE[1,4]	*cis* -1,2-DCE[1,4]	*trans* -1,2-DCE[1,4]	TCE[1,4]	VC[1,4]	1,4-Dioxane[2]	PCBs (All Aroclors)[3]	Iron[5]
							Concentration (µg/L)												
						EPA MCL	**5**	**100**	**600**	**75**	**NE**	**7**	**70**	**100**	**5**	**2**	**NE**	**0.5**	**NE**
MONITORING WELLS																			
MW-2	North of Findett property along brush line in agricultural field	5/13/2024	431.76	5.45	426.31	2400191-07	1.9	0.50 U	0.50 U	0.50 U	5.3	0.50 U	2.6 U	0.50 U	0.50 U	**18**	3.1	1.0 U	--
MW-4	North of Findett property along brush line in agricultural field	5/13/2024	433.15	7.10	426.05	2400191-02	0.50 U	0.50 U	0.50 U	0.50 U	1.5	0.50 U	1.2 U	0.50 U	0.50 U	**3.8**	12	1.0 U	--
MW-5	Southwest corner of Findett property	5/13/2024	431.50	3.35	428.15	2400191-03	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	61	0.50 U	0.50 U	**75**	2.1	1.0 U	--
MW-5B	Southwest corner of Findett property	5/13/2024	431.50	13.12	418.38	2400191-04	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.20 U	0.98 U	--
LA-2*	North of Findett property in agricultural field	NS	431.90	NA	NA	NS	--	--	--	--	--	--	--	--	--	--	--	--	--
UA-2	North of Findett property in agricultural field	5/13/2024	432.05	5.90	426.15	2400191-01	2.4	0.50 U	0.50 U	0.50 U	5.6	0.50 U	4.0 U	0.50 U	0.50 U	**8.5**	15	1.0 U	--
LA-3	Western part of RV storage lot east of the Findett property	5/14/2024	431.21	9.90	421.31	2400191-17	0.50 U	1.6	0.50	0.63	0.50 U	0.50 U	4.5	0.50 U	0.50 U	**2.0**	0.20 U	1.0 U	--
UA-3	Western part of RV storage lot east of the Findett property	5/14/2024	431.31	2.70	428.61	2400191-18	0.50 U	7.3	1.5	1.9	0.79	0.50 U	20	0.50 U	0.50 U	**6.2**	2.7	1.0 UJ	--
LA-4	Northern part of RV storage lot east of the Findett property	5/14/2024	432.11	2.28	429.83	2400191-11	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.20 U	1.0 U	--
UA-4	Northern part of RV storage lot east of the Findett property	5/14/2024	432.12	13.63	418.49	2400191-21	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.23	1.0 U	--
LA-5	North of Findett property along brush line in agricultural field	5/13/2024	431.92	13.52	418.40	2400191-05	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.20 U	1.0 U	--
MW-7	Northeast corner of Findett property along eastern side of property	5/14/2024	434.21	8.10	426.11	2400191-13	0.50 U	0.50 U	0.50 U	0.50 U	4.0	0.50 U	0.50 U	0.50 U	0.50 U	**2.1**	7.9	**2.1**	--
MW-8	Along eastern side of property near new extraction well (EW-2)	5/14/2024	438.10	12.05	426.05	2400191-12	2.8	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	14	0.50 U	0.50 U	**16**	1.6	**3.9**	--
MW-9	Along eastern side of property south of new extraction well (EW-2)	5/14/2024	431.82	5.73	426.09	2400191-14	**8.3**	0.50 U	0.50 U	0.50 U	8.9	0.50 U	3.3 U	0.50 U	0.50 U	**19**	0.98	1.0 U	--
UA-11	East side of warehouse building	5/14/2024	NA	4.70	NA	2400191-23	4.3	1.1	0.52	0.57	3.3	5.8	**840**	3.7	0.50 U	**270 J**	0.71	1.0 U	--
UA-12	In rock area northeast of EW-1	5/14/2024	NA	4.70	NA	2400191-22	**100**	**1,600**	530	**800**	160	**41**	**18,000 J**	79	2.9	**8,700 J**	510	**4.7 J**	--
UA-13	In rock area in between the two buildings on site	5/14/2024	NA	4.25	NA	2400191-19	0.50 U	0.50 U	0.50 U	0.50 U	2.0	0.50 U	4.3	0.50 U	0.50 U	**2.4**	10	**17 J**	--
						2400191-20	0.50 U	0.50 U	0.50 U	0.50 U	2.0	0.50 U	4.1	0.50 U	0.50 U	**2.4**	10	**7.2**	--
EW-1	Former Extraction Well	5/14/2024	433.86	3.51	430.35	2400191-16	**76**	**1,600**	**920**	**1,400**	85	**19**	**8,800 J**	**140**	0.50 U	**3,100 J**	380	**132 J**	--
GROUNDWATER EXTRACTION AND TREATMENT SYSTEM																			
EW-2	Current Extraction Well	5/13/2024	434.82	50.50	384.32	2400191-10	**120 J**	0.50 U	0.50 U	0.50 U	8.4	0.79	**130 J**	0.50 U	0.50 U	**93 J**	8.1	**1.2**	--
MW-6	Current Extraction Well	5/13/2024	432.14	33.83	398.31	2400191-09	**91**	4.9	3.3	0.63	44	**10**	**460 J**	3.4	0.54	**180 J**	71	**1.5**	--
Combined Influent	Air stripper spigot in system piping on the influent side of the system	5/13/2024	NA	NA	NA	2400191-06	**100**	2.6	1.8	0.50	29	4.7	**690**	3.0	0.50 U	**270 J**	34	**1.6**	--
Air Stripper Effluent	Air stripper spigot in system piping prior to discharge to sanitary sewer	5/13/2024	NA	NA	NA	2400191-26	--	--	--	--	--	--	--	--	--	--	--	--	9,000
						2400191-08	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.83	0.50 U	0.50 U	0.50 U	33	1.0 U	--

Notes:

[1] Analyzed via EPA SW-846 Method 8260

[2] Analyzed via EPA Method 8260 SIM

[3] Analyzed via EPA Method 8082

[4] Only VOCs exceeding MCLs in at least one sample or are site COCs are included in the data table.

[5] Analyzed via EPA Method 6010

Bold values exceed the MCL

* Well is broken; unable to collect sample

--	No sample collected
amsl	Above mean sea level
btoc	Below top of casing
COC	Contaminants of concern
DCA	Dichloroethane
DCB	Dichlorobenzene
DCE	Dichloroethene
EPA	U.S. Environmental Protection Agency
ft	Feet
J	Estimated value
MCL	EPA Maximum Contaminant Level
µg/L	Micrograms per liter
NA	Not applicable
NE	Not established
PCB	Polychlorinated biphenyl
SIM	Selected ion monitoring
SWL	Static water level
TCE	Trichloroethene
U	Not detected at concentration at or above reporting limit
UJ	Not detected at concentration at or above reporting limit; the reporting limit is an estimate
VC	Vinyl chloride
VOC	Volatile organic compound

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
OU3 Monitoring Wells								
MW-C1	8/18/04							NT
	9/9/04							
	8/08							
	10/08							
	3/09							
	6/09							
	8/09							
	11/09							
	3/10							
	6/10							
	9/10							
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12							
	9/12							
	12/12							
	3/13							
	6/13	Not Sampled Due To Flooding						
	9/13							
	12/13							
	4/14							
	10/14							
	5/15							
	12/15							
	6/16							
	12/16							
	6/17							
	11/17							
	6/18		0.2 J					
	12/18							
	8/19					0.2 J		
	12/19							
	12/20							
	11/21							
	11/22					0.7 J		0.75 J
	11/23							

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C2	8/18/04							NT
	9/9/04							
	8/08							
	10/08							
	3/09							
	6/09							
	8/09							
	11/09							
	3/10							
	6/10							
	9/10							
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12							
	9/12							
	12/12							
	3/13							
	6/13	Not Sampled Due To Flooding						
	9/13							
	12/13							
	4/14							
	10/14							
	5/15							
	12/15							
	6/16							
	12/16							
	6/17							
	11/17							
	6/18							
	12/18							
	8/19							
	12/19							
	12/20							
	11/21							
	11/22					0.3 J		
	11/23							

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C3	8/18/04							NT
	9/9/04							
	08/08					3,140		
	10/08					87.4		
	11/08					13.3		
	3/09							
	6/09	4.4						
	8/09	5.2 (resample 2Q)						
	8/09	5.5 (3Q)						
	11/09	7.4						
	3/10	4.1						
	6/10	3.6 / 4.9						
	9/10	2.9 / 2.9						
	11/10	2.6						
	03/11	2.4/2.1						
	6/11	2.2						
	9/11	4.1						
	12/11	4.4						
	3/12	4.0						
	6/12	3.6						
	9/12	3.8						
	12/12	3.3						
	3/13	3.6						
	6/13	3.6						
	9/13	4.6						
	12/13							
	4/14	3.6						
	10/14							
	5/15	3.4						
	12/15	5.2						
	6/16	5.2						0.54J
	12/16	1.8J						
	6/17	3.5						
	11/17	3.5						0.70 J
	6/18	2.1						0.61 J
	12/18	0.6 J						0.96 J
	8/19	3.9				21.7		0.63 J
	12/19	2.0 J						
	12/20	1.6 J	0.4 J					0.31 J
	11/21	1.2 J	0.6 J					
	11/22	0.6 J	0.9 J					
	11/23	0.3 J	0.9 J					

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C4	8/18/04							NT
	9/9/04							
	08/08					2,870		
	10/08					534		
	11/08					20.1		
	3/09							
	6/09							
	8/09							
	11/09							
	3/10							
	6/10							
	9/10							
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12					21.2		
	9/12							
	12/12							
	3/13							
	6/13							
	9/13							
	12/13							
	4/14							
	10/14							
	5/15							
	12/15							
	6/16							
	12/16							
	6/17							
	11/17							
	6/18							1.02
	12/18							0.40 J
	8/19					121		1.37
	12/19							0.78 J
	12/20							
	11/21							
	11/22							0.71 J
	11/23							1.03

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C5	8/18/04							NT
	9/9/04							
	08/08							
	10/08							
	3/09							
	6/09							
	8/09							
	11/09							
	3/10							
	6/10							
	9/10							
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12							
	9/12							
	12/12							
	3/13							
	6/12							
	9/13							
	12/13							
	4/30							
	10/14							
	5/15							
	12/15							
	6/16							
	12/16							
	6/17	1.0J						
	11/17							
	6/18							
	12/18							
	8/19							
	12/19							
	12/20							
	11/21							
	11/22							
	11/23							

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C6	8/18/04							NT
	9/9/04							
	08/08					2,590		
	10/08					2.9J		
	11/08					2.5J		
	3/09							
	6/09							
	8/09							
	11/09							
	3/10							
	6/10							
	9/10							
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12							
	9/12							
	12/12							
	3/13							
	6/13							
	9/13							
	12/13							
	4/14							
	10/14							
	5/15							
	12/15	0.9J						
	6/16	1.0J						
	12/16							
	6/17							
	11/17							
	6/18							
	12/18							
	8/19	0.5 J				198		
	12/19							
	12/20	0.3 J						
	11/21							
	11/22							
	11/23							

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C7	8/18/04							NT
	9/9/04							
	08/08							
	10/08							
	3/09							
	6/09							
	8/09							
	11/09							
	3/10							
	6/10							
	9/10							
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12							
	9/12							
	12/12							
	3/13							
	6/13							
	9/13							
	12/13							
	4/14							
	10/14							
	5/15							
	12/15							
	6/16							
	12/16							
	6/17							
	11/17							
	6/18							
	12/18							
	8/19	0.6 J	0.5 J					
	12/19							
	11/20							
	11/21							
	11/22							
	11/23							

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C8	8/18/04							NT
	9/9/04							
	08/08	1.1J						
	10/08	0.9J	1.1J					
	3/09							
	6/09	1.4J	1.3J					
	8/09	2.3	2.0J					
	11/09	2.2	1.2J					
	3/10	2.5	1.2J					
	6/10	3.3	1.6J					
	9/10	3.8 / 3.8						
	11/10	2.5						
	03/11	7.2						
	6/11	5.6						
	9/11	7.9/8.6						
	12/11	4.2/4.6						
	3/12	2.6						
	6/12	5.2						
	9/12	4.5						
	12/12	7.0						
	3/13	2.5						
	6/13	3.5 / 3.6						
	9/13							
	12/13	2.5						
	4/14	4.9	6.2					
	10/14	5.4						
	5/15	5.1						
	12/15		3.3J					1.02
	6/16	0.7J	2.6J					0.72J
	12/16		1.9J					
	6/17		2.9J					0.76J
	11/17	32.2	11.6		2.8J			3.68
	6/18							
	12/18	2.8	2.7		0.5 J			0.66 J
	8/19	7.3	4.9	0.1 J	0.6 J	0.2 J		1.0
	12/19	6.6	2.3					0.38 J
	11/20	3.4	3.6		0.4 J			1.61
	11/21		0.3 J					
	11/22	0.5 J	2.1					0.87 J
	11/23	7.4	2.5					0.92 J
	5/24	5.5	1.8 J					

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C9	8/18/04							NT
	9/9/04							
	08/08							
	10/08							
	3/09							
	6/09							
	8/09							
	11/09							
	3/10							
	6/10							
	9/10							
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12							
	9/12							
	12/12							
	3/13							
	6/13							
	9/13							
	12/13							
	4/14							
	10/14							
	5/15							
	12/15							
	6/16							
	12/16							
	6/17							
	11/17							
	6/18							
	12/18							
	8/19							
	12/19							
	11/20							
	11/21							
	11/22							
	11/23							

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C10	8/18/04							NT
	9/9/04							
	08/08							
	10/08							
	3/09							
	6/09							
	8/09							
	11/09							
	3/10							
	6/10							
	9/10							
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12							
	9/12							
	12/12							
	3/13							
	6/13							
	9/13							
	12/13							
	4/14							
	10/14							
	5/15							
	12/15							
	6/16							
	12/16							
	6/17							
	11/17							
	6/18							
	12/18							
	8/19							
	12/19							
	11/20							
	11/21						0.2 J	
	11/22							
	11/23							

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C11	8/18/04	10/27	69/71		9.7/9.3			NT
	9/9/04	25/24	25/58		6.8/6.7			
	08/08	433	402	7.6J	85.7			
	10/08	159	185	2.9	36.5		3.3J	
	3/09	218/211	196/190	3.3/3.1	39.4/39.0		5.3/5.1	
	6/09	151/158	178/189	2.7/2.8	30.4/32.3			
	8/09	41.3	61.4	0.7J	8.3			
	11/09	90.8	119	1.8J	16.1			
	3/10	39.4	60.3	1.0J	7.8		1.5J	
	6/10	26	50.3	1.0J	6.4			
	9/10	21.7	36.4					
	11/10	20.4	43.5		5.3			
	03/11	21.7	49.2		6			
	6/11	17.1	39.9					
	9/11	21.4	34.3					
	12/11	14.6	29.4					
	3/12	19.6	36.7					
	6/12	18.4	33.3					
	9/12	13.5	33.2					
	12/12	16.1	56.6		5.8			
	3/13	21.5	46.9		5.2			
	6/13	25.7	41.9		6.2			
	9/13	11.2	25.9					
	12/13	12.5	28.5					
	5/14	22.1	30.8					
	10/14	20.3 / 20.6	30.1 / 30.2					
	5/15	19.1	28.2					
	12/15	5.3	14	0.5J	1.9J			
	6/16	3.5	9.5		1.3J			
	12/16	4.1	10.5		1.3J			
	6/17	2.4	8.6					
	11/17	8.8	18.7		2.2J			
	6/18	10.4	22.9	0.3 J	2.6			
	12/18	6.0	22.9		2.2			
	8/19	3.0	6.9	0.2 J	1.0 J	14.6		
	12/19	3.8	12	0.2 J	1.2 J	4.4		
	12/20	5.5	13.8	0.1 J	1.4 J			
	11/21	5.9	16.5	0.2 J	1.6 J			
	11/22	2.3	13.3		1.1 J			
	11/23	1.9	11.2	0.2J	1.0 J			

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C12	08/08	6.4	31.1	88.9	4.2J			NT
	10/08	6.0	33.9	88.1	4.3J			
	3/09	5.6	31.7	64.2	3.8J			
	6/09	7.9/7.7	39.5/40.1	68.0/68.1	4.0J/4.2J			
	8/09	5.6	35.6	57.9	3.4J			
	11/09	8.6	42.5	55	3.7J			
	3/10	5.4	31.5	33.2	2.8J			
	6/10	6.4	39.1	36.6	3.0J			
	9/10	2.6	24.2	36.5				
	11/10	3.2	33.6	34.0				
	03/11	3.2	28	22.3				
	6/11	4.3	34.7	28.4				
	9/11	4.1	29.7	25.8				
	12/11	2.7/2.5	25.8/26.5	32.7/32.0				
	3/12		15.5/13.8	24.5/20.1				
	6/12	2.5	25.1	25.2				
	9/12	3.2	22.8	35.6				
	12/12	5.1	19.9	31.8				
	3/13	3.8	19.7	43.0				
	6/13	3.1	24.5	14.1				
	9/13		20.1	15.5				
	12/13	3.4	20.2	22.7				
	5/14	3.5 / 3.8	13.3 / 14.4	8.8 / 9.3				
	10/14		13.6	4.6				
	5/15	2.4/2.4	21.4/21.6	8.8/8.9				
	12/15	2.9	26.2	8.3	2.3J			
	6/16	3.1	24.6	5.3	2.2J			
	12/16	3.5	30.7	8.4	2.7J			
	6/17	2.2	26.2	5.5				
	11/17	2.7	25.6	5.3	2.4J			
	6/18	0.8 J / 0.8 J	9.3 / 9.7	1.8 / 1.8	0.9 J / 1.0 J		0.1 J	
	12/18	0.8 J	12.9	2.4	0.9 J			
	8/19	1.3 J	16.5	2.8	0.8 J			
	12/19	1.3 J	16.5	4.0	0.9 J			
	12/20	1.1 J	11.6	1.9	0.6 J			
	11/21	0.8 J	13.2	1.7	0.5 J			
	11/22	0.8 J	13.1	2.1	0.5 J			
	11/23	0.3 J	7.9		0.3J			

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C13	08/08	9.7	37.7	101	5.1			NT
	10/08	7.0	40.6	93.2	4.9J			
	3/09	11.5	54.9	66.9	5.1		1.7J	
	6/09	22.7	90.8	62.9	6.3			
	8/09	16.0/16.4	79.2/79.6	56.7/56.1	5.5/5.6			
	11/09	10.5	50	51.8	3.9J			
	3/10	12.9	52	40.8	4.0J			
	6/10	19.5 / 20.1	67.5 / 71.6	38.4 / 39.1	4.8J / 5.2		1.5J	
	9/10	15.7	66.8	36.5				
	11/10	10.6	63.5	35.4				
	03/11	18.2	81.2	32.2				
	6/11	20.3	80.1	29.2				
	9/11	36.4	128	27.6	7.3			
	12/11	8.9	91.1		10.0			
	3/12	38.6	170	42.3	10.0			
	6/12	36.9	143	22.3	8.2			
	9/12	56.8	173	35.8	12.3			
	12/12	53.8	226	34.1				
	3/13	39.4	163	38.0	10.0			
	6/13	57.3 / 57.3	195 / 188	20.4 / 21.2	14.2 / 13.6			
	9/13	39.6	158	20.7	10.0			
	12/13	53.7	179	26.0	12.9			
	5/14	64.2	152	16.7	11.1			
	10/14	25.7 / 24.9	214 / 219	7.3 / 7.5	23 / 23			
	5/15	54.9	202	25.0	14.8			
	12/15	41.9	188	24.9	13.4			9.4
	6/16	41.4	216	26.0	14J			5.94
	12/16	51.2	196	33.7	16			2.17
	6/17	39.4	180	24.4	12			7.94
	11/17	42.3	134	21.4	10.8			18.5
	6/18	25.9	115	22.6	8.4		0.3 J	15.4
	12/18	67.0	190	46.4	14.1		0.5 J	8.32
	8/19	18.9	16.6	15.2	3.2	183		8.42
	12/19	8.3	13.7	13.5	1.3 J	2.0 J		4.43
	6/20	23.1	27.2	27.8	4.5	0.2 J	0.2 J	12.8
	12/20	34.4	35.4	45.3	6.0	0.2 J	0.2 J	10.4
	5/21	16.1	26.8	82.9	6.1	0.5 J	0.2 J	10.5
	11/21	8.6	19.2	21.1	1.8 J	0.1 J	0.1 J	
	6/22	21.5	28.7	106	8.0			10.9
	11/22	4.6	22.9	12.3	1.7 J		0.1 J	1.07
	9/23	41.8	55.3	84.1	7.5			8.67
	11/23	9.0	22	16.6	4.2		0.2 J	6.59
	5/24	33.8	48.4	81.4	7.4		0.1 J	8.91

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C14	08/08	0.8J						NT
	10/08	1.2J	1.1J					
	3/09	3.9	1.5J					
	6/09	1.6J	1.1J					
	8/09	0.6J						
	11/09	1.1J/1.0J						
	3/10							
	6/10							
	9/10							
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12							
	9/12							
	12/12							
	3/13							
	6/13							
	9/13							
	12/13							
	5/14							
	10/14							
	5/15							
	12/15							
	6/16							
	12/16							
	6/17							
	11/17							
	6/18		0.6 J	0.2 J				
	12/18							
	8/19					0.2 J		
	12/19							
	12/20							
	11/21							
	11/22							
	11/23							

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C15	08/08	2.0	2.2J	0.7J				NT
	10/08	0.8J						
	3/09							
	6/09	0.8J						
	8/09	0.9J						
	11/09	1.9J	1.8J	0.6J				
	3/10	3.4	4.3J	1.2J				
	6/10	3.1	4.2J	1.1J				
	9/10							
	11/10	2.5	6.5					
	03/11							
	6/11	2.9						
	9/11	2.7						
	12/11	2.1						
	3/12							
	6/12							
	9/12	2.7						
	12/12							
	3/13	2.2						
	6/13							
	9/13							
	12/13							
	5/14	22.5 / 23.2						
	10/14	12.4						
	5/15							
	12/15	1.8J						2.37
	6/16	1.6J						2.0
	12/16	0.6J						0.99J
	6/17							2.25
	11/17	40.8	12.9	5.2	2.5J			11.8
	6/18	122	59.5	26.2	8.6		0.1 J	19.9
	12/18	67.5	66.9	18.5	8.1			11.6
	8/19	45.9	37.8	10.9	4.8	16.6		9.57
	12/19	12.5	12.8	4.2				2.36
	6/20	47.3	27.2	7.1	4.4			4.08
	12/20	73.7		20.1	7.1			5.61
	5/21	45.8	78.8	19.8	5.0		0.1 J	4.61
	11/21		0.4 J		0.2 J			
	6/22	8.2	11.8	6.2				1.96
	11/22	22.3		7.1	2.9			4.89
	9/23	71.6	49.2	19.7	7.7			8.05
	11/23	59.1	40.5	16.9	6.1			4.08
	5/24	37.6	49.3	33.2	5.0			5.14

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C16	08/08							NT
	10/08							
	3/09							
	6/09							
	8/09							
	11/09							
	3/10	1.7J	1.4J					
	6/10	2.3						
	9/10							
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12							
	9/12							
	12/12							
	3/13							
	6/13							
	9/13							
	12/13							
	4/14							
	10/14							
	5/15							
	12/15							
	6/16							
	12/16							
	6/17							
	11/17	1.1J						
	6/18							
	12/18							
	8/19	3.2	1.7 J		0.5 J	2.2		0.86 J
	12/19	0.6 J	0.5 J			0.9 J		
	12/20	2.4	1.0 J		0.4 J			0.4 J
	11/21							
	11/22	0.3 J						
	6/23	0.6J /0.6J	0.6 J / 0.6 J		0.2J / 0.2J			NT
	9/26/23	7.6	1.7 J		0.9 J			NT
	11/6/23	1.7	0.5 J		0.2 J			NT
	11/20/23							
	12/4/23		0.4 J					NT
	4/12/24							NT
	4/25/24		0.6 J					NT
	6/3/24	10.6	2.8		1.3 J			NT
	6/13/24	4.6	4.7		1.5 J			NT
	6/17/24	3.2	1.3 J		0.6 J			NT

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C17	08/08							NT
	10/08							
	3/09							
	6/09							
	8/09							
	11/09							
	3/10							
	6/10	4.2						
	9/10	4.3						
	11/10							
	03/11							
	6/11							
	9/11							
	12/11							
	3/12							
	6/12							
	9/12							
	12/12							
	3/13							
	6/13							
	9/13					5.2		
	12/13							
	4/14	4.8						
	10/14	7.8						
	5/15							
	12/15							
	6/16							
	12/16							
	6/17							
	11/17	2.9						
	6/18							
	12/18	3.5	2.1		0.6 J			3.52
	8/19	2.6	0.9 J			14.2		1.47
	12/19	1.1 J	0.5 J					0.86 J
	6/20	1.5 J	0.7 J					1.8
	11/20	3.2	1.0 J		0.4 J			1.81
	5/21	3.0	1.6 J		0.5 J	0.5 J		0.89 J
	11/21	1.6 J	1.7 J		0.4 J			
	6/22	4.2	3.0					
	11/22	5.4	3.5		0.9 J			
	6/23	7.9 / 6.7	4.6 / 4.6		1.4 J / 1.4J			NT
	9/6/23	9.2	4.2		1.3 J			
	9/26/23	5.0	4.2		1.1 J			NT
	10/25/23	8.2	4.4		1.4 J / 1.4J			NT
	11/6/23	10.2	4.7		1.3 J			NT
	11/20/23	7.9	4.0		1.1 J			
	12/4/23	4.3	4.4		1.1 J			NT
	4/12/24	0.3 J	3.3		0.8 J			NT
	4/25/24	3.2	2.9		0.7 J			NT
	5/15/24	4.9	4.1		1.0 J			
	6/3/24	13.2	6.5		1.7 J			NT
	6/13/24	4.6	4.7		1.1 J			NT
	6/17/24	6.6	5.0		1.2 J			

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
MW-C18	12/15							
	6/16							0.6J
	12/16							
	6/17							
	11/17							
	6/18							
	12/18							
	8/19	not sampled due to flooding						
	12/19	not sampled due to flooding						
	12/20	not sampled due to flooding						
	11/21							
	9/26/23							NT
	11/23		0.2 J					
MW-C19	12/15							
	6/16							0.6J
	12/16							
	6/17							
	11/17							
	6/18							
	12/18							
	8/19	not sampled due to flooding						
	12/19	not sampled due to flooding						
	12/20	not sampled due to flooding						
	11/21							
	9/26/23							NT
	11/23							
City Wells								
W-4	6/18							
	12/18							
	8/19	NS						
	12/19	NS						
	12/20	NS						
	11/21	NS						
W-5	6/18							
	12/18							
	8/19	NS						
	12/19	NS						
	12/20	NS						
	11/21	NS						
W-6	6/18							
	12/18							
	8/19	NS						
	12/19	NS						
	12/20	NS						
	11/21		0.5 J					

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
W-7	6/18	NS						
	12/18	NS						
	8/19	NS						
	12/19							
	12/20	NS						
	11/21							
W-8	6/18	NS						
	12/18	NS						
	8/19	0.4 J	0.4 J					
	12/19	0.3 J	0.4 J					
	4/20							
	9/20							
	12/20							
	3/21							
	11/21		0.3 J					
	10/11/23							NT
	10/12/23							NT
	10/13/23		0.2 J					NT
	10/16/23		0.4 J					NT
	10/19/23	0.5 J	0.4 J					NT
	10/23/23	0.4 J	0.3 J					NT
	11/6/23	0.6 J	0.4 J					NT
	11/20/23	0.5 J	0.4 J		0.1 J			NT
	12/4/23	0.4 J	0.4 J					NT
	4/11/24	1.7	1.0 J					NT
	4/12/24	0.07 J	0.8 J					NT
	4/15/24	0.5 J	0.6 J		0.1 J			NT
	4/22/4		0.4 J					NT
	4/25/24		0.4J					NT
	6/3/24							NT
	6/4/24							NT
	6/5/24							NT
	6/10/24	0.3 J	0.5 J					NT
	6/17/24		0.4 J					NT
Radial Well (W-9)	6/18							
	12/18							
	8/19							
	12/19							
	12/20							
	11/21							
W-10	6/18							
	12/18					0.2 J / 0.1 J		
	8/19							1.26
	12/19							
	12/20							
	11/21							

TABLE 5
VOC DETECTION SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Vinyl Chloride MCL=2 ppb	Cis-1,2-Dichloroethene MCL=70 ppb	Benzene MCL=5 ppb	1,1-Dichloroethane PRG=810 ppb	Toluene MCL=1,000 ppb	Trans-1,2-Dichloroethene MCL=100 ppb	1,4-dioxane MCL not established
Effluent	6/18							
	12/18							
	8/19							
	12/19							
	12/20							
	11/21							
	11/22							
Influent	12/20							
	11/21							
	11/22							

Notes:

J = Estimated value below the reporting limit.

NT = Not tested

NS = Not sampled

Blank indicates parameter not detected.

Acetone and methylene chloride detections in various samples in the low part per billion range are due to laboratory effects.

PRG = Preliminary Remediation Goal, USEPA Region 9

Shading indicates the concentration exceeds the MCL.

Historic detections at City Wells W-4, W-5, and W-6 are from the North Plume which has a source located at the Ameren Huster Road Substation. Table 3 also contains City Well information. City Well data added to Table 2 starting with the June 2018 sampling event.

June 2023 results at Monitoring Wells MW-C16 and -C17 include samples split with 212/City (listed first in table) using an electric pump on 6/13/23 (non-QAPP approved samples) and samples collected using a peristaltic pump on 6/14/23 (QAPP-approved samples).

September 26, 2023 results are split samples with 212/City using an electric pump (non-QAPP approved samples).

TABLE 6
GEOCHEMICAL INDICATOR PARAMETER SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Dissolved Oxygen (mg/l)	ORP (mV)	Nitrate (mg/l)	Sulfate (mg/l)	Ferrous Iron (mg/l)	Chloride (mg/l)	Carbon Dioxide (mg/l)	Dissolved Organic Carbon (mg/l)	Ethane (µg/l)	Ethene (µg/l)	Methane µg/l)
MW-C1	5/15	0.01	-75.22	<0.05	76	6.4	76	78.8	1.6	<4.0	<6.0	4.4
	12/15	<0.1	-115	<0.05	22	7.3	20	39.6	2.1	<4.0	<6.0	33.3
	6/16	<0.1	-65	0.076	61	5.7	70	34.4	2.1	<4.0	<6.0	10
	12/16	<0.1	-68.16	0.021 J	60	5.8	85	81.4	1.6	<4.0	<6.0	15.4
	6/17	0.05	-65.54	<0.050	55	5.6	100	52.5	1.8	<4.0	<6.0	21.5
	11/17	<0.1	-59.86	0.041 J	94	3.5	62	43.4	2.1	<4.0	<6.0	11.7
	6/18	<0.1	-40.25	0.020 J	49	5.5	55	53.6	3.0	<7.0	<10.0	12.9
	12/18	<0.1	-145.29	<0.050	47	3.4	78	33.8	2.0	<7.0	<10.0	9.0
	8/19	1.17	155.7	0.034 J	59	6.6	84	27.8	2.1	<7.0	<10.0	31.8
	12/19	<0.1	-208	0.026 J	60	5.1	77	61.3	5.2	<7.0	<10.0	91.2
	12/20	<0.1	197	<0.1	62	5.5	78	37.2	1.6	<7.0	<10.0	8.2
	11/21	0.48	-118.5	<0.050	71	5.5	89	49.1	1.3	<7.0	<10.0	8.0
	11/22	0.35	-68.2	<0.050 H	50	6.1	100	34.4	1.3	<7.0	<10.0	16.5
	11/23	0.12	-143	<0.050	60	4.4	82	41.7	1.4	<7.0	<10.0	12.8
MW-C2	5/15	0.04	-99.39	<0.05	28	7.4	31	65.9	1.8	<4.0	<6.0	80.5
	12/15	<0.1	-80	<0.05	51	6.2	70	55.5	2.1	<4.0	<6.0	22.4
	6/16	<0.1	-73	0.012 J	37	4.2	49	54.6	2.2	<4.0	<6.0	20.5
	12/16	<0.1	-86.56	0.013 J	34	7.7	48	61.6	2.0	<4.0	<6.0	32.4
	6/17	<0.1	-96.73	<0.050	34	7.5	43	70.9	2.0	<4.0	<6.0	4.8
	11/17	<0.1	-39.80	<0.05	26	6.4	32	76.0	1.8	<4.0	<6.0	29.0
	6/18	<0.1	-86.50	0.026 J	32	7.7	23	43.7	2.2	<7.0	<10.0	26.3
	12/18	<0.1	-11.19	<0.050	27	7.1	31	38.6	2.1	<7.0	<10.0	22.9
	8/19	<0.1	-18.50	0.041 J	24	7.4	19	24.4	1.9	<7.0	<10.0	19.2
	12/19	<0.1	-81	0.152	33	7.6	32	49.4	2.0	<7.0	<10.0	31.6
	12/20	<0.1	119	0.014 J	34	7.5	28	29.2	1.9	<7.0	<10.0	17.1
	11/21	0.29	-125.2	<0.050	40	8.1	43	59.1	1.7	<7.0	<10.0	11.7
	11/22	0.37	-68.9	<0.050 H	45	7.0	61	31.6	1.7	<7.0	<10.0	17.9
	11/23	0.12	-161.9	<0.050	33	8.1	36	44.4	2.0	<7.0	<10.0	16.0
MW-C3	5/15	0.03	-74.36	<0.050	32	4.4	27	47.7	1.7	<4.0	<6.0	33.9
	12/15	<0.1	-113	<0.050	59	6.0	23	31.8	1.6	<4.0	<6.0	26.5
	6/16	<0.1	-82	0.012 J	60	3.8	30	47.5	1.5	<4.0	<6.0	18.6
	12/16	<0.1	-110.17	0.011 J	82	7.7	45	41.3	1.1	<4.0	<6.0	35.2
	6/17	<0.1	-77.96	0.011 J	62	4.3	32	50.8	1.4	<4.0	<6.0	9.4
	11/17	<0.1	-103.85	0.017 J	53	6.9	26	32.7	1.2	<4.0	<6.0	20
	6/18	0.08	-67.58	0.032	49	5.3	25	32.2	1.5	<7.0	<10.0	26.3
	12/18	<0.1	-26.10	0.019	48	7.7	24	48.6	1.7	<7.0	<10.0	24.3
	8/19	<0.1	-9.30	0.048 J	43S	14	28	16.2	2.4	<7.0	<10.0	1000
	12/19	<0.1	-116	0.014 J	27	11	34	36.5	2.7	<7.0	<10.0	965
	12/20	0.30	197	<0.100	30	2.1	40	22.3	2.0	<7.0	<10.0	218
	11/21	0.38	-115.1	<0.050	32	1.7	49	37.1	1.6	<7.0	<10.0	28.8
	11/22	0.40	5.1	<0.050	33	1.9	55	22.0	1.4	<7.0	<10.0	46.6
	11/23	0.15	-163	<0.05 H	36	2.8	63	25.1	1.6	<7.0	<10.0	57.5
MW-C4	5/15	0.01	-89.9	<0.05	24	6.2	9	55	1.7	<4.0	<6.0	29.0
	12/15	<0.1	-107	0.01	18	5.8	8	46.4	2.0	<4.0	<6.0	26.6
	6/16	<0.1	-96	0.018 J	18	5.8	10	65.9	1.8	<4.0	<6.0	29.2
	12/16	<0.1	-37.49	0.074	17	6	10	61.8	1.9	<4.0	<6.0	53.6
	6/17	<0.1	-98.24	<0.050	15	7.2	10	71.5	1.8	<4.0	<6.0	33.0
	11/17	<0.1	-108.08	0.01 J	21	6.9	10	58.7	1.6	<4.0	<6.0	27.9
	6/18	0.04	-91.99	0.022 J	22	7.2	12	48.2	1.8	<7.0	<10.0	23.0
	12/18	<0.1	-43.62	0.018 J	18 S	6.9	11	49.2	1.7	<7.0	<10.0	23.6
	8/19	<0.1	18.2	0.042 J	24	7.9	18	19.9	3.0	<7.0	<10.0	1070
	12/19	<0.1	-91	0.018 J	15	5.6	18	62.3	3.2	<7.0	<10.0	1690
	12/20	0.31	111	<0.100	14	3.9	15	27.3	2.2	<7.0	<10.0	855
	11/21	0.72	-99.9	<0.050	17	3.2	19	47.8	2.2	<7.0	<10.0	322
	11/22	0.79	-17.5	<0.050	16	3.5	17	31.7	2.0	<7.0	<10.0	334
	11/23	0.13	-141.9	<0.05 H	16	1.4	22	42	1.9	<7.0	<10.0	70.0

TABLE 6

GEOCHEMICAL INDICATOR PARAMETER SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Dissolved Oxygen (mg/l)	ORP (mV)	Nitrate (mg/l)	Sulfate (mg/l)	Ferrous Iron (mg/l)	Chloride (mg/l)	Carbon Dioxide (mg/l)	Dissolved Organic Carbon (mg/l)	Ethane (µg/l)	Ethene (µg/l)	Methane µg/l)
MW-C5	5/15	0.41	-27.15	<0.050	38	1.2	16	35.0	<1.0	<4.0	<6.0	2.6
	12/15	<0.1	-94	0.027 J	44	4.6	14	63	0.9	<4.0	<6.0	3.3
	6/16	<0.1	-43	0.026 J	41	2.1	14	37	0.9 J	<4.0	<6.0	2.2
	11/16	<0.1	-70.5	0.016 J	46	5.2 S	15	32.5	0.9 J	<4.0	<6.0	3.2
	6/17	<0.1	-47.19	0.041 J	41	3.4	15	40.0	0.8 J	<4.0	<6.0	5.7
	11/17	<0.1	-48.51	0.043 J	42	4.9	14	44.8	0.9 J	<4.0	<6.0	5.2
	6/18	0.12	168.41	0.025 J	40	4.4	15	26.6	0.9 J	<7.0	<10.0	4.5
	12/18	<0.1	39.07	0.012 J	42	4.8	16	30.1	0.8 J	<7.0	<10.0	5.3
	8/19	<0.1	204.1	0.028 J	34	4.9	16	14.8	0.9 J	<7.0	<10.0	4.6
	12/19	0.2	286	0.015 J	38	6.2	18	34.8	0.9 J	<7.0	<10.0	5.8
	12/20	0.38	249	<0.050	38	5.2	19	24.4	1.1	<7.0	<10.0	5.6
	11/21	0.24	-118.4	<0.050	43	7.8	16	37.2	0.8 J	<7.0	<10.0	5.9
	11/22	0.37	-39.5	<0.050	39	5.5	20	23.0	0.9 J	<7.0	<10.0	<4.0
	11/23	-151	0.15	<0.05 H	41	5.9	21	35.6	0.6 J	<7.0	<10.0	5.2
MW-C6	5/15	0.02	-92.22	<0.05	42	4.9	13	41.5	<1.0	<4.0	<6.0	5.4
	12/15	<0.1	-114	<0.05	45	5.4	20	82.3	1.0	<4.0	<6.0	15.0
	6/16	<0.1	-75	0.010 J	39	4.6	14	42.3	1.2	<4.0	<6.0	22.8
	11/16	0.68	-78	0.017 J	46	4.9	13	34.1	0.9 J	<4.0	<6.0	5.3
	6/17	<0.1	-72.95	0.029 J	46	5.2	16	40.7	0.8 J	<4.0	<6.0	6.7
	11/17	<0.1	-56.41	0.022 J	43	4.0	14	45.8	0.9 J	<4.0	<6.0	4.9
	6/18	0.12	130.84	<0.050	42	4.7	16	33.3	0.9 J	<7.0	<10.0	5.0
	12/18	0.16	22.21	0.026 J	40	5.1	16	36.9	0.9 J	<7.0	<10.0	7.4
	8/19	<0.1	-116.6	0.055	30	24	20	35.5	4.0	<7.0	<10.0	1050
	12/19	<0.1	513	0.020 J	28	5.5	19	33.6	1.2	<7.0	<10.0	441
	12/20	<0.1	168	<0.050	23	1.7	21	28.7	1.3	<7.0	<10.0	138
	11/21	0.28	-101.4	<0.050	33	2.7	18	24.3	0.9 J	<7.0	<10.0	25.7
	11/22	0.68	-37.9	<0.050	32	2.7	21	21.3	1.0 J	<7.0	<10.0	17.0
	11/23	0.11	-156.9	<0.05 H	35	2.0	22	24.7	0.9 J	<7.0	<10.0	24.7
MW-C7	5/15	0.13	-7.92	<0.050	29	2.2	37	47.5	1.0	<4.0	<6.0	15.7
	12/15	0.5	-84	<0.050	29	3.1	47	48.7	1.2	<4.0	<6.0	17.9
	6/16	<0.1	-9.2	0.011 J	32	2.2	38	57.1	1.4	<4.0	<6.0	15.0
	11/16	<0.1	-21.12	0.011 J	28	3.2	43	49.8	1.0	<4.0	<6.0	29.6
	6/17	1.21	114.29	0.029 J	28	0.38	44	54.6	0.8 J	<4.0	<6.0	11.6
	11/17	<0.1	71.42	<0.05	27	2.7	48	67.5	1.0	<4.0	<6.0	27.7
	6/18	0.22	25.57	0.011 J	30	8.0	50	48.5	0.9 J	<7.0	<10.0	17.5
	12/18	<0.1	11.56	0.013 J	35	4.1	50	54.0	0.9 J	<7.0	<10.0	11.5
	8/19	<0.1	214.1	0.033 J	37	4.0	45	36.8	1.0	<7.0	<10.0	13.5
	12/19	<0.1	11.7	<0.050	35	3.0	49	53.3	1.0	<7.0	<10.0	12.6
	11/20	<0.1	194	<0.050	35	5.5	46	38.3	1.2	<7.0	<10.0	13.1
	11/21	0.28	-65.8	<0.050	42	3.9	45	46.4	1.0 J	<7.0	<10.0	6.8
	11/22	0.46	-31.6	<0.050 H	38	3.4	44	24.6	1.0	<7.0	<10.0	8.4
	11/23	0.12	-100	<0.05 H	39	4.0	41	34.1	1.2	<7.0	<10.0	10.6
MW-C8	5/15	0.14	-95.82	<0.050	86	6.4	15	36.2	1.2	7.8	<6.0	116
	12/15	<0.1	-142	<0.050	138	6.5	17	25.2	1.3	<4.0	<6.0	72.4
	6/16	<0.1	-99	0.022 J	100	6.0	20	37.8	1.3	<4.0	<6.0	49.6
	11/16	<0.1	-71.12	0.04 J	107	5.8 S	18	34	1.1	<4.0	<6.0	72
	6/17	<0.1	-80.49	<0.050	105	6.6	20	47.3	0.9 J	<4.0	<6.0	63.9
	11/17	<0.1	78.91	<0.050	47	11	34	55.9	1.6	<4.0	69.7	885
	6/18	5.53	259.36	0.142	56	6.1	27	34.3	1.1	<7.0	<10.0	<4.0
	12/18	<0.1	-6.71	0.017 J	87	6.8	16	35.0	0.9 J	<7.0	<10.0	25.5
	8/19	<0.1	60.00	0.032 J	82	7.2	16	23.7	1.0	<7.0	11.6	111
	12/19	<0.1	-102	0.011 J	70	7.6	20	32.6	1.0	<7.0	<10.0	29.9
	11/20	0.10	215	<0.050	49	6.9	21	40.7	1.6	8.6	<10.0	33.7
	11/21	7.04	108.3	0.180	42	0.21	46	21.4	1.0 J	<7.0	<10.0	6.9
	11/22	0.38	-74.6	<0.050 H	79	6.5	22	22.6	1.1	<7.0	<10.0	19.9
	11/23	0.08	-162.9	<0.05 H	81	8.0	18	34.0	1.2	7.4	<10.0	30.5

TABLE 6

GEOCHEMICAL INDICATOR PARAMETER SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Dissolved Oxygen (mg/l)	ORP (mV)	Nitrate (mg/l)	Sulfate (mg/l)	Ferrous Iron (mg/l)	Chloride (mg/l)	Carbon Dioxide (mg/l)	Dissolved Organic Carbon (mg/l)	Ethane (µg/l)	Ethene (µg/l)	Methane µg/l)
MW-C9	5/15	0.04	-6.23	1.37	165	0.36	43	23	<1.0	<4.0	<6.0	<2.0
	12/15	<0.1	-42	1.15	156	0.45	47	39	1.0	<4.0	<6.0	<2.0
	6/16	<0.1	-3.0	2.15	160	0.17	47	25.2	0.93	<4.0	<6.0	<2.0
	11/16	<0.1	-6.83	1.55	167	0.4	52	27.8	0.9 J	<4.0	<6.0	<2.0
	6/17	<0.1	137.18	2.32	155	0.086	52	46.6	0.8 J	<4.0	<6.0	<2.0
	11/17	<0.1	50.88	2.75	149	0.1	50	32.4	0.7 J	<4.0	<6.0	<2.0
	6/18	<0.1	125.26	5.80	146	0.10	51	21.8	1.0	<7.0	<10.0	<4.0
	12/18	<0.1	119.74	0.31	160	0.29	49	18.0	0.8 J	<7.0	<10.0	<4.0
	8/19	<0.1	458.4	3.13	136	0.04	48	14.5	1.0	<7.0	<10.0	<4.0
	12/19	<0.1	5.30	3.22	145	0.24	53	33.6	0.9 J	<7.0	<10.0	<4.0
	11/20	<0.1	226.0	3.68	151	0.15	60	21.6	1.1	<7.0	<10.0	<4.0
	11/21	0.35	114.2	13.0	142	0.009 J	56	30.4	1.0 J	<7.0	<10.0	<4.0
	11/22	0.32	14.4	5.47 H	177	0.034	58	19.3	0.9 J	<7.0	<10.0	<4.0
	11/23	0.15	-29	5.15 H	159	<0.02	51	23.8	1.0	<7.0	<10.0	<4.0
MW-C10	5/15	0.52	-95.16	<0.050	156	8.4	18	37.1	<1.0	<4.0	<6.0	2.6
	12/15	<0.1	-114	0.068	141	8.7	24	69	1.0	<4.0	<6.0	1.9 J
	6/16	<0.1	-106	0.024 J	144	8.4	29	42.6	1.0 J	<4.0	<6.0	2.1
	11/16	0.99	115.41	0.31	147	0.34	22	37	0.9 J	<4.0	<6.0	<2.0
	6/17	0.03	-87.20	<0.050	132	9.5	24	59.6	0.8 J	<4.0	<6.0	4.9
	11/17	<0.1	-59.18	<0.050	129	9.8	23	45.2	1.1	<4.0	<6.0	4.6
	6/18	0.09	-80.90	0.010 J	131	9.2	25	35.9	0.9 J	<7.0	<10.0	<4.0
	12/18	<0.1	-46.66	0.016 J	131	9.4	24	38.9	0.9 J	<7.0	<10.0	4.8
	8/19	<0.1	88.50	0.021 J	134	10	25	20.3	1.0 J	<7.0	<10.0	4.1
	12/19	<0.1	-77	0.022 J	125	9.5	27	44.9	0.9 J	<7.0	<10.0	4.0
	11/20	0.49	180	0.012 J	136	9.7	36	31.0	1.1	<7.0	<10.0	4.4
	11/21	1.53	-118.1	0.064	150	7.3	37	20.3	0.7 J	<7.0	<10.0	<4.0
	11/22	0.35	-101.9	0.012 JH	160	9.9	35	23.7	0.9 J	<7.0	<10.0	<4.0
	11/23	0.15	-152.6	<0.05 H	150	20	34	41.9	0.9 J	<7.0	<10.0	<4.0
MW-C11	5/15	0.02	-85.8	<0.05	111	4.6	45	30.6	<1.0	<4.0	6.4	13.5
	12/15	<0.1	-98	<0.05	114	4.6	48	32.3	1.2	<4.0	<6.0	5.7
	6/16	<0.1	-96	0.012 J	122	4.2	51	39.8	0.9 J	<4.0	<6.0	3.6
	12/16	<0.1	-80.25	0.015 J	119	5.0	53	41.4	0.8 J	<4.0	<6.0	3.4
	6/17	<0.1	-42.12	0.013 J	103	4.7	57	55.0	0.7 J	<4.0	<6.0	5.1
	11/17	<0.1	-31.31	0.02 J	78	6.1	39	43.3	0.9 J	<4.0	<6.0	9.2
	6/18	0.54	-21.98	0.075	77	6.3	34	29.6	1 J	<7.0	<10.0	9.8
	12/18	<0.1	34.5	<0.050	74	6.9	38	34.3	1.1	<7.0	<10.0	6.2
	8/19	<0.1	158.7	<0.050	99	6.1	42	14.0	1.9	<7.0	<10.0	148
	12/19	<0.1	-58.6	0.015 J	68	6.7	40	32.0	2.1	<7.0	<10.0	135
	12/20	<0.1	128	0.017 J	73	9.6	41	23.9	1.2	<7.0	<10.0	9.1
	11/21	0.21	-132.9	0.027 J	83	8.8	42	34.7	0.8 J	<7.0	<10.0	8.3
	11/22	0.40	16.1	0.042 J	104	6.8	46	23.7	1.0	<7.0	<10.0	11.2
	11/23	0.26	-122.8	0.139	85	7.5	47	36.5	0.9	<7.0	<10.0	6.6
MW-C12	5/15	1.50	-77.1	0.127	144	7.3	68	50.3	<1.0	6.1	<6.0	11.6
	12/15	<0.1	98	0.074	136	8.0	59	29.8	1.2	4.9	<6.0	9.7
	6/16	<0.1	-78	0.189	133	7.4	68	58.2	1.1	3.4 J	<6.0	6.7
	12/16	0.26	-73.52	0.043 J	144	8.4	88	61.8	0.9 J	5.5	<6.0	9.7
	6/17	<0.1	-88.26	0.043 J	133	8.8	98	57.8	0.8 J	8.5	<6.0	7.4
	11/17	<0.1	-97.33	0.14	120	5.4	116	46.4	0.6 J	9.4	<6.0	8.2
	6/18	0.76	-64.84	0.606	112 S	4.7	146	25.4	0.8 J	<7.0	<10.0	4.2
	12/18	1.25	-26.09	0.289	108	7.0	162	42.4	0.5 J	<7.0	<10.0	4.3
	8/19	<0.1	212.3	0.013 J	109	11	134	27.6	0.8 J	<7.0	<10.0	6.7
	12/19	<0.1	-94	0.014 J	109	10	134	49.1	0.8 J	<7.0	<10.0	16.4
	12/20	<0.1	171	0.143	120	9.7	199	45.6	0.6 J	<7.0	<10.0	6.5
	11/21	0.18	-129.7	0.011 J	121	11	250	41.6	<1.0	<7.0	<10.0	7.8
	11/22	0.36	-31.1	<0.050	122	12	203	41.4	<1.0	<7.0	<10.0	5.5
	11/23	0.10	-105.6	0.148	120	8.1	227	39.0	0.5 J	<7.0	<10.0	4.9

TABLE 6

GEOCHEMICAL INDICATOR PARAMETER SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Dissolved Oxygen (mg/l)	ORP (mV)	Nitrate (mg/l)	Sulfate (mg/l)	Ferrous Iron (mg/l)	Chloride (mg/l)	Carbon Dioxide (mg/l)	Dissolved Organic Carbon (mg/l)	Ethane (µg/l)	Ethene (µg/l)	Methane µg/l)
MW-C13	5/15	0.01	-102.57	<0.050	137	9.4	70	47.1	1.0	63.9	35.6	114.0
	12/15	<0.1	-114	0.010	109	9.8	57	36.7	1.7	62.7	29.1	179
	6/16	<0.1	-95	0.020 J	109	18	70	65.3	1.5	61.1	51.7	152
	12/16	<0.1	-80.57	0.076	135	11	77	54.7	1.1	56.2	28	76.4
	6/17	<0.1	-91	0.068	73	11	80	76.7	1.6	56.0	24.9	142
	11/17	<0.1	-68.56	0.013 J	55	11	67	59	1.5	142	40.6	294
	6/18	<0.1	-82.89	0.071	56	11	84	47.6	1.6	125	25.3	259
	12/18	<0.1	-62.63	<0.050	99	10	105	50.0	1.0	120	39.4	161
	8/19	<0.1	50.90	0.061	40S	9.7	77	38.2	3.8	427	<10.0	1020
	12/19	0.21	-118	0.022 J	44	5.5	108	61.8	2.2	<7.0	24.6	1670
	6/20	<0.1	-37	0.020	34	5.5	69	27.5	2.6	138	22.8	346
	12/20	<0.1	106	<0.050	35	6.3	71	55.2	1.9	70.3	14.3	658
	5/21	NT	NT	<0.050	35	4.9	95	59.2	1.9	48.8	16.9	1100
	11/21	0.28	-120.3	<0.050	111	10	263	40.2	<1.0	15.7	<10.0	21.5
	6/22	0.22	-141	<0.050	32 S	3.8	112	24.7	1.4	<350	18.6	494 B
	11/22	0.40	6.1	0.948	124	2.3	195	27.0	0.5 J	15.4	<10.0	29.4
	9/23	NT	NT	0.365	79	8.6	94	35.4	1	80	17.2	99.9
	11/23	0.24	-87.2	0.275	105	2.0	126	36.8	0.9 J	22.4	<10.0	62.5
MW-C14	5/15	0.04	-15.75	1.14	177	1.4	31	33.7	<1.0	<4.0	<6.0	<2.0
	12/15	<0.1	-22	1.29	169	1.1	29	24.6	1.2	<4.0	<6.0	1.6 J
	6/16	<0.1	45	4.49	151	0.34	32	37.9	0.9 J	<4.0	<6.0	1.6 J
	12/16	0.22	53.76	13	161	0.23	31	43.5	0.8 J	<4.0	<6.0	<2.0
	6/17	<0.1	281.44	3.29	168	0.074	34	42.5	0.8 J	<4.0	<6.0	<2.0
	11/17	<0.1	80.52	10.1	134	0.11	31	44.2	1 J	<4.0	<6.0	4.7
	6/18	0.05	138.97	3.10	151	0.042	32	23.4	1.0	<7.0	<10.0	4.2
	12/18	0.1	94.58	3.43	160	<0.40	31	24.5	0.9 J	<7.0	<10.0	<5.5
	8/19	<0.1	490.9	2.72	139	2.9	30	15.3	1.2	<7.0	<10.0	<4.0
	12/19	0.52	902.2	13.7	112	0.02J	30	29.2	0.9 J	<7.0	<10.0	5.1
	12/20	0.30	242	13.1	125	<0.02	29	21.1	0.8 J	<7.0	<10.0	4.3
	11/21	0.26	184.2	14.4	133	3.1	27	14.1	0.7 J	<7.0	<10.0	<4.0
	11/22	0.35	83.1	6.83	158	<0.020	25	20.4	1.0 J	<7.0	<10.0	<4.0
	11/23	0.36	-29.1	5.04	164	0.58	24	35.0	0.6 J	<7.0	<10.0	<4.0
MW-C15	5/15	0.11	-107.36	<0.050	106	11	25	62.4	1.2	<4.0	<6.0	465
	12/15	<0.1	-124	<0.050	44	9.9	20	41.7	2.4	<4.0	15.2	850
	6/16	<0.1	-111	0.027 J	42	20	18	62.0	2.0	<4.0	11.5	742
	12/16	<0.1	-27.53	0.051	57	11	19	63.8	2.0	<4.0	8.7	875
	6/17	<0.1	-108.67	0.012 J	49	11	24	68.8	1.8	<4.0	<6.0	685
	11/17	<0.1	-77.41	<0.050	47	11	34	55.9	1.6	<4.0	69.7	885
	6/18	<0.1	-100.62	0.026 J	47	10	45	43.2	1.6	63.7	77.5	650
	12/18	<0.1	-59.64	<0.050	34	11	37	52.1	1.8	225	57.7	342
	8/19	<0.1	28.5	0.046 J	37	18	29	24.2	2.9	270	45.5	748
	12/19	<0.1	116.4	<0.050	94	12	30	48.4	1.4	<7.0	17.9	164
	6/20	0.38	-16	0.018	92	9.3	31	21.5	2.0	38.8	36.3	191
	12/20	<0.1	135	0.011 J	75	11	37	22.5	1.4	57.1	35.0	555
	5/21	NT	NT	<0.050	97	13	31	65.5	1.3	30.7	22.4	560
	11/21	6.52	28.3	0.288	180	0.072	32	23.2	1.3	<7.0	<10.0	10.4
	6/22	0.4	-83.1	0.146	130	8.6	34	26.7	1.5	27.0	14.5	314 B
	11/22	0.39	-46.2	0.009 J	115	11	39	30.3	1.4	35.3	19.9	256
	9/23	NT	NT	0.074	92	3.2	34	36.6	0.8	57.1	56.1	129
	11/23	0.1	-153.6	0.011 J	117	12	35	22.9	1.0 J	41.4	39.9	113

TABLE 6
GEOCHEMICAL INDICATOR PARAMETER SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Dissolved Oxygen (mg/l)	ORP (mV)	Nitrate (mg/l)	Sulfate (mg/l)	Ferrous Iron (mg/l)	Chloride (mg/l)	Carbon Dioxide (mg/l)	Dissolved Organic Carbon (mg/l)	Ethane (µg/l)	Ethene (µg/l)	Methane µg/l)
MW-C16	5/15	2.68	-92.44	<0.050	32	5.5	10	83.1	1.8	<4.0	<6.0	129
	12/15	<0.1	-145	<0.050	28	6.1	12	40.5	1.9	<4.0	<6.0	65.4
	6/16	<0.1	-120	0.015 J	80	6.5	13	55.5	1.4	<4.0	<6.0	11.2
	11/16	0.11	-87.05	0.011 J	43	5.8	13	52.2	1.4	<4.0	<6.0	28.9
	6/17	0.02	-69.29	0.030 J	27	6.1	24	63.4	1.5	<4.0	<6.0	62.1
	11/17	<0.1	-72.37	0.023 J	54	6.4	19	49.8	1.1	<4.0	<6.0	31.2
	6/18	0.17	40.85	0.125	40	0.075	63	31.0	2.6	<7.0	<10.0	29.5
	12/18	<0.1	80.09	<0.050	42	0.40	50	27.8	1.3	<7.0	<10.0	19.7
	8/19	<0.1	-82.60	0.043 J	58	4.20	21	21.9	1.2	<7.0	<10.0	169
	12/19	<0.1	114	0.027 J	85S	1.0	66	44.6	1.4	<7.0	<10.0	86.5
	12/20	3.70	317	0.011 J	102	1.5	63	32.1	1.5	<7.0	<10.0	97.9
	11/21	2.61	72.4	0.114	243	0.024	105	39.2	0.9 J	<7.0	<10.0	6.8
	11/22	2.71	179.3	0.031 J	125	0.034	77	34.0	1.2	<7.0	<10.0	11.7
	11/23	5.42	77.8	0.074	102	<0.02	45	56.2	1.2	<7.0	<10.0	5.5
MW-C17	5/15	5.02	31.56	<0.050	99	6.3	14	68.8	1.2	<4.0	<6.0	19.8
	12/15	0.13	-158	0.01 J	112	6.9	24	38.5	1.4	<4.0	<6.0	9.0
	6/16	<0.1	-105	0.026 J	91	6.4	16	48.0	1.5	<4.0	<6.0	20.6
	11/16	0.96	63.18	1.02	64	0.13	22	27.6	1.8	<4.0	<6.0	<2
	6/17	0.04	-67.28	0.012 J	73	6.6	17	59.2	1.2	<4.0	<6.0	27.9
	11/17	<0.1	30.59	0.011 J	15	7.0	10	43.9	2.2	<4.0	<6.0	690
	6/18	NT	NT	1.60	56	0.064	35	10.7	1.8	<7.0	<10.0	<4.0
	12/18	<0.1	-7.43	<0.050	23	7.0	18	48.3	2.0	<7.0	<10.0	199
	8/19	<0.1	-72.50	0.38 J	<10	7.8	15	35.7	2.0	<7.0	<10.0	201
	12/19	<0.1	-5.20	0.023 J	12	7.4	18	54.2	1.9	<7.0	<10.0	113
	6/20	<0.1	-38.00	0.010	11	7.5	14	25	2.2	<7.0	<10.0	130
	11/20	0.11	212	<0.050	45	6.3	27	40.9	2.4	9.6	<10.0	99.6
	5/21	NT	NT	0.039	17	8.7	16	48.6	2.1	<7.0	<10.0	550
	11/21	0.29	26.1	0.017 J	151	3.4	52	32.8	1.9	<7.0	<10.0	307
	6/22	0.39	-108	<0.050	22	6.4	10	12.4	2.5	<7.0	<10.0	885 B
	11/22	0.3	-94.3	<0.050	105	5.5	33	36.5	2.1	<70.0	<100	519 B
	9/23	NT	NT	<0.05	25	1.3	13	22.4	1.5	<7.0	10.4	700
	11/23	0.28	-151.9	<0.05	23	8.1	20	60.8	2.1	<7.0	<10.0	860
MW-C18	12/15	<0.1	-100	0.032 J	75	6.7	28	69.0	1.2	<4.0	<6.0	26.9
	6/16	<0.1	87	0.023 J	69	5.8	27	41.0	1.2	<4.0	<6.0	26.3
	11/16	<0.1	-81.3	<0.050	72	7.9S	23	34.9	1.0	<4.0	<6.0	34.8
	6/17	<0.1	-82.77	0.012 J	71	6.0	24	43.2	0.8 J	<4.0	<6.0	25.4
	11/17	<0.1	-74.72	<0.050	68	8.5	28	43.7	1.0	<4.0	<6.0	21.7
	6/18	0.04	-64.44	<0.050	52	4.6	18	36.9	1.0	<7.0	<10.0	18.9
	12/18	<0.1	-3.95	<0.050	55	7.5	33	42.3	1.3	<7.0	<10.0	18.3
	8/19	Not Sampled Due To Flooding										
	12/19	Not Sampled Due To Flooding										
	12/20	Not Sampled Due To Flooding										
	11/21	0.27	80.4	<0.050	47	8.4	285	37.2	<1.0	<7.0	<10.0	17.6
	11/22	Not Sampled Due To Flooding										
	11/23	0.26	-13.9	<0.050 H	52	4.6	45	28.7	0.5 J	<7.0	<10.0	102

TABLE 6
GEOCHEMICAL INDICATOR PARAMETER SUMMARY
OU3 - HAYFORD BRIDGE ROAD GROUNDWATER SITE
ST. CHARLES, MISSOURI

Monitoring Well	Date (mo/yr)	Dissolved Oxygen (mg/l)	ORP (mV)	Nitrate (mg/l)	Sulfate (mg/l)	Ferrous Iron (mg/l)	Chloride (mg/l)	Carbon Dioxide (mg/l)	Dissolved Organic Carbon (mg/l)	Ethane (µg/l)	Ethene (µg/l)	Methane µg/l)
MW-C19	12/15	<0.1	-103	<0.050	10	6.1	8	74.9	1.6	<4.0	<6.0	70.4
	6/16	<0.1	-100	0.010 J	10	7.6	10	64.4	1.7	<4.0	<6.0	88.2
	11/16	0.16	-88.83	0.066	10 S	8.8 S	9	31.0	1.5	<4.0	4.3 J	132
	6/17	<0.1	-68.65	0.013 J	10 J	8.1	12	72.6	1.3	<4.0	<6.0	84.0
	11/17	<0.1	-79.26	0.010 J	13	7.2	8	62.9	1.7	<4.0	<6.0	48.4
	6/18	0.05	-60.75	0.016 J	9 JS	2.3	8	59.5	1.5	<7.0	<10.0	30.9
	12/18	0.37	88.92	0.194	15	0.7	19	40.6	1.7	<7.0	<10.0	21.6
	8/19	Not Sampled Due To Flooding										
	12/19	Not Sampled Due To Flooding										
	12/20	Not Sampled Due To Flooding										
	11/21	0.30	-69.3	0.010 J	6 J	0.095	22	34.4	1.4	<7.0	<10.0	28.3
	11/22	Not Sampled Due To Flooding										
	11/23	0.22	-116	<0.05	10	3.9	9.0	41.8	1.1	<7.0	<10.0	35.4

Notes:
Data from the last eight years is included in the table.
J = Estimated value below the reporting limit.
NT = Not tested or anomalous results due to equipment problems in the field.
H = Holding times exceeded.
S = Spike Recovery outside recovery limits.
B = Analyte detected in associated Method Blank.

TABLE 7

GROUNDWATER SAMPLE RESULTS - MARCH 2024
Findett / Hayford Bridge Road Superfund Site
OU1 - Ameren Huster Road Substation
St. Charles, Missouri

				Sample Number:	2400063-17		2400063-18		2400063-19		2400063-20		2400063-21		2400063-22		2400063-23		2400063-24		2400063-25		2400063-26		2400063-27		2400063-28		2400063-29		2400063-30		2400063-31		2400063-32		2400063-33	
				Sample Name:	GW-13 (68')		GW-13 (68') duplicate		GW-13 (45')		GW-14 (69')		GS-14 (45')		GW-14 (28')		UA-11		Field Blank		GW-04 (64')		GW-04 (45')		GW-05 (65')		GW-05 (65') duplicate		GW-05 (45')		GW-05 (25')		EW-1		Rinsate Blank		Trip Blank	
Analyte	CAS Number	Tapwater RSL TR = 10-6; HQ = 1.0 (μg/L)	MCL	VISL Target Groundwater Concentration TR = 10-6; HQ = 1.0 (μg/L)	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/L)	Data Flag	Result (μg/m^3)	Data Flag
1,1,1-Trichloroethane	71-55-6	8,000	200	31,100	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane	79-34-5	0.076	NE	14.1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2-Trichloroethane	79-00-5	0.28	5	22.8	ND		ND		ND		22		25		470		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2-Trichlorotrifluoroethane	76-13-1	10,000	NE	1,020	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1-Dichloroethane	75-34-3	2.8	NE	33.4	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		88		ND		ND	
1,1-Dichloroethene	75-35-4	280	7	821	ND		ND		ND	UJ	ND	UJ	ND	UJ	ND		ND		ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND		ND	UJ	ND	UJ
1,2,3-Trichlorobenzene	87-61-6	7	NE	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2,3-Trichloropropane	96-18-4	0.00075	NE	93.7	ND		ND		ND		3.5		3.5		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2,4-Trichlorobenzene	120-82-1	1.2	70	151	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		24		ND		ND	
1,2,4-Trimethylbenzene	95-63-6	56	NE	1040	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dibromo-3-Chloropropane	96-12-8	0.00033	0.2	0.34	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dibromoethane	106-93-4	0.0075	0.05	0.769	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichlorobenzene	95-50-1	300	600	11200	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		960		ND		ND	
1,2-Dichloroethane	107-06-2	0.17	5	9.78	ND		ND		ND		26		31		770		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichloropropane	78-87-5	0.85	5	28.7	ND		ND		ND		1.4		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,3,5-Trimethylbenzene	108-67-8	60	NE	733	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,3-Dichlorobenzene	541-73-1	NE	NE	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		55		ND		ND	
1,4-Dichlorobenzene	106-46-7	0.48	75	11.3	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		1,400		ND		ND	
2-Butanone	78-93-3	5,600	NE	9,410,000	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Hexanone	591-78-6	38	NE	34,500	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Methyl-2-Pentanone	108-10-1	6,300	NE	2,330,000	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Acetone	67-64-1	18,000	NE	NE	ND		ND		ND		11		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		7.8	
Benzene	71-43-2	0.46	5	6.93	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		100		ND		ND	
Bromochloromethane	74-97-5	83	NE	2,940	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bromodichloromethane	75-27-4	0.13	80	3.82	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bromoform	75-25-2	3.3	80	510	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bromomethane	74-83-9	7.5	NE	73	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Carbon Disulfide	75-15-0	810	NE	5,210	ND		ND		ND	UJ	ND	UJ	ND	UJ	ND		ND		ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND		ND	UJ	ND	UJ
Carbon Tetrachloride	56-23-5	0.46	5	1.81	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chlorobenzene	108-90-7	78	100	1,720	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		1,900		ND		ND	
Chloroethane	75-00-3	8,300	NE	38,600	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		45		ND		ND	
Chloroform	67-66-3	0.22	80	3.55	ND		ND		ND		5.6		5.5		84		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.85		ND	
Chloromethane	74-87-3	190	NE	1,090	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
cis-1,2-Dichloroethene	156-59-2	25	70	1,050	110		120		120		15		13		280		1,200		ND		ND		ND		ND		ND		ND		ND		17,000		ND		ND	
cis-1,3-Dichloropropene	10061-01-5	NE	NE	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Cyclohexane	110-82-7	13,000	NE	4,290	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Dibromochloromethane	124-48-1	0.87	80	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Dichlorodifluoromethane	75-71-8	200	NE	31.2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Ethyl Benzene	100-41-4	1.5	700	15.2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		22		ND		ND	
Isopropylbenzene	98-82-8	450	NE	3,730	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
m and/or p-Xylene	179601-23-1	NE	NE	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		21		ND		ND	
Methyl Acetate	79-20-9	20,000	NE	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methyl tert-butyl ether	1634-04-4	14	NE	1,970	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methylcyclohexane	108-87-2	200	NE	23.7	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methylene Chloride	75-09-2	11	5	9,230	ND		ND		ND		ND		ND		33		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
o-Xylene	95-47-6	190	NE	2,070	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		25		ND		ND	
Styrene	100-42-5	1,200	100	39,000	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Tetrachloroethene	127-18-4	11	5	65.2	ND		ND		ND		3.8		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Toluene	108-88-3	1,100	1,000	80,700	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		240		ND		ND	
trans-1,2-Dichloroethene	156-60-5	68	100	457	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		390		ND		ND	
trans-1,3-Dichloropropene	10061-02-6	NE	NE	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Trichloroethene	79-01-6	0.49	5	7.43	ND		ND		ND		3.0		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Trichlorofluoromethane	75-69-4	5,200	NE	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vinyl Chloride	75-01-4	0.019	2	2.45	5.0		ND		ND		5.0		5.1		69		380		ND		ND		ND		ND		ND		ND		ND		4,300		ND		ND	

Notes:
CAS = Chemical Abstracts Services Registry Number
HQ = Hazard Quotient
ID = Identification
J = Estimated value
MCL = Maximum Contaminant Level
MEK = Methyl ethyl ketone
MIBK = Methyl Isobutyl ketone
MTBE = Methyl tert-butyl ether
μg/L = Micrograms per liter
ND = Not detected
NE = Not established
NR = Not reported
RSL = Regional Screening Level
TR = Target Risk
UJ = Analyte not detected at concentration at or above reporting limit. Reporting limit is an estimate.

Color Coding:

🟦	Analyte not detected
🟨	Concentration exceeds benchmark

TABLE 8

EXTERIOR SOIL-GAS SAMPLE RESULTS - MARCH 2024
Findett / Hayford Bridge Road Superfund Site
OU1 - Ameren Huster Road Substation
St. Charles, Missouri

		Sample Number:	2400063-01		2400063-02		2400063-03		2400063-04		2400063-05		2400063-06		2400063-07		2400063-08	
		Sample Name:	SG-01		SG-02		SG-03		SG-05		SG-06		SG-07		SG-08		SG-09	
Analyte	CAS Number	VISL Sub-Slab and near source Soil-gas (Commercial) TR = 10-6; HQ = 1.0 (µg/m^3)	Result (µg/m^3)	Data Flag	Result (µg/m^3)	Data Flag	Result (µg/m^3)	Data Flag	Result (µg/m^3)	Data Flag	Result (µg/m^3)	Data Flag	Result (µg/m^3)	Data Flag	Result (µg/m^3)	Data Flag	Result (µg/m^3)	Data Flag
1,1,1-Trichloroethane	71-55-6	730,000	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane	79-34-5	7.05	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2-Trichloroethane	79-00-5	25.6	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2-Trichlorotrifluoroethane	76-13-1	730,000	ND		ND		ND		ND		ND		ND		ND		ND	
1,1-Dichloroethane	75-34-3	256	570		4.4		ND		ND		ND		ND		1.2		31	
1,1-Dichloroethene	75-35-4	29,200	ND		1.4		ND		1.5		ND		ND		0.25		12	
1,2,4-Trichlorobenzene	120-82-1	292	ND		ND		ND		ND		ND		ND		ND		ND	
1,2,4-Trimethylbenzene	95-63-6	8,760	ND		7.2		3.3		4.5		2.7		2.4		4.8		2,100	
1,2-Dibromoethane	106-93-4	0.681	ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichlorobenzene	95-50-1	29,200	1,100		74		19		ND		ND		ND		ND		19,000	
1,2-Dichloroethane	107-06-2	15.7	7.2		0.83		ND		0.19		0.11	J	0.15		0.32		ND	
1,2-Dichloropropane	78-87-5	110	ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichlorotetrafluoroethane	76-14-2	NE	ND		ND		ND		ND		ND		ND		ND		ND	
1,3,5-Trimethylbenzene	108-67-8	8,760	ND		ND		1.1		1.4		ND		ND		4.2		760	
1,3-Butadiene	106-99-0	13.6	190		3.5		4.3		4.6		6.0		7.4		ND		ND	
1,3-Dichlorobenzene	541-73-1	NE	540		30		8.5		ND		ND		ND		ND		1,900	
1,4-Dichlorobenzene	106-46-7	37.2	52		270		59		ND		ND		1.6		2.6		27,000	
1,4-Dioxane	123-91-1	81.8	ND		4.4		ND		ND		ND		ND		ND		ND	
2,2,4-Trimethylpentane	540-84-1	NE	ND		ND		ND		12		6.4		20		8.7		ND	
2-Butanone	78-93-3	730,000	ND		5.1		16		34		21		39		46		ND	
2-Hexanone	591-78-6	4,380	ND		ND		ND		ND		ND		ND		ND		ND	
2-Propanol	67-63-0	29,200	ND		ND		ND		ND		ND		ND		ND		ND	
4-Ethyltoluene	622-96-8	NE	ND		ND		ND		ND		ND		ND		ND		ND	
4-Methyl-2-Pentanone	108-10-1	438,000	ND		2.9		1.9		1.8		ND		ND		ND		860	
Acetone	67-64-1	NE	ND		96		31		140		73		150		550		210	
Allyl Chloride	107-05-1	68.1	ND		ND		ND		ND		ND		ND		ND		ND	
Benzene	71-43-2	52.4	870	J	27		15		7.4		6.2		12		120		10,000	
Benzyl Chloride	100-44-7	8.34	ND		ND		ND		ND		ND		ND		ND		ND	
Bromodichloromethane	75-27-4	11	ND		ND		ND		ND		ND		ND		ND		ND	
Bromoform	75-25-2	372	ND		ND		ND		ND		ND		ND		ND		ND	
Bromomethane	74-83-9	730	ND		ND		ND		ND		ND		ND		ND		ND	
Carbon Disulfide	75-15-0	102,000	49		1.0		1.4		1.8		4.4	J	13		4.2		3.7	
Carbon Tetrachloride	56-23-5	68.1	ND		0.62		0.41		0.42		0.39		ND		ND		ND	
Chlorobenzene	108-90-7	7,300	130		1,100	J	860		18		2.8	J	6.0		5.3		160,000	J
Chloroethane	75-00-3	584,000	330		1.3		ND		ND		ND		ND		0.89		26	
Chloroform	67-66-3	17.8	ND		0.21		ND		ND		ND		ND		ND		0.31	
Chloromethane	74-87-3	13,100	22		1.4		1.6		1.8		1.5		0.68		6.0		26	
cis-1,2-Dichloroethene	156-59-2	5,840	340		260		10		0.25		2.1		2.1		12		22	
cis-1,3-Dichloropropene	10061-01-5	NE	ND		ND		ND		ND		ND		ND		ND		ND	
Cyclohexane	110-82-7	876,000	38		1.9		2.5		6.4		3.8		11		25		1200	
Dibromochloromethane	124-48-1	NE	ND		ND		ND		ND		ND		ND		ND		ND	
Dichlorodifluoromethane	75-71-8	14,600	ND		1.9		1.9		1.9		1.8		ND		ND		ND	
Ethyl Acetate	141-78-6	10,200	ND		ND		ND		ND		ND		ND		ND		ND	
Ethyl Benzene	100-41-4	164	ND		8.3		5.7		6.6		5.0		6.4		8.4		2,600	
Heptane	142-82-5	58,400	ND		9.5		5.7		14		10		19		26		3,000	
Hexachlorobutadiene	87-68-3	18.6	ND		ND		ND		ND		ND		ND		ND		ND	
Hexane	110-54-3	102,000	160		7.7		8.9		30		16		34		120		7200	
m and/or p-Xylene	179601-23-1	NE	42		28		7.6		7.1		4.4		6.1		17		5,600	
Methyl tert-butyl ether	1634-04-4	1,570	ND		ND		ND		ND		ND		ND		ND		ND	
Methylene Chloride	75-09-2	40,900	ND		ND		ND		ND		ND		ND		ND		ND	
o-Xylene	95-47-6	14,600	25		11		3.7		2.8		2.1		3.6		11		1,200	
Propene	115-07-1	438,000	1,100	J	31		29		50		48		120		690		ND	
Styrene	100-42-5	146,000	ND		ND		1.8		1.2		3.4		1.4		2.5		ND	
Tetrachloroethene	127-18-4	1,570	16		3.0		1.5		0.65		0.62		2.0		2.4		360	J
Tetrahydrofuran	109-99-9	292,000	17		8.3		1.0		ND		ND		ND		2.7		1.1	
Toluene	108-88-3	730,000	ND		10		14		15		12		16		48		3,000	
trans-1,2-Dichloroethene	156-60-5	5,840	ND		0.60		ND		ND		ND		ND		5.0		150	
trans-1,3-Dichloropropene	10061-02-6	NE	ND		ND		ND		ND		ND		ND		ND		ND	
Trichloroethene	79-01-6	100	3.0		0.95		0.27		0.26		ND		0.15		4.1		75	
Trichlorofluoromethane	75-69-4	NE	ND		1.2		1.2		1.2		1.1	J	ND		ND		ND	
Vinyl Acetate	108-05-4	29,200	ND		ND		ND		ND		ND		ND		ND		ND	
Vinyl Bromide	593-60-2	27.3	ND		ND		ND		ND		ND		ND		ND		ND	
Vinyl Chloride	75-01-4	92.9	1,200	J	250	J	14	J	0.21	J	2.5	J	2.4	J	280	J	260	J

Notes:
AMB = Ambient
C = Estimated concentration because of calculated sampling rate
CAS = Chemical Abstracts Services Registry Number
HQ = Hazard Quotient
ID = Identification
J = Estimated value

MC = Manor Chemical
MEK = Methyl ethyl ketone
MIBK = Methyl isobutyl ketone
MTBE = Methyl tert-butyl ether
µg/m^3 = Micrograms per cubic meter
ND = Not detected

NE = Not established
NR = Not reported
SG = Soil-gas
TR = Target Risk
VISL= Vapor Intrusion Screening Level

Color Coding:

🟦 Analyte not detected
🟨 Concentration exceeds benchmark

Source: Esri, ArcGIS Online, World Imagery, Clarity

Findett Site
St. Charles, Missouri

Table 7 & 8 Figure
Sample Location Map

TETRA TECH

Date: 4/5/2024
Drawn By: William Wallace
Project No: X903021F0033.000

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APPENDIX D – SITE CHRONOLOGY

Events Prior to Third FYR (USEPA 2010)	**Date**
Site discovered by EPA	1976
Findett Corp. conducted first quench pond soil excavation	1977
Findett Corp. conducted second quench pond soil excavation	1981
Findett conducted PCB investigation	1982-1984
US EPA proposed site for NPL	1984
US EPA conducted RI/FS at OU1	1987-1988
US EPA signed ROD for OU1	1988
US EPA removed site from NPL candidacy	1989
Findett signed Consent Decree to conduct OU1 selected remedy	1990
Findett installed extraction well 1 (EW-1)	1991
Findett added pump to MW-6 to supplement extraction rates	1992
USEPA signed OU1 ROD Amendment to allow soils bioremediation	1995
USEPA signed OU2 removal action Decision Document	1995
Findett implemented OU1 soils bioremediation	1999-2001
RPs signed ASAOC to conduct the OU2 Removal Action	2000
USEPA completed first FYR Report	2000
RPs completed OU2 soil removal action	2001
RPs signed ASAOC to conduct RI/FS for OU3	2001
Findett ended OU1 soils bioremediation and completed excavation	2003
Findett modified OU1 GETS to operate all year	2003
RPs conducted OU3 RI/FS	2005
USEPA signed ROD for OU3 selected remedy	2005
USEPA completed second FYR Report	2005
Consent Decree entered by court to conduct OU3 remedy	2007
RPs implemented OU3 remedy	2008
RPs completed hydraulic control study of OU1	2009
Explosion in process building at OU1 ends onsite business	2009
USEPA completed third FYR Report	2010
Events Subsequent to Third FYR (USEPA 2010)	
USEPA invoked the Emergency Contingency Plan Response based on detections of contaminants in the EPWF at CW-5	2011
Emergency Action Response (EAR) for OU3 approved by USEPA	2011
USEPA issued a Letter to Findett for a thorough evaluation of OU1 because contaminants not hydraulically contained at source area	2011
OU3 RPs completed plume mapping which identified a northern VOC plume associated with the Ameren Huster Road Substation property	2011-2012
The OU3 RPs issued a Well Field Expansion Evaluation Report	2012
Ameren invited to join the EAR Settlement Agreement, but declined due to ongoing investigation	2012
Ameren conducted independent Preliminary Screening Site Investigation (PSSI) confirming VOCs across substation property	2012

USEPA issued an Enforcement Action Memorandum (EAM) to approve Time Critical Removal Action (TCRA) to further explore the slug of contamination in the alluvial aquifer downgradient of OU1 and the Ameren substation property	2012
The OU3 RPs entered an ASAOC to perform emergency response actions to protect the EPWF	2012
Ameren entered an ASAOC to investigate the substation as a source of contamination and to contain and treat contaminated groundwater	2012
USEPA issued an EAM Amendment for additional response action based on identification of Ameren as major source of contamination	2013
OU3 RPs issued a MNA report and Semi-Annual Monitoring Report for OU3 in advance of the Fourth FYR	2014
OU3 RPs issued an Addendum to the 2014 MNA Report, which included provisions for the installation of two additional nested monitoring wells in the MNA network	2015
USEPA issued a Notice of Completion of Work to the OU3 RPs for work associated with the 2012 Settlement Agreement and terminated the ASAOC	2015
USEPA completed Fourth FYR Report	2015
EPA entered an ASAOC with Ameren to complete an RI/FS for OU4	2018
OU1/OU2 Environmental Covenant Established	2019
OU4 Final Human Health Risk Assessment	2019
US EPA completed fifth FYR Report	2020
USEPA issues removal action memorandum and assumes operation of OU1 GETS	2021
USEPA installs new extraction well (EW-2) and new Tray Air Stripper system	2022
USEPA invokes Non-Emergency Contingency Response at OU3 for detections of contaminants at compliance point wells and estimated remedial timeframe exceeding the 20-year limit	2023
Former Findett and Cadmus properties purchased by private party	2024
USEPA conducts Soil Gas and Direct Push Groundwater Sampling at OU1	2024
OU3 RPs submit MNA Evaluation Report in advance of Sixth FYR	2024
OU3 RPs begin EPA-approved CPAR Investigation field work	2024

APPENDIX E – FYR PUBLIC NOTICE

Region 7
Iowa, Kansas,
Missouri, Nebraska
and Nine Tribal Nations

PUBLIC NOTICE

Sixth Five-Year Review Started
Findett Corp. Superfund Site

St. Charles, St. Charles County, Missouri
June 2024

The U.S. Environmental Protection Agency (EPA) Region 7 has started the Sixth Five-Year Review for the Findett Corp. Superfund Site. Five-Year Reviews are required by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as Superfund, when hazardous substances remain on-site above levels that permit unrestricted use and unlimited exposure.

Five-Year Reviews provide an opportunity to evaluate the site remedy to determine whether it remains protective of human health and the environment. This Five-Year Review Report is anticipated to be complete by July 2025.

Site project information is available to the public at web repositories. To view cleanup documents, please visit EPA’s Site Profile page at: www.epa.gov/superfund/findettcorp (see Site Documents & Data).

If you do not have internet access, you can view these documents online at this location: **Kathryn Linnemann Branch Public Library**, 2323 Elm Street, St. Charles, MO 63301; 636-946-6294.

EPA will hold a **Public Meeting** on Thursday, June 27, from 7 to 8 p.m. at St. Peter Catholic Church, 221 1st Capitol Drive, St. Charles, MO 63301.

EPA will provide information on the Five-Year Review for Operable Units 1-3. A Technical Presentation will begin at 7 p.m., and then EPA will facilitate a Question-and-Answer session until 8 p.m. Additional information can be found on the Site Profile page at the link listed above (under Announcements and Key Topics).

If you have questions about the site or upcoming meeting, please contact **Jessica Evans**, EPA community involvement coordinator, at evans.jessica@epa.gov or 314-296-8182.

U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard, Lenexa, KS 66219
Toll-free: 1-800-223-0425

Region 7
Iowa, Kansas,
Missouri, Nebraska
and Nine Tribal Nations

PUBLIC NOTICE

Sixth Five-Year Review Started
Findett Corp. Superfund Site
St. Charles, St. Charles County, Missouri
October 2024

The U.S. Environmental Protection Agency (EPA) Region 7 has started the Sixth Five-Year Review for the Findett Corp. Superfund Site. Five-Year Reviews are required by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as Superfund, when hazardous substances remain on-site above levels that permit unrestricted use and unlimited exposure. Five-Year Reviews provide an opportunity to evaluate the site remedy to determine whether it remains protective of human health and the environment. This Five-Year Review Report is anticipated to be completed by July 2025.

EPA is requesting feedback, including any questions or concerns, from the community about the site to consider as part of the Five-Year Review process. EPA will hold in-person interviews in St. Charles, Missouri, during the week of Oct. 21, 2024. Additionally, interviews can be scheduled over the phone or virtually until Nov. 21, 2024. If you would like to take part in one of the in-person interviews, please contact **Jessica Evans** by Oct. 11 at evans.jessica@epa.gov or 314-296-8182.

EPA held a public meeting to describe the Five-Year Review process in June 2024. The presentation was recorded and is available at the QR Code below. Additional site project information is available to the public on EPA's Site Profile page at: www.epa.gov/superfund/findettcorp. If you do not have internet access, you can view these documents online at this location: **Kathryn Linnemann Branch Public Library**, 2323 Elm St., St. Charles, MO 63301; 636-946-6294.

U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard, Lenexa, KS 66219
Toll-free: 1-800-223-0425

APPENDIX F – FYR SITE INSPECTION CHECKLIST

Five-Year Review Site Inspection Checklist

I. SITE INFORMATION

Site name: Findett Corp./Hayford Bridge Road	**Date of inspection:** 10/24/2024
Location and Region: St. Charles, MO – Region 7	**EPA ID:** MOD006333975
Agency, office, or company leading the five-year review: EPA Region 7	**Weather/temperature:** 70 F, Sunny

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** ______Refer to attached interview forms____________________
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 ______________________________
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 ____
____

Agency ______________________________
Contact ______________________________ ___________________ _________ ____________
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached ____
____

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

Refer to attached interview forms.

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____
____

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____
____

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____
____

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
☐ 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: ____
____
____
____
____
____

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged** ☐ Location shown on site map ☒ Gates secured ☐ N/A
Remarks____
____

B. Other Access Restrictions

1. **Signs and other security measures** □ Location shown on site map ☒ N/A
Remarks____
____

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: The former Findett and Cadmus properties were purchased via tax sale in early 2024. The new property owner has started an aboveground storage operation, particularly on the former Cadmus property. Currently, there are vehicles and equipment being stored on the lot and in the former Cadmus building.

A prospective purchaser of property overlaying the operable unit 3 groundwater plume established contact with the EPA in 2024. The EPA was informed by the prospective purchaser that they plan to excavate top soil on the property for use as backfill at the Deer Field Park Village extension parcel to raise the grade above the floodplain.

3. **Land use changes off site** ☐ N/A
Remarks: The EPA was made aware of plans to expand the nearby mobile home park along Elm Point Road in 2024.

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____
____

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

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: High iron content in the groundwater at OU1 necessitates frequent maintenance. Extremely low temperatures experienced in recent winters led to frozen plumbing and system shutdown.

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
☐ Good condition ☒ Needs Maintenance
Remarks: High iron content in the groundwater at OU1 leads to frequent fouling of the system that necessitates frequent maintenance. Extremely low temperatures in recent winters led to pipes freezing and bursting at OU1. These conditions resulted in an extended shutdown period of the GETS.

3. **Spare Parts and Equipment**
☐ Readily available ☐ Good condition ☐ Requires upgrade ☒ Needs to be provided
Remarks: See above. Frequent fouling of the system and extreme weather events necessitates keeping adequate spare parts available to minimize system downtime.

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___2.5 million gallons______
☐ 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.).

The operable unit 3 remedy is taking longer than the 10-20-year timeframe established in the Record of Decision. The EPA has triggered contingency action in accordance with the ROD and responsible parties are performing work pursuant to the OU3 Consent Decree to accelerate the timeframe to achieving cleanup goals. The operable unit 1 remedy has extracted and treated significant contaminant mass since the EPA assumed operational control of the GETS in 2021. However, sampling at operable unit 1 indicates small amounts of contamination may be outside the capture radius of the GETS and moving towards operable unit 3. The EPA expects contingency action performed by responsible parties at operable unit 3 to eliminate migration of contamination and the need for the GETS to operate.

Additionally, the overall effectiveness of the GETS is limited by the slow rate of diffusion from contaminated cohesive soils. The EPA also expects contingency actions performed by responsible parties to reduce the overall levels of contamination at the source area.

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.

Technical challenges persist with the operation of the GETS due to the high iron content of the groundwater in the area in addition to extreme weather events resulting in system failure. A different approach to source remediation is being evaluated via the Remedial Contingency Plan of OU3. However, the environmental covenant on the former Findett and Cadmus properties prevents exposure by prohibiting the drilling of wells and disturbance of soils at the source area. In addition, the city’s Well Head Protection ordinance prevents the drilling of wells and construction of ponds and lakes below the confining layer of soils. These covenants are currently preventing human exposure to contamination.

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.

Extreme weather events have led to unscheduled repairs of the GETS. In early 2024, extreme cold led to pipes bursting. This was caused by a fuse blowing out due to the single heater unit overworking. The EPA installed an additional heater in the GETS building to prevent this issue in the future; however, extended periods of extreme cold could result in a repeat of this event. Alternative remedies that would provide the necessary source control should be proposed and implemented by responsible parties.

D. Opportunities for Optimization

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

The EPA expects responsible parties to evaluate and propose additional remedial actions to more effectively prevent the migration of contaminants in the groundwater from the source area.

APPENDIX G – MONITORING WELL TREND CHARTS

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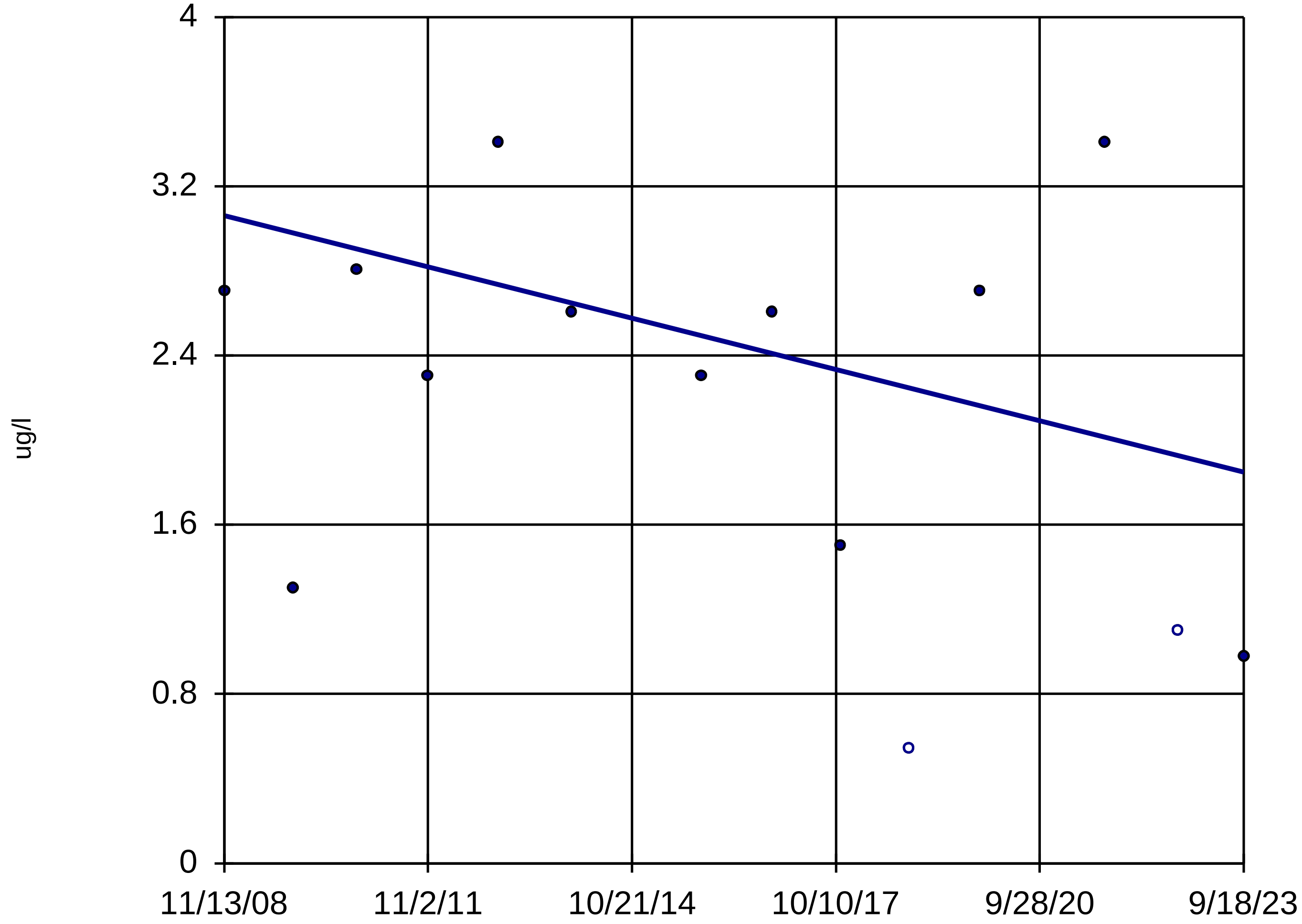
Hollow symbols indicate censored values.

Sen's Slope Estimator

UA-2



n = 14

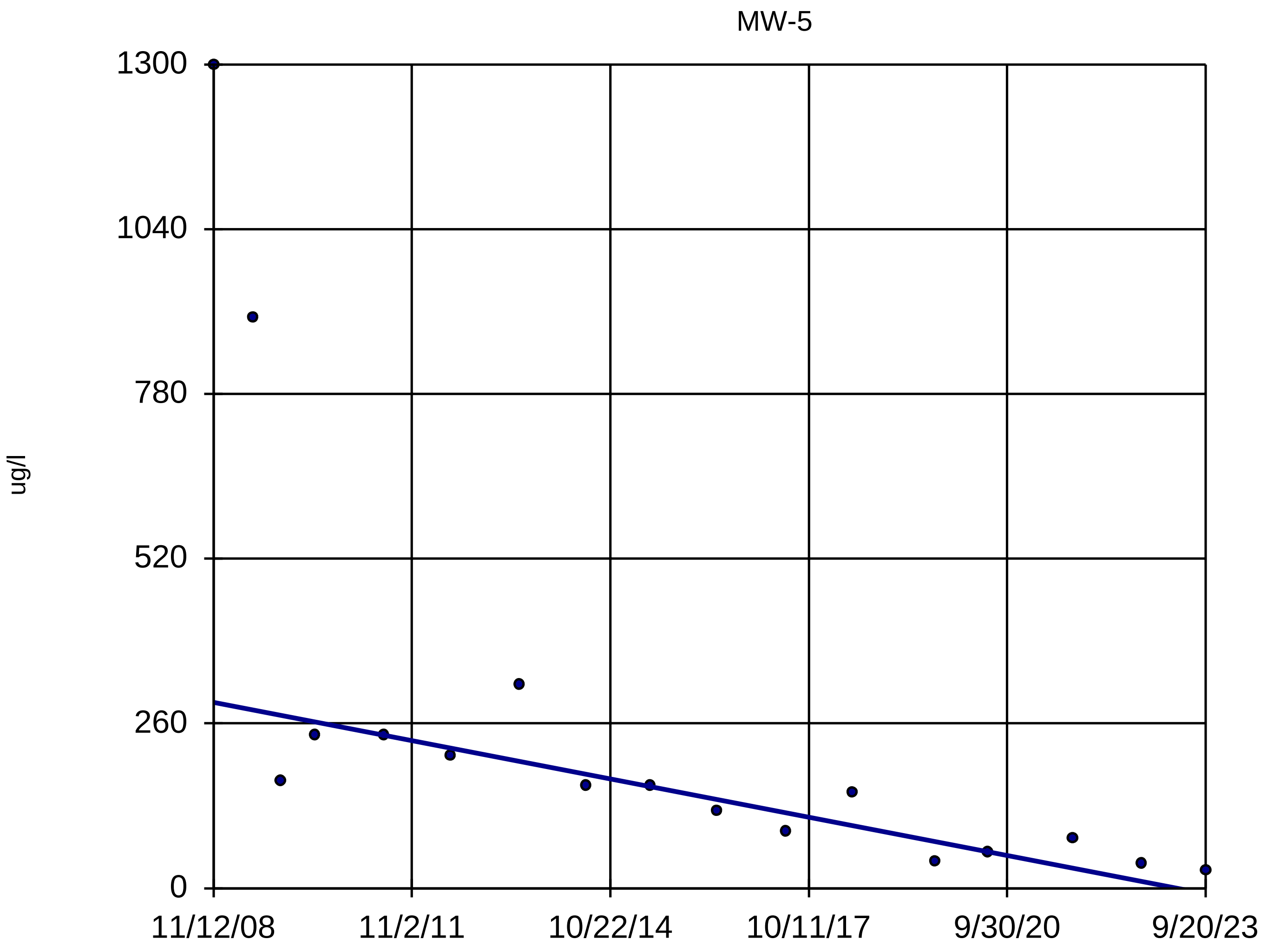
Slope = -0.08161
units per year.

Mann-Kendall
statistic = -21
critical = -37

Trend not significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: 12-dichloroethene [total]   Analysis Run 3/27/2024 10:48 AM   View: OU1
OU3 HBR   Data: OU3 Master Data File

Sen's Slope Estimator



n = 17

Slope = -20.27
units per year.

Mann-Kendall
statistic = -110
critical = -49

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: 12-dichloroethene [total]   Analysis Run 3/27/2024 10:48 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

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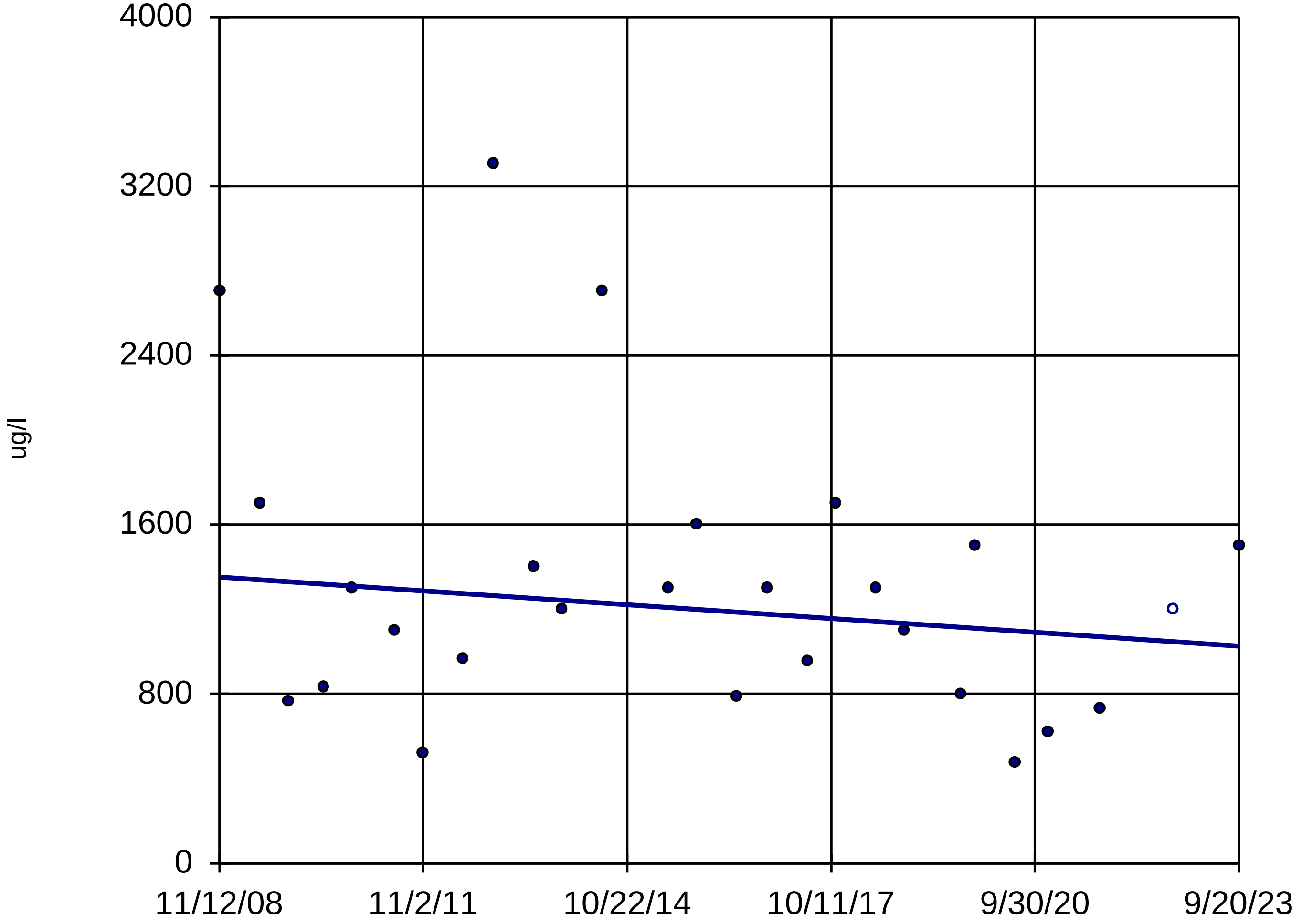
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-6



n = 27

Slope = -22.03
units per year.

Mann-Kendall
statistic = -50
critical = -96

Trend not significant at 95%
confidence level
(α = 0.025 per
tail).

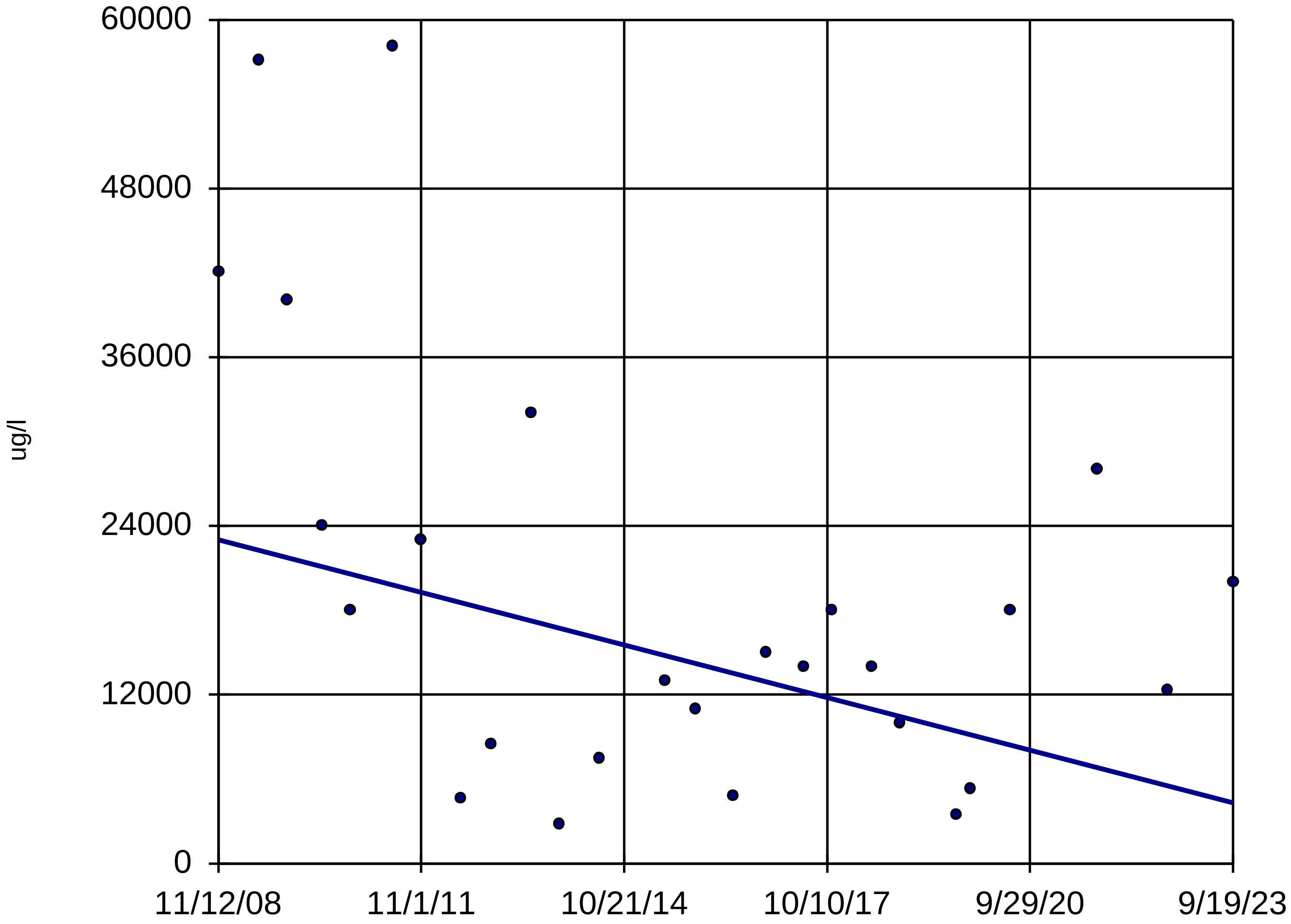
Constituent: 12-dichloroethene [total]   Analysis Run 3/27/2024 10:48 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA

Sen's Slope Estimator

EW-1



n = 26

Slope = -1259
units per year.

Mann-Kendall
statistic = -77
critical = -90

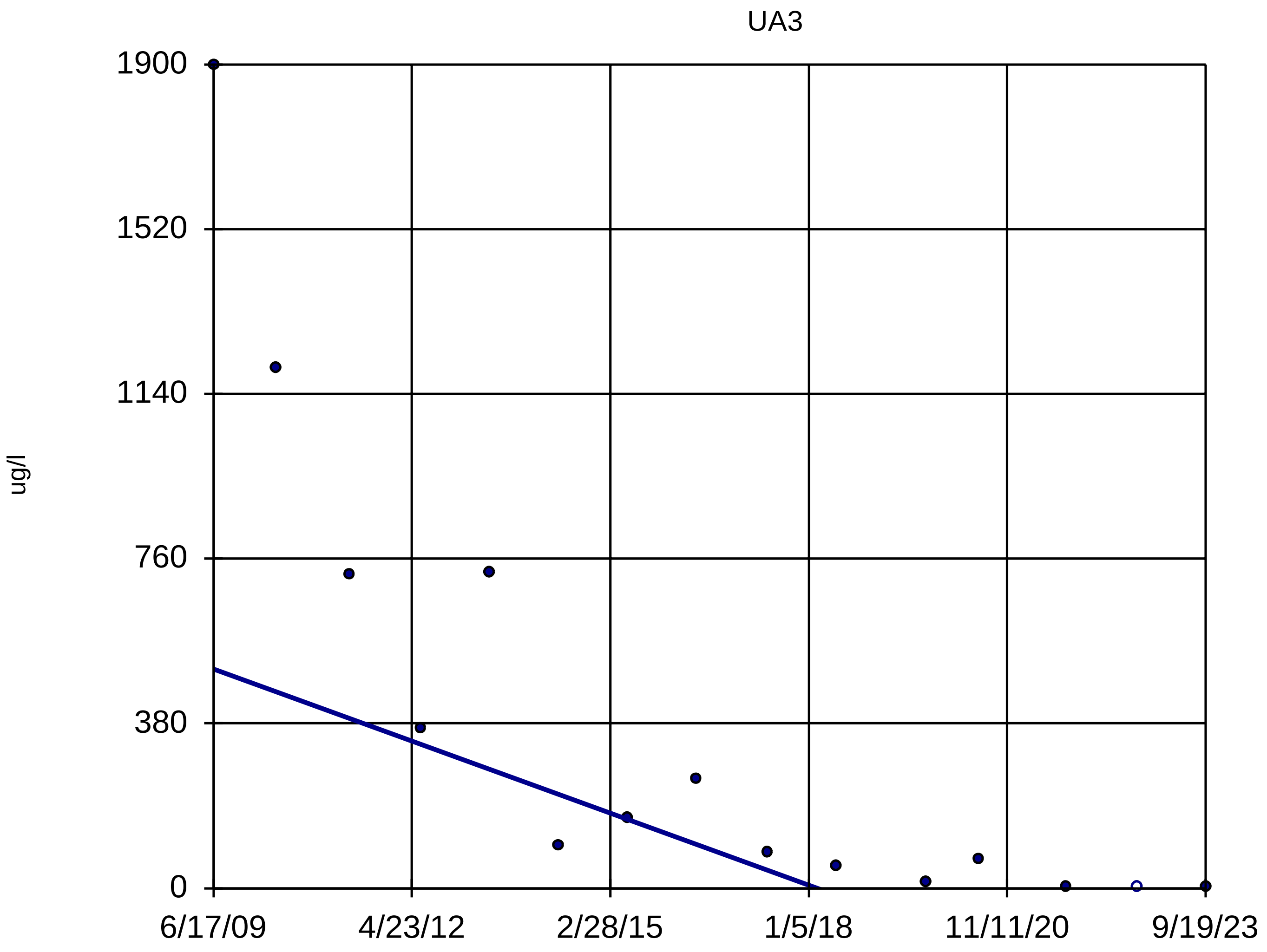
Trend not significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: 12-dichloroethene [total]   Analysis Run 3/27/2024 10:48 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA
Hollow symbols indicate censored values.

Sen's Slope Estimator



n = 15

Slope = -58.28
units per year.

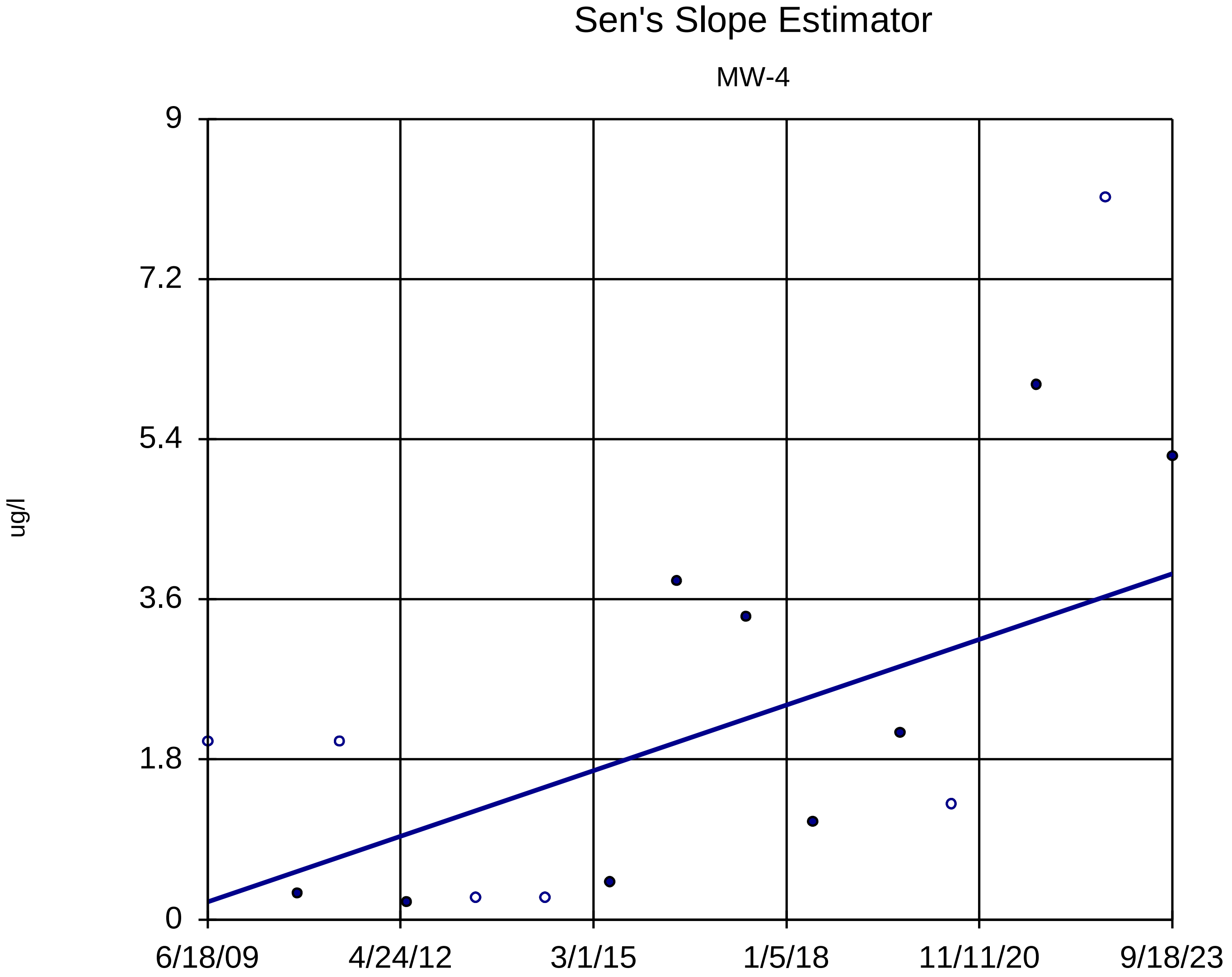
Mann-Kendall
statistic = -89
critical = -41

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: 12-dichloroethene [total]   Analysis Run 3/27/2024 10:48 AM   View: OU1
OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA

Hollow symbols indicate censored values.



n = 15

Slope = 0.2586
units per year.

Mann-Kendall
statistic = 51
critical = 41

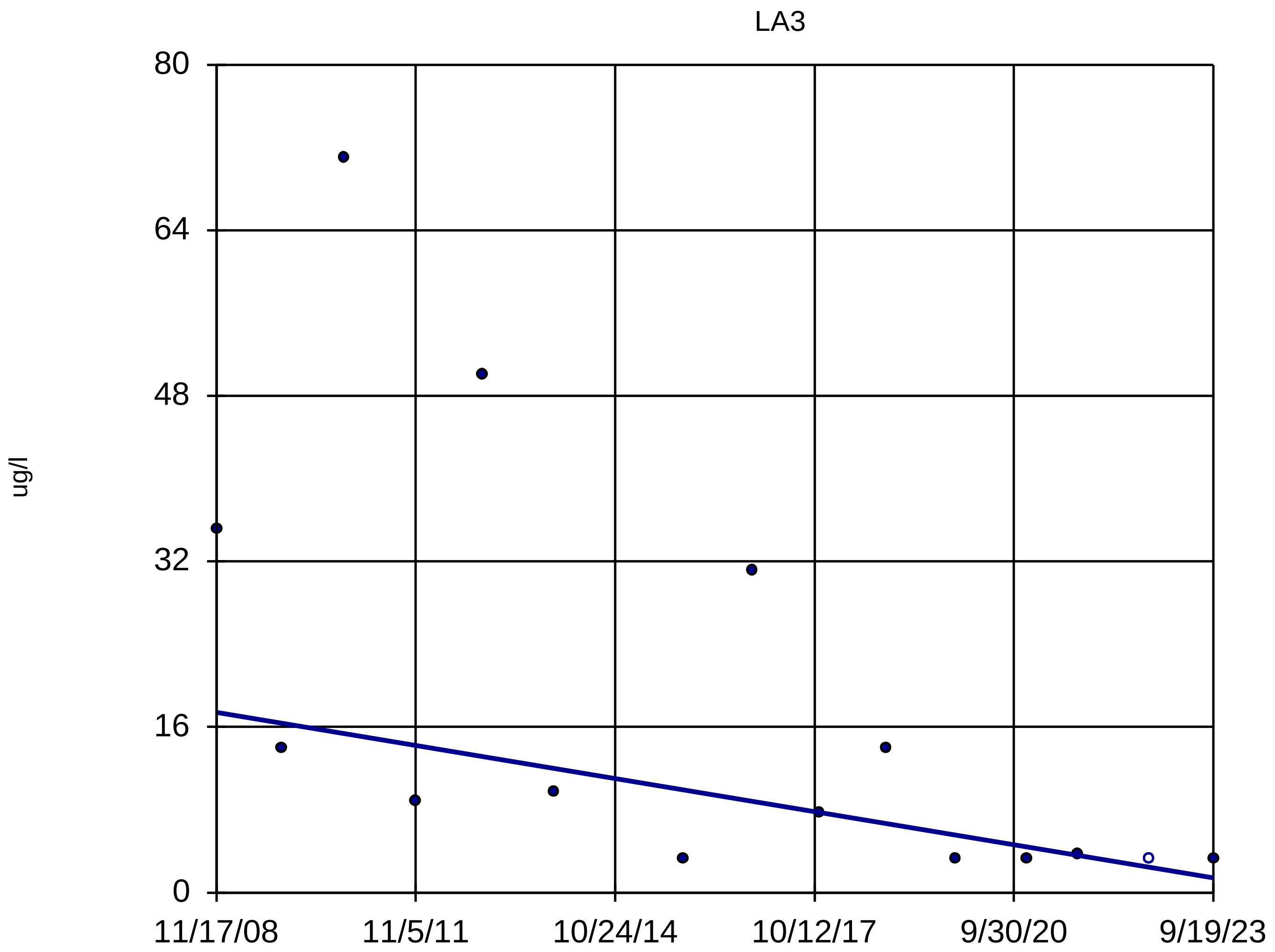
Increasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: 12-dichloroethene [total]   Analysis Run 3/27/2024 10:48 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA
Hollow symbols indicate censored values.

Sen's Slope Estimator



n = 15

Slope = -1.077
units per year.

Mann-Kendall
statistic = -56
critical = -41

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: 12-dichloroethene [total]   Analysis Run 3/27/2024 10:48 AM   View: OU1
OU3 HBR   Data: OU3 Master Data File

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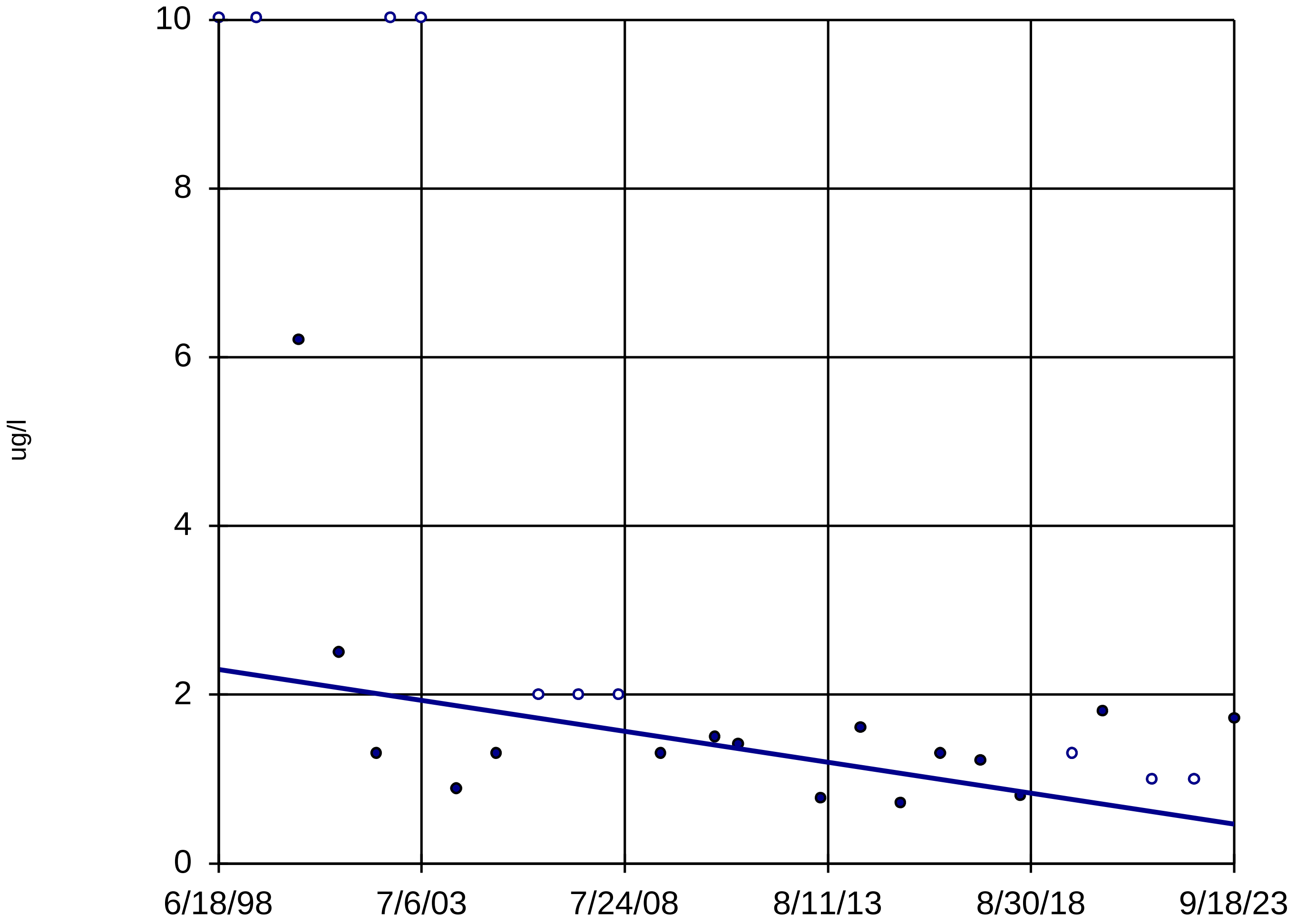
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW2



n = 26

Slope = -0.07256
units per year.

Mann-Kendall
statistic = -143
critical = -90

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: 12-dichloroethene [total]   Analysis Run 3/27/2024 10:48 AM   View: OU1

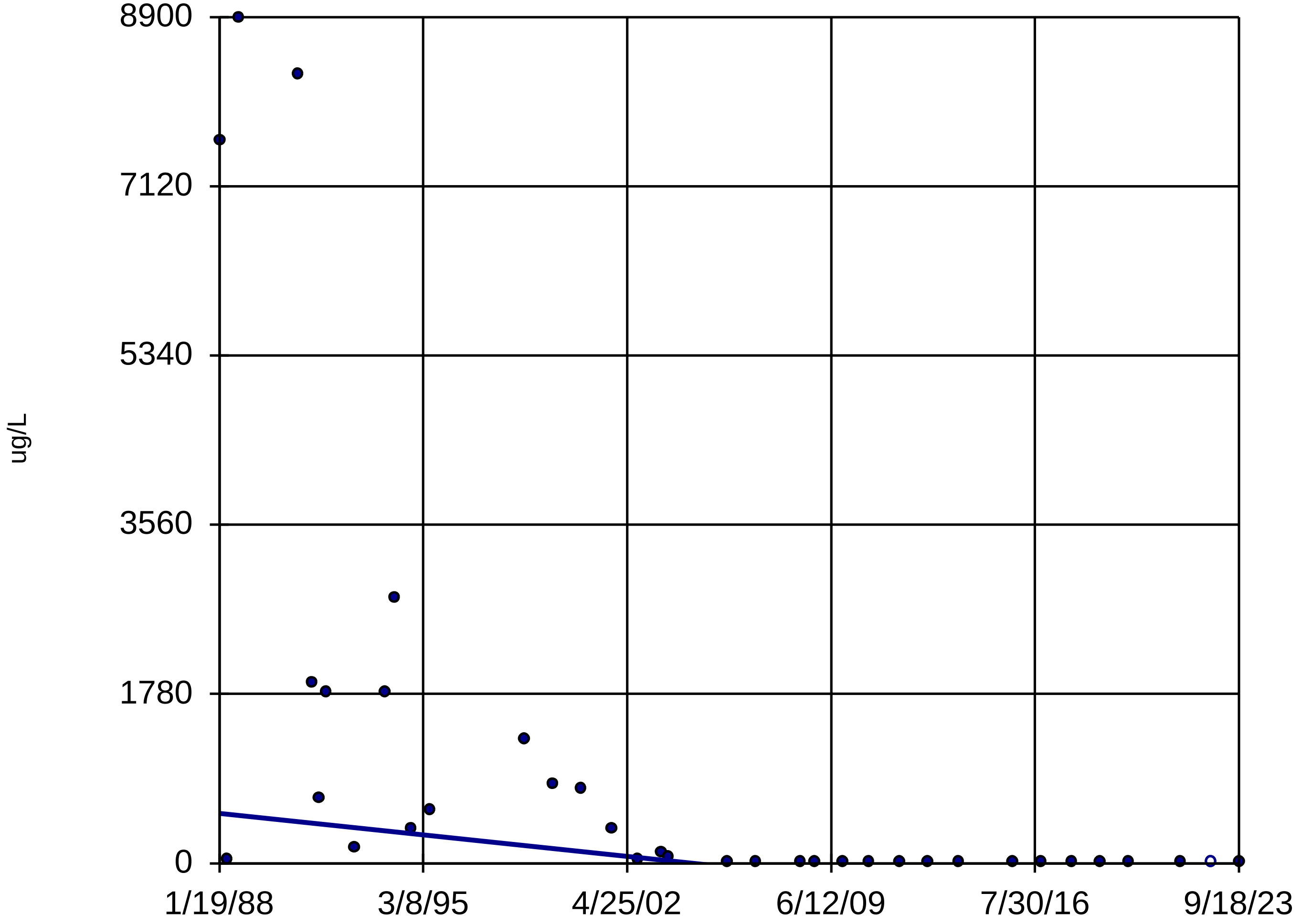
OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator

UA-2



n = 36

Slope = -31.59
units per year.

Mann-Kendall
statistic = -497
critical = -145

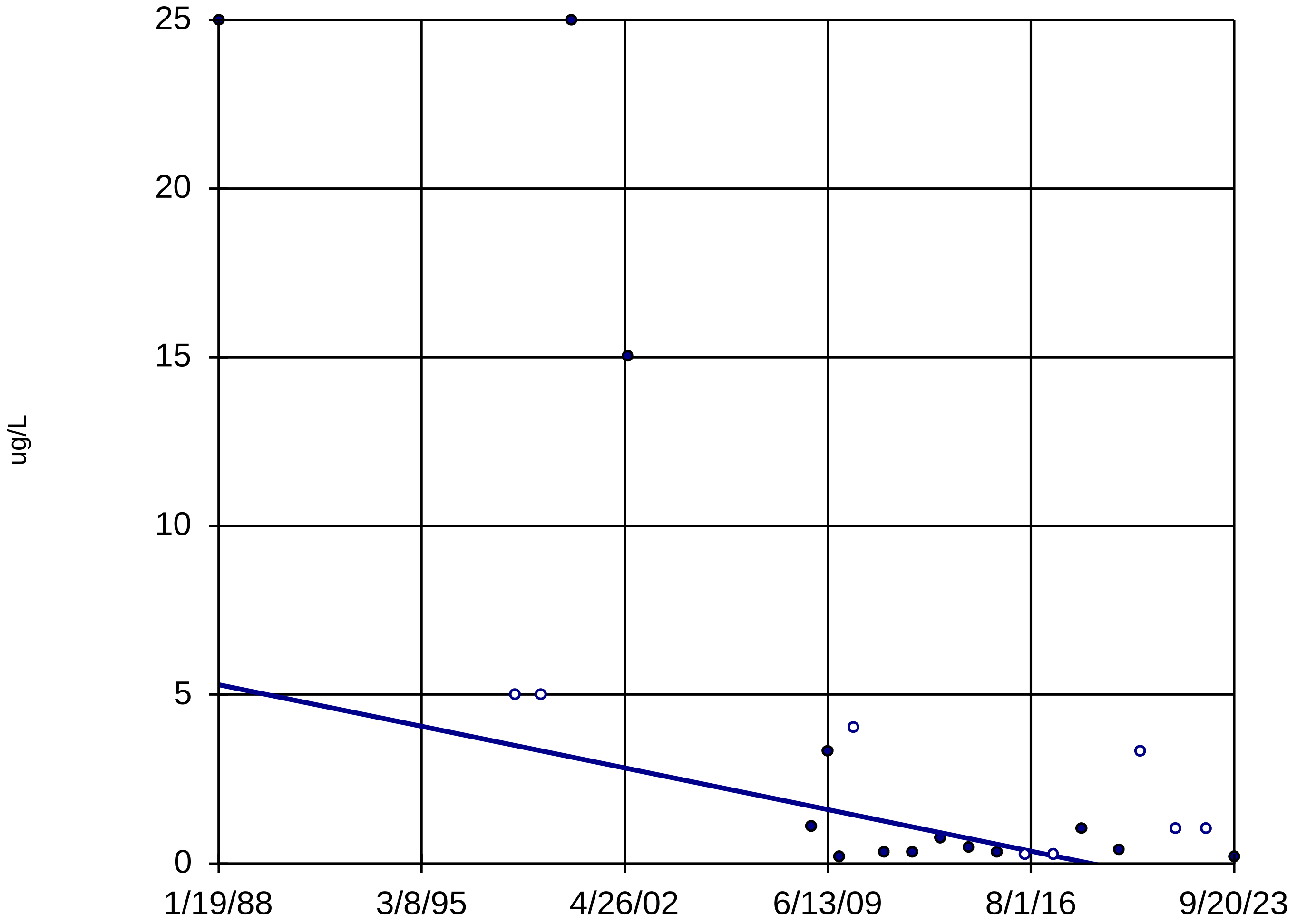
Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Benzene   Analysis Run 3/27/2024 10:48 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA
Hollow symbols indicate censored values.

Sen's Slope Estimator



n = 22

Slope = -0.1728
units per year.

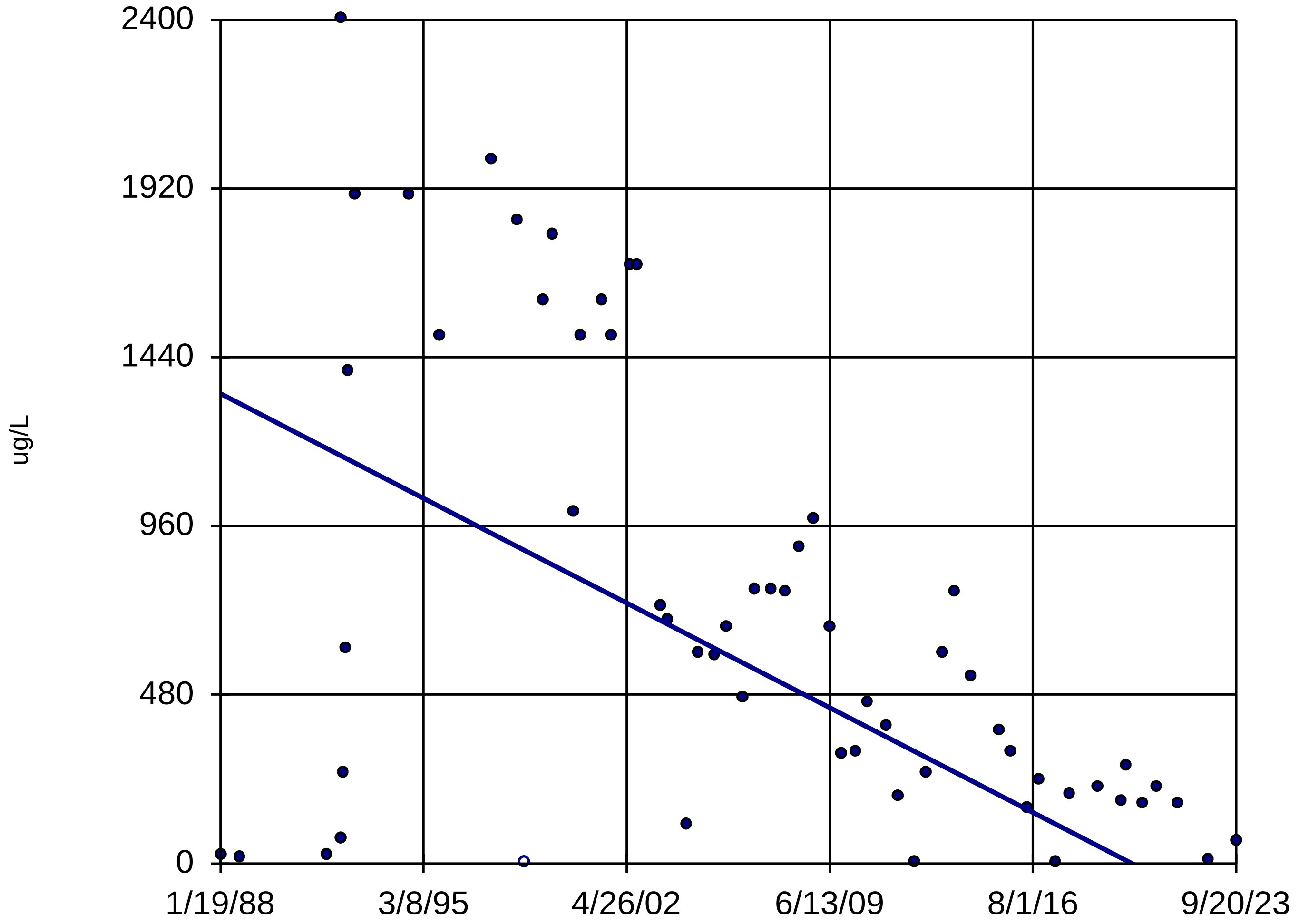
Mann-Kendall
statistic = -94
critical = -71

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Benzene Analysis Run 3/27/2024 10:48 AM View: OU1
OU3 HBR Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA
Hollow symbols indicate censored values.

Sen's Slope Estimator



n = 60

Slope = -41.74
units per year.

Mann-Kendall
normal approx. =
-4.504
critical = -1.96

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Benzene   Analysis Run 3/27/2024 10:48 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

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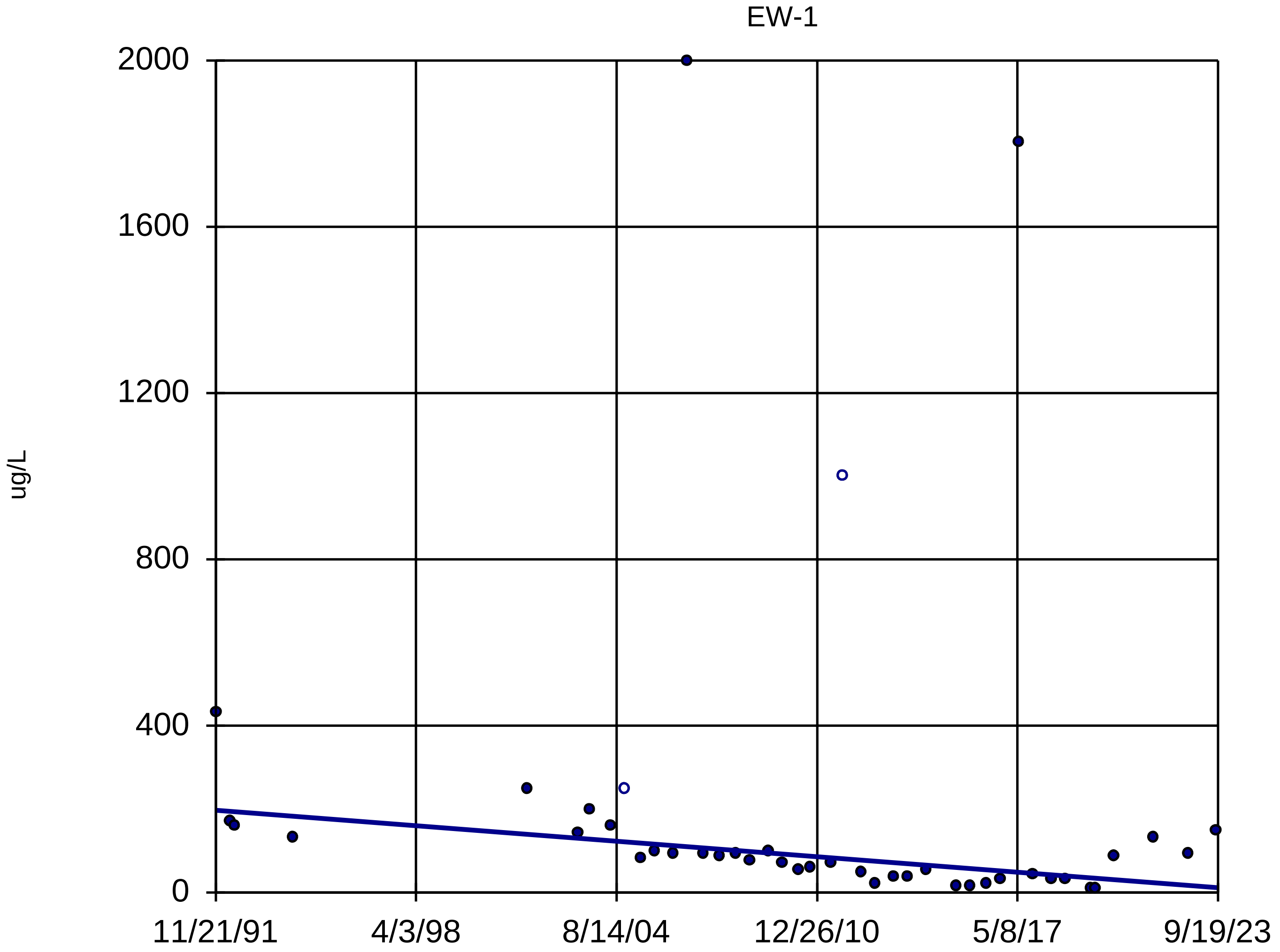
Hollow symbols indicate censored values.

Sen's Slope Estimator



n = 42

Slope = -5.843
units per year.

Mann-Kendall
normal approx. =
-4.262
critical = -1.96

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Benzene Analysis Run 3/27/2024 10:48 AM View: OU1
OU3 HBR Data: OU3 Master Data File

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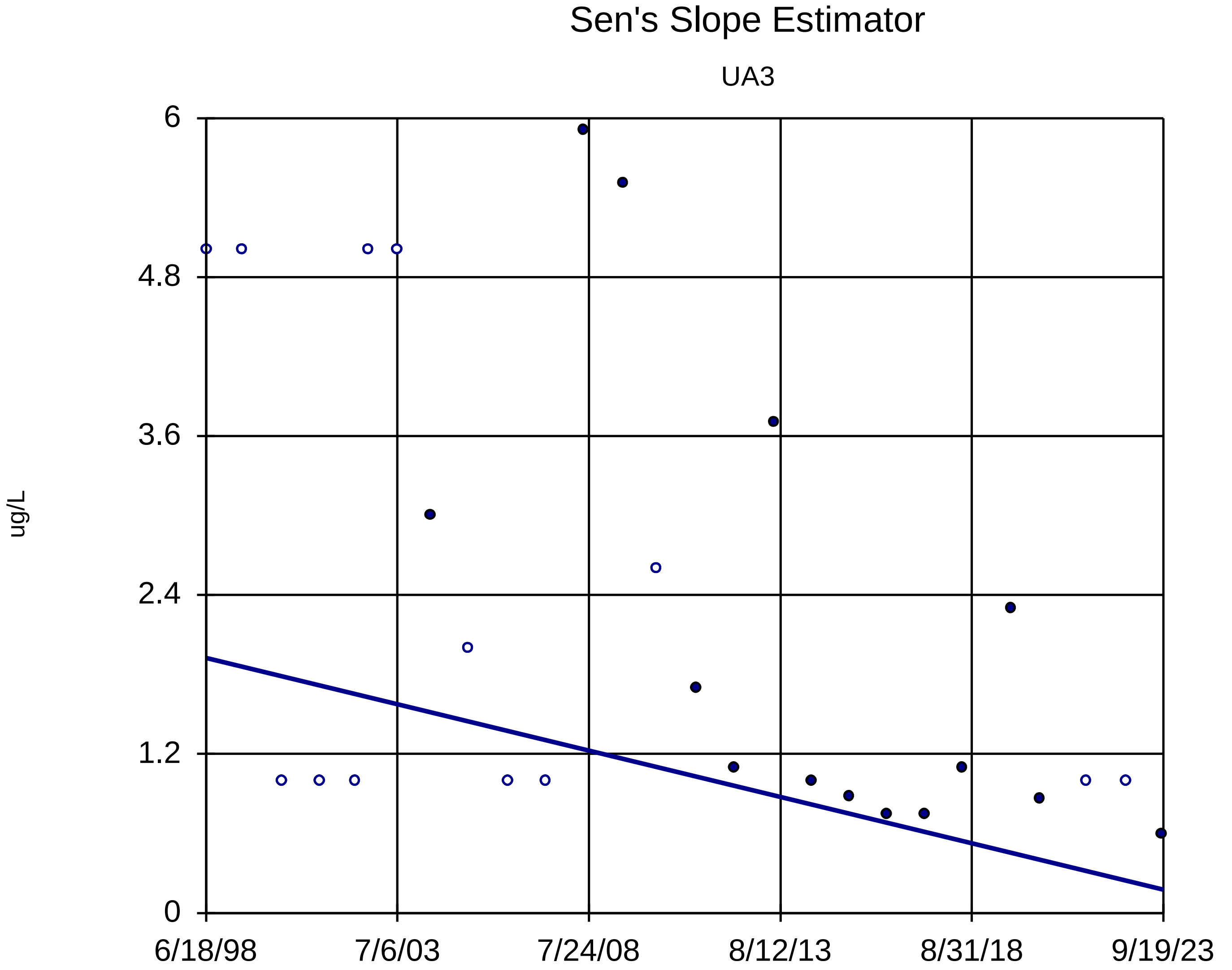
Hollow symbols indicate censored values.



n = 27

Slope = -0.06914 units per year.

Mann-Kendall statistic = -132
critical = -96

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Benzene Analysis Run 3/27/2024 10:48 AM View: OU1

OU3 HBR Data: OU3 Master Data File

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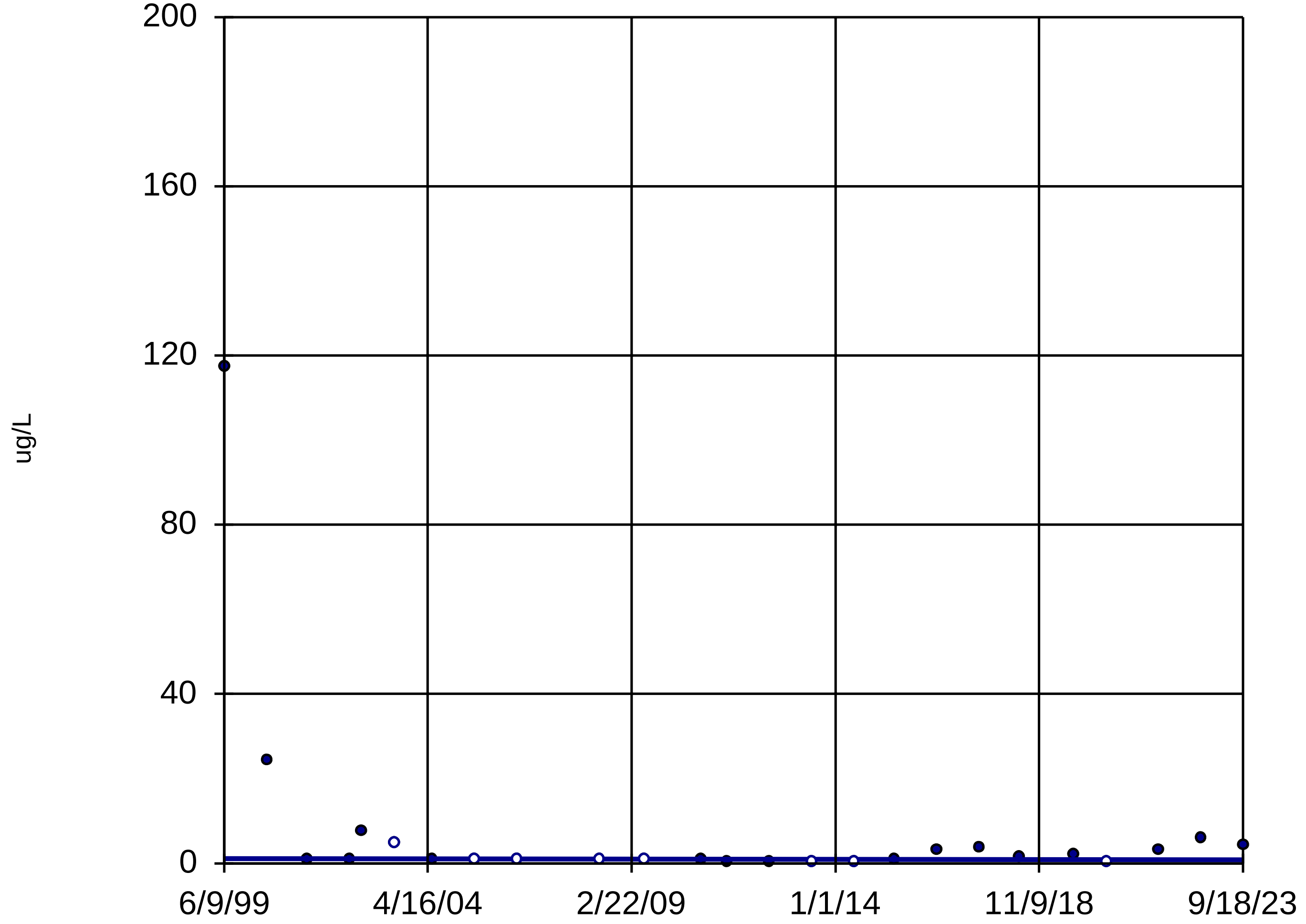
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-4



n = 25

Slope = -0.01347
units per year.

Mann-Kendall
statistic = -15
critical = -85

Trend not significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Benzene   Analysis Run 3/27/2024 10:48 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

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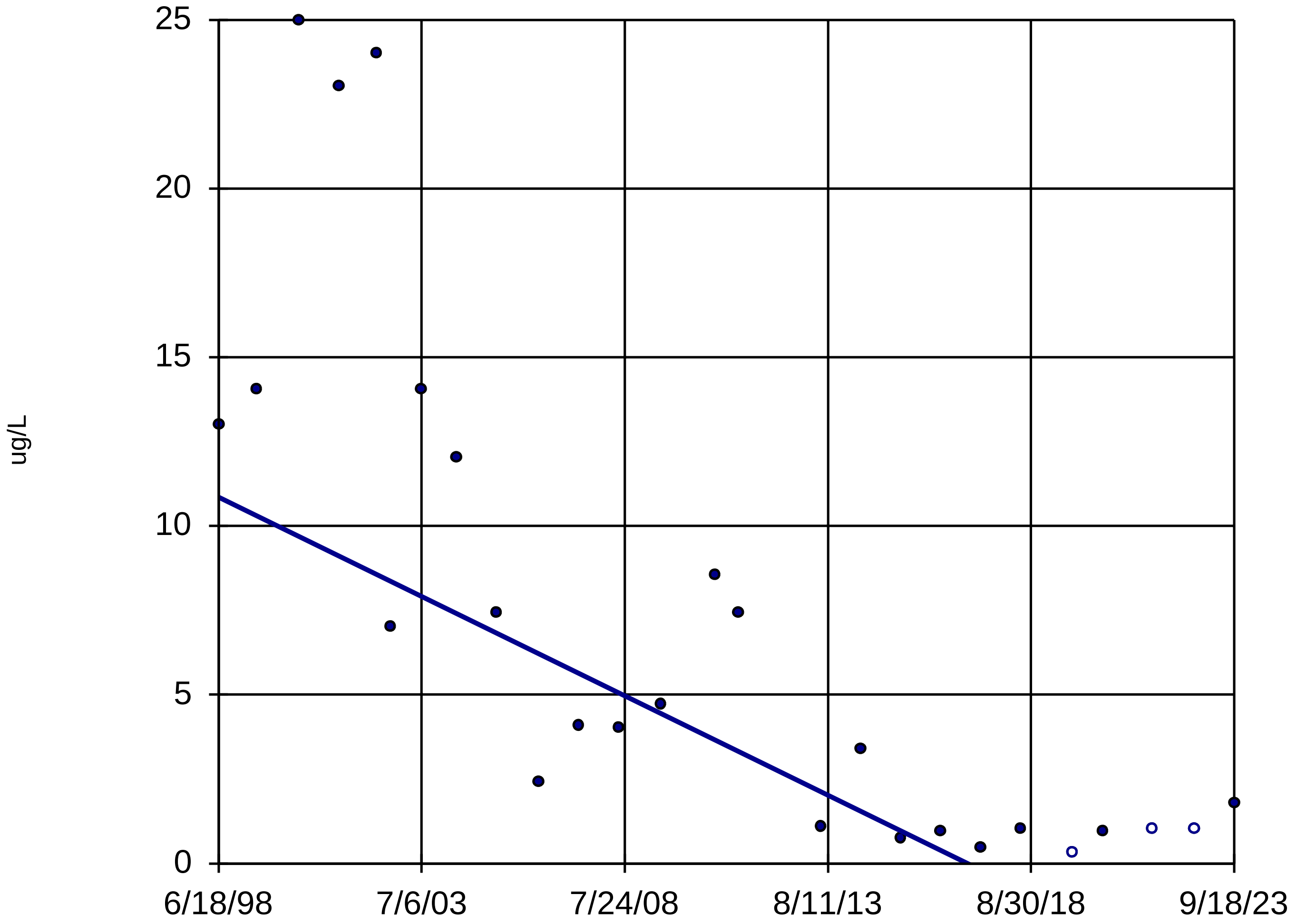
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW2



n = 26

Slope = -0.5831
units per year.

Mann-Kendall
statistic = -206
critical = -90

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Benzene   Analysis Run 3/27/2024 10:48 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

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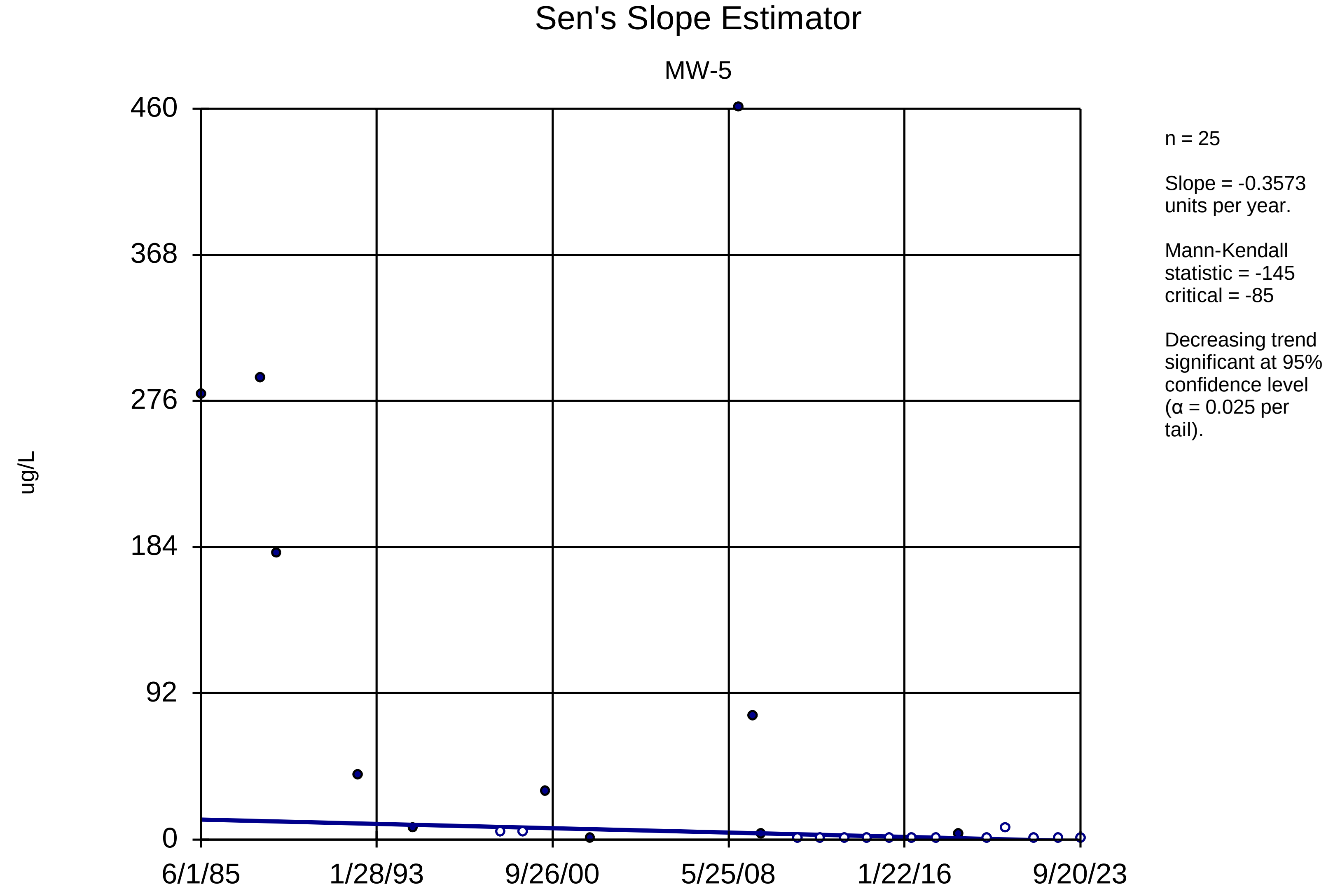
Hollow symbols indicate censored values.



n = 25

Slope = -0.3573
units per year.

Mann-Kendall
statistic = -145
critical = -85

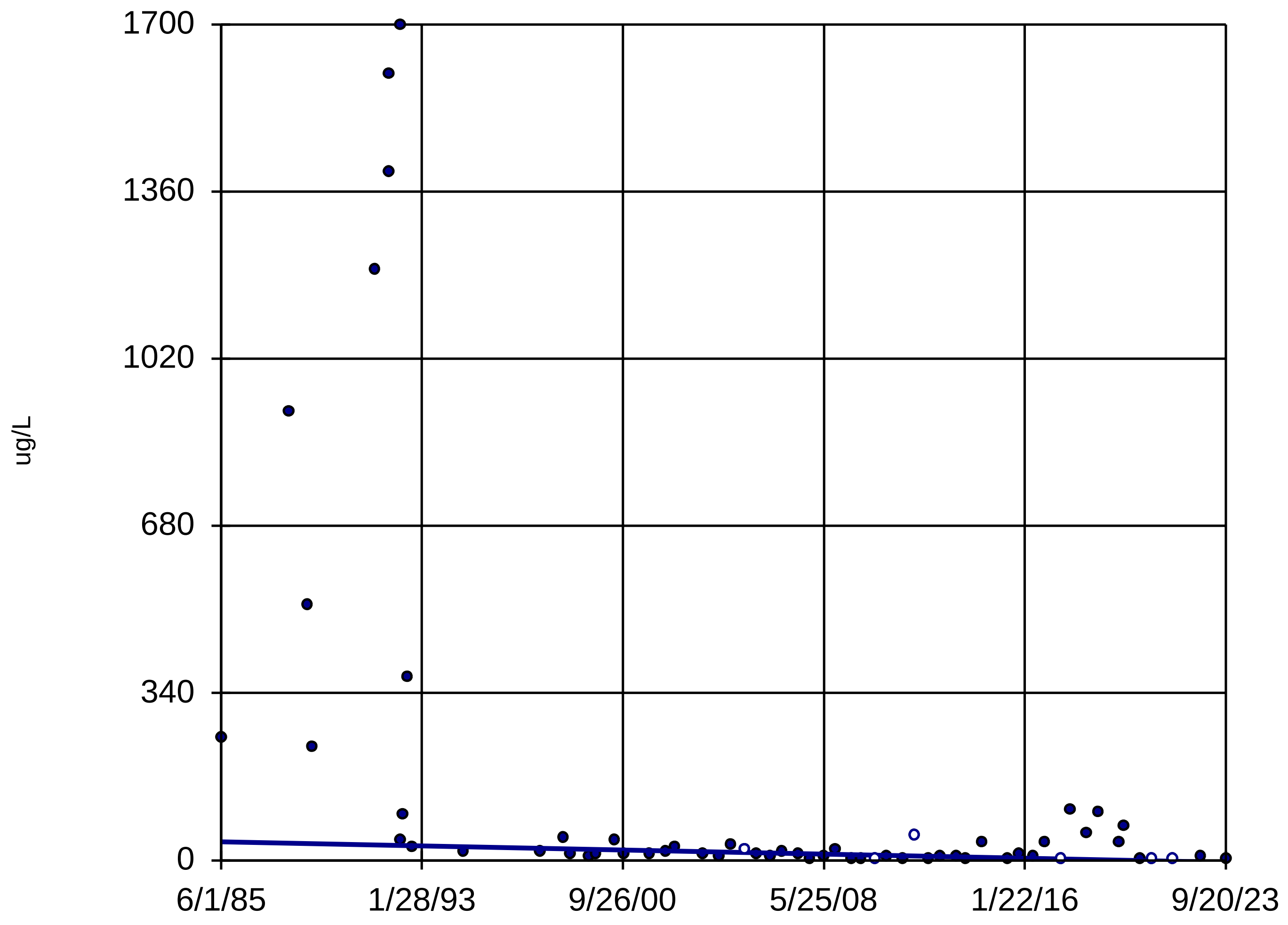
Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Trichloroethene Analysis Run 3/27/2024 10:49 AM View: OU1
OU3 HBR Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator



n = 60

Slope = -1.072
units per year.

Mann-Kendall
normal approx. =
-4.777
critical = -1.96

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

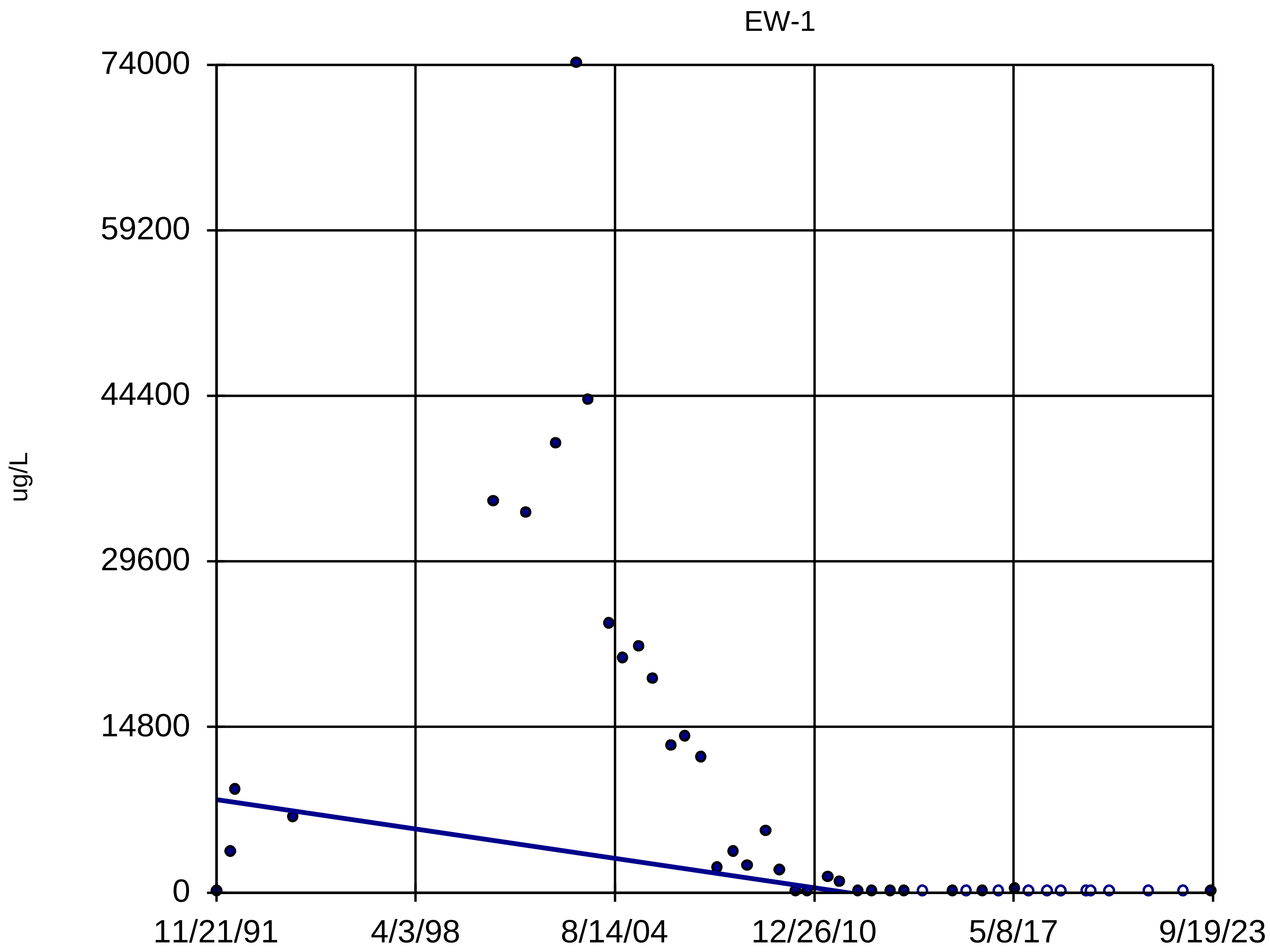
Constituent: Trichloroethene Analysis Run 3/27/2024 10:49 AM View: OU1

OU3 HBR Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator



n = 44

Slope = -413.6
units per year.

Mann-Kendall
normal approx. =
-6.426
critical = -1.96

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

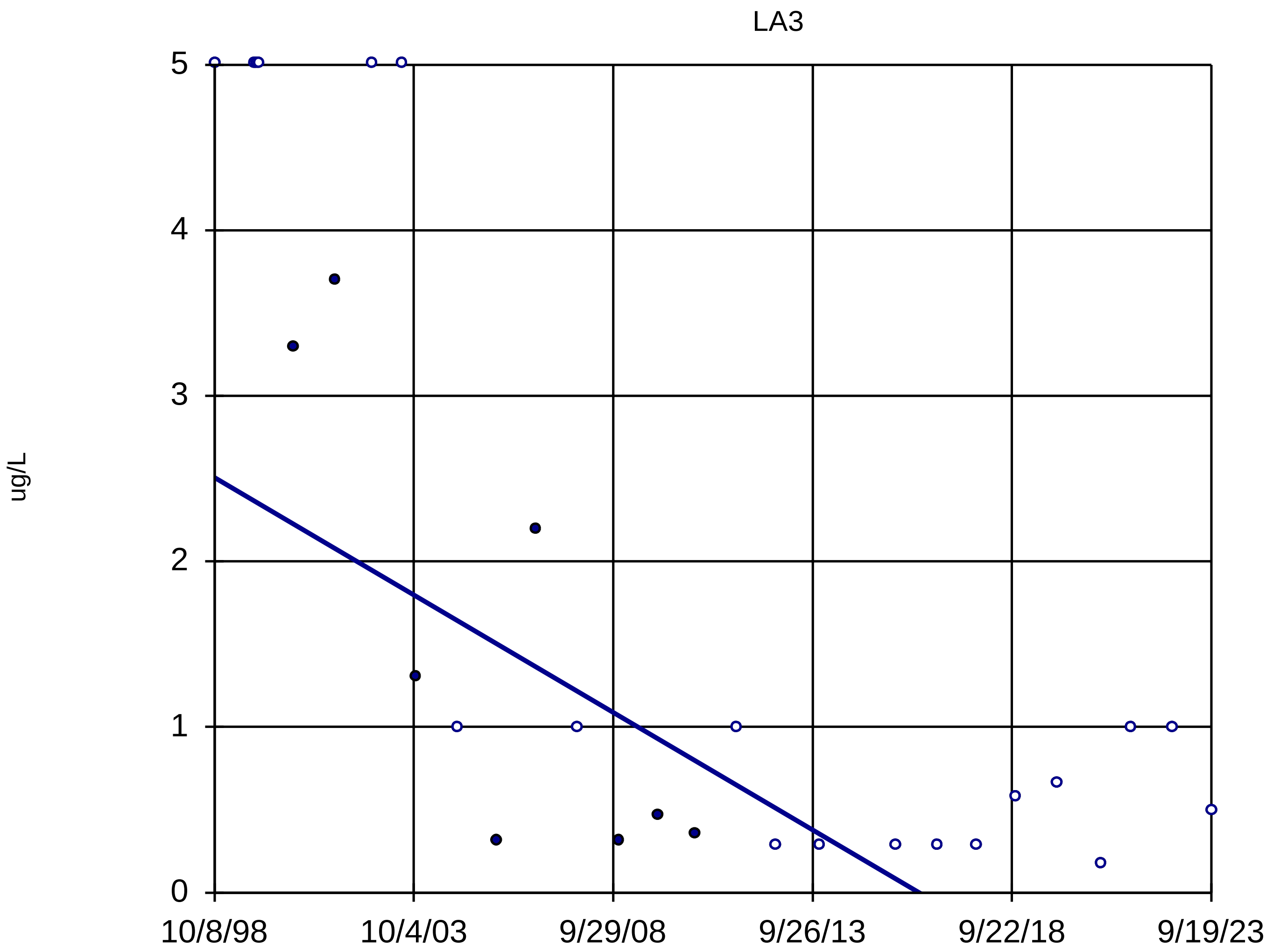
Constituent: Trichloroethene   Analysis Run 3/27/2024 10:49 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator



n = 28

Slope = -0.142
units per year.

Mann-Kendall
statistic = -202
critical = -101

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

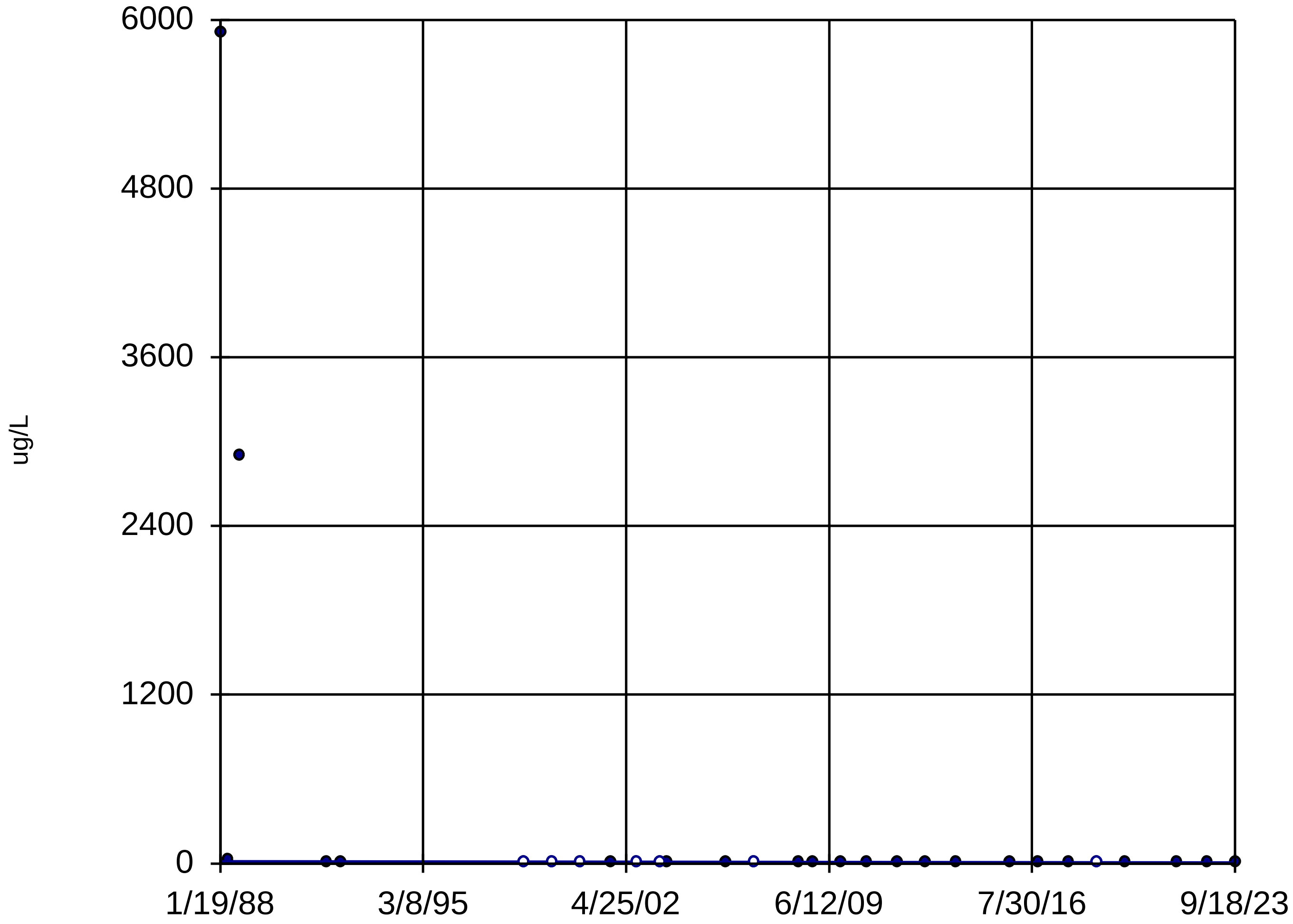
Constituent: Trichloroethene   Analysis Run 3/27/2024 10:49 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA
Hollow symbols indicate censored values.

Sen's Slope Estimator

UA-2



n = 29

Slope = -0.2215
units per year.

Mann-Kendall
statistic = -153
critical = -106

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

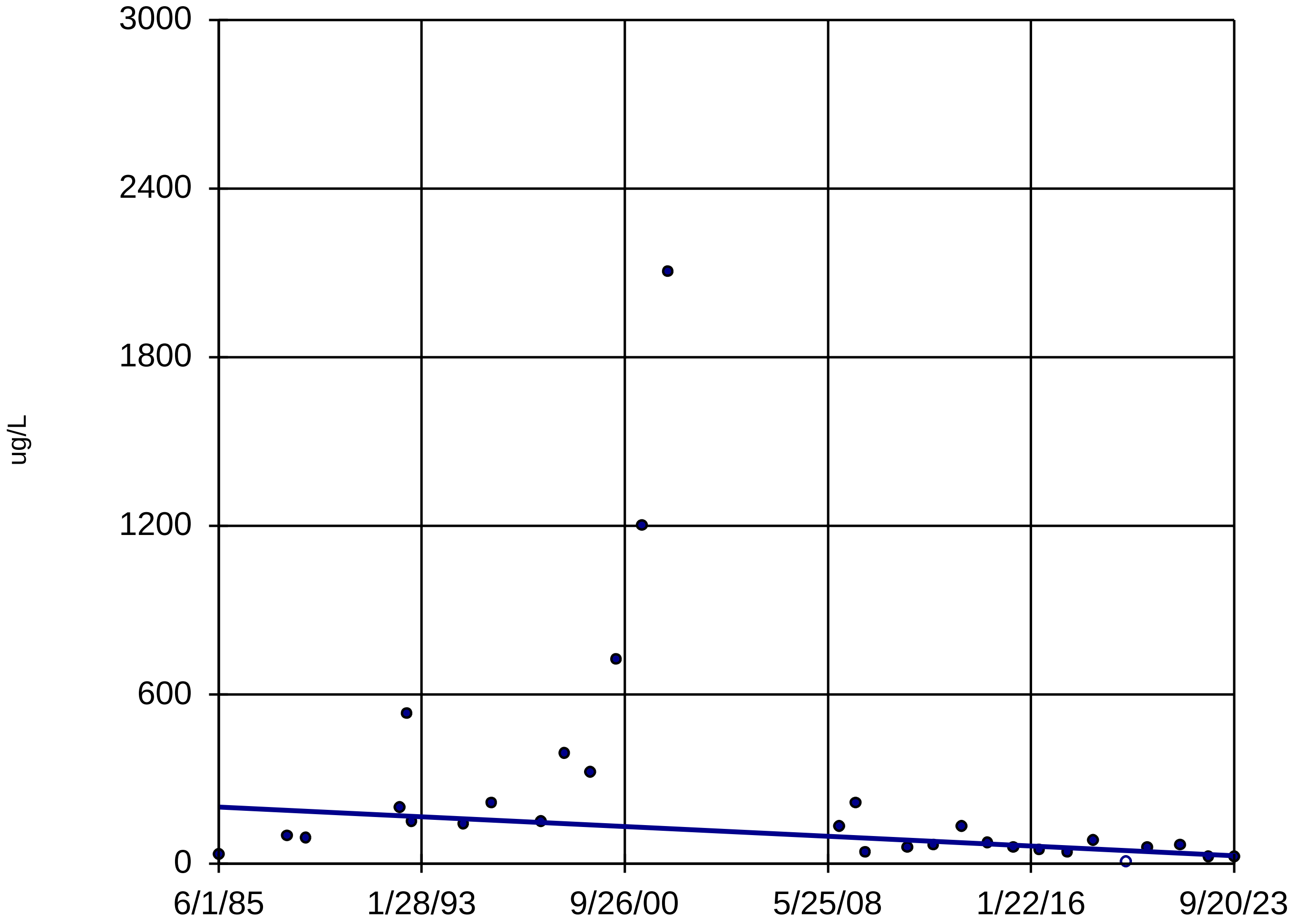
Constituent: Vinyl chloride   Analysis Run 3/27/2024 10:49 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-5



n = 30

Slope = -4.515
units per year.

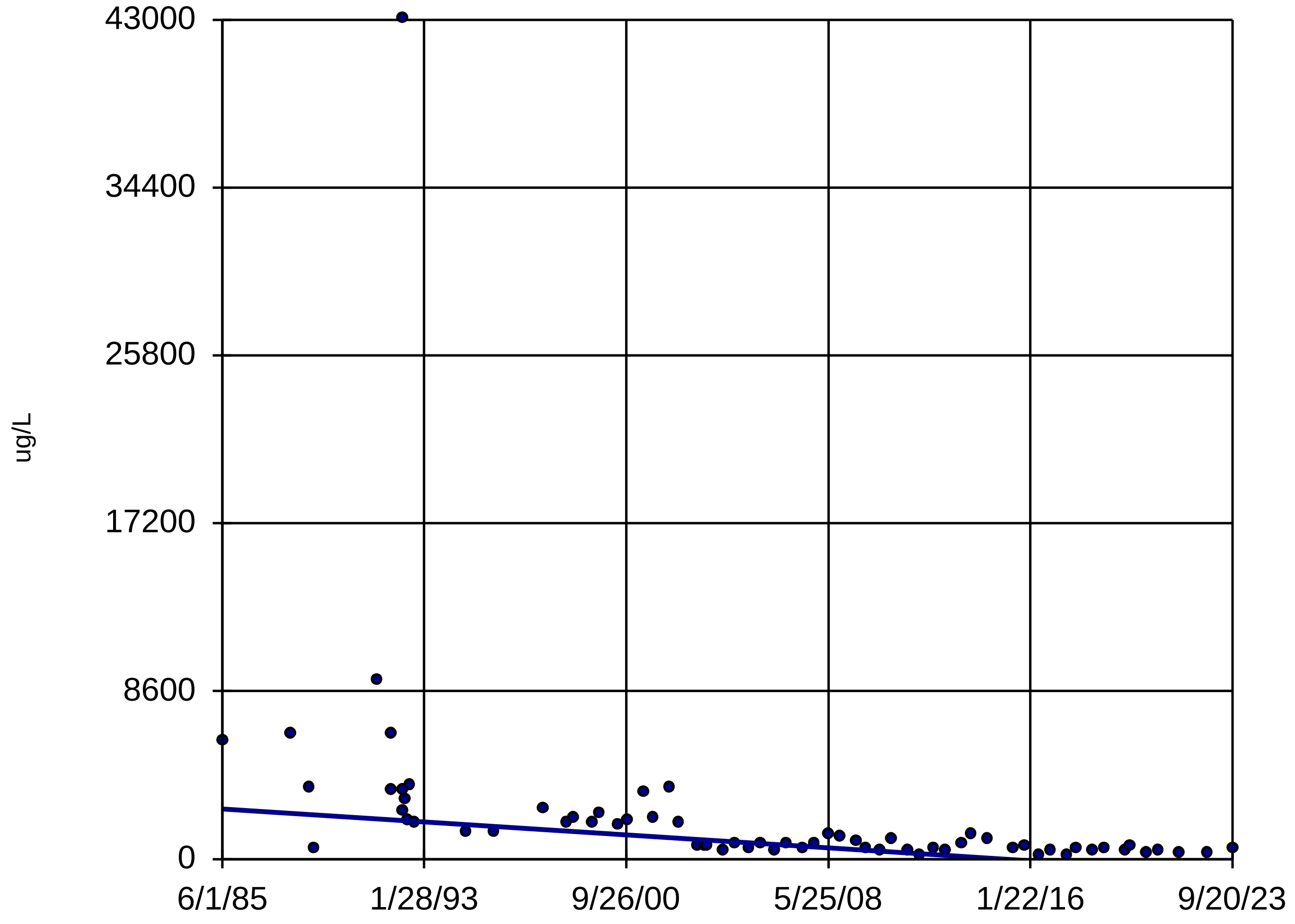
Mann-Kendall
statistic = -159
critical = -112

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Vinyl chloride   Analysis Run 3/27/2024 10:49 AM   View: OU1
OU3 HBR   Data: OU3 Master Data File

Sen's Slope Estimator

MW-6



n = 66

Slope = -86.62
units per year.

Mann-Kendall
normal approx. =
-7.24
critical = -1.96

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

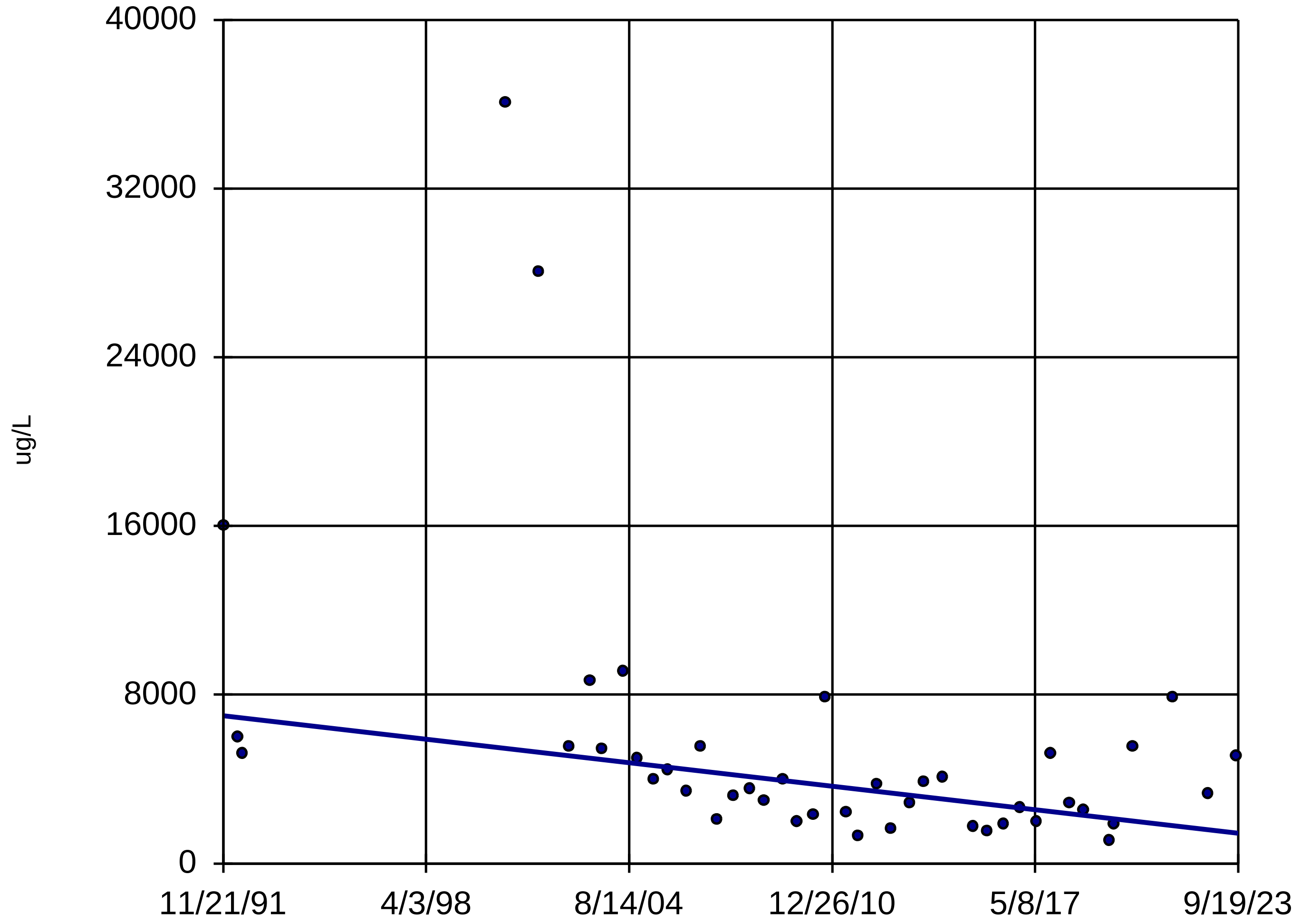
Constituent: Vinyl chloride   Analysis Run 3/27/2024 10:49 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA

Sen's Slope Estimator

EW-1



n = 43

Slope = -174.9
units per year.

Mann-Kendall
normal approx. =
-3.549
critical = -1.96

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Vinyl chloride Analysis Run 3/27/2024 10:49 AM View: OU1

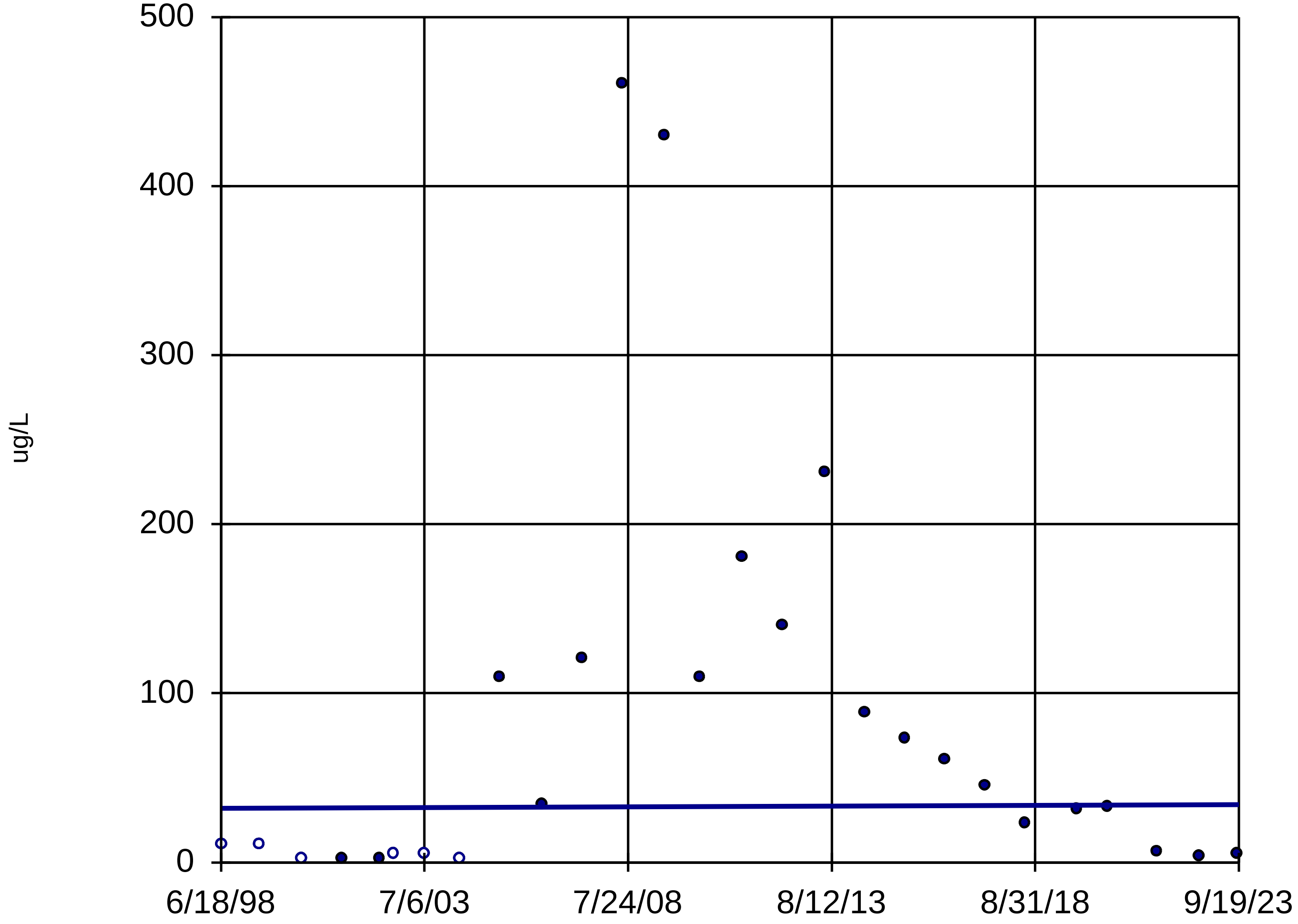
OU3 HBR Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator

UA3



n = 27

Slope = 0.08946
units per year.

Mann-Kendall
statistic = 17
critical = 96

Trend not significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Vinyl chloride   Analysis Run 3/27/2024 10:49 AM   View: OU1

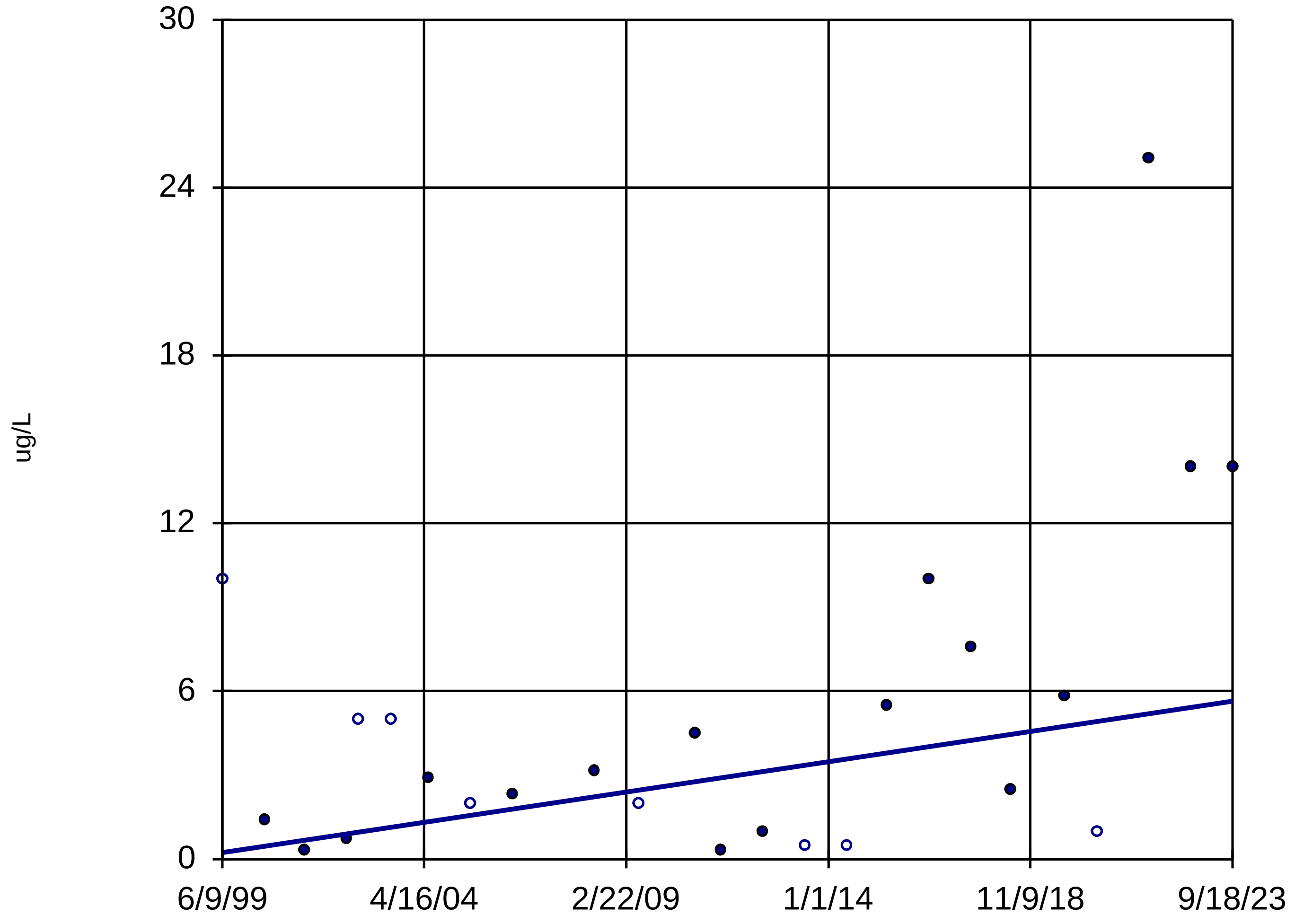
OU3 HBR   Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-4



n = 25

Slope = 0.2225
units per year.

Mann-Kendall
statistic = 81
critical = 85

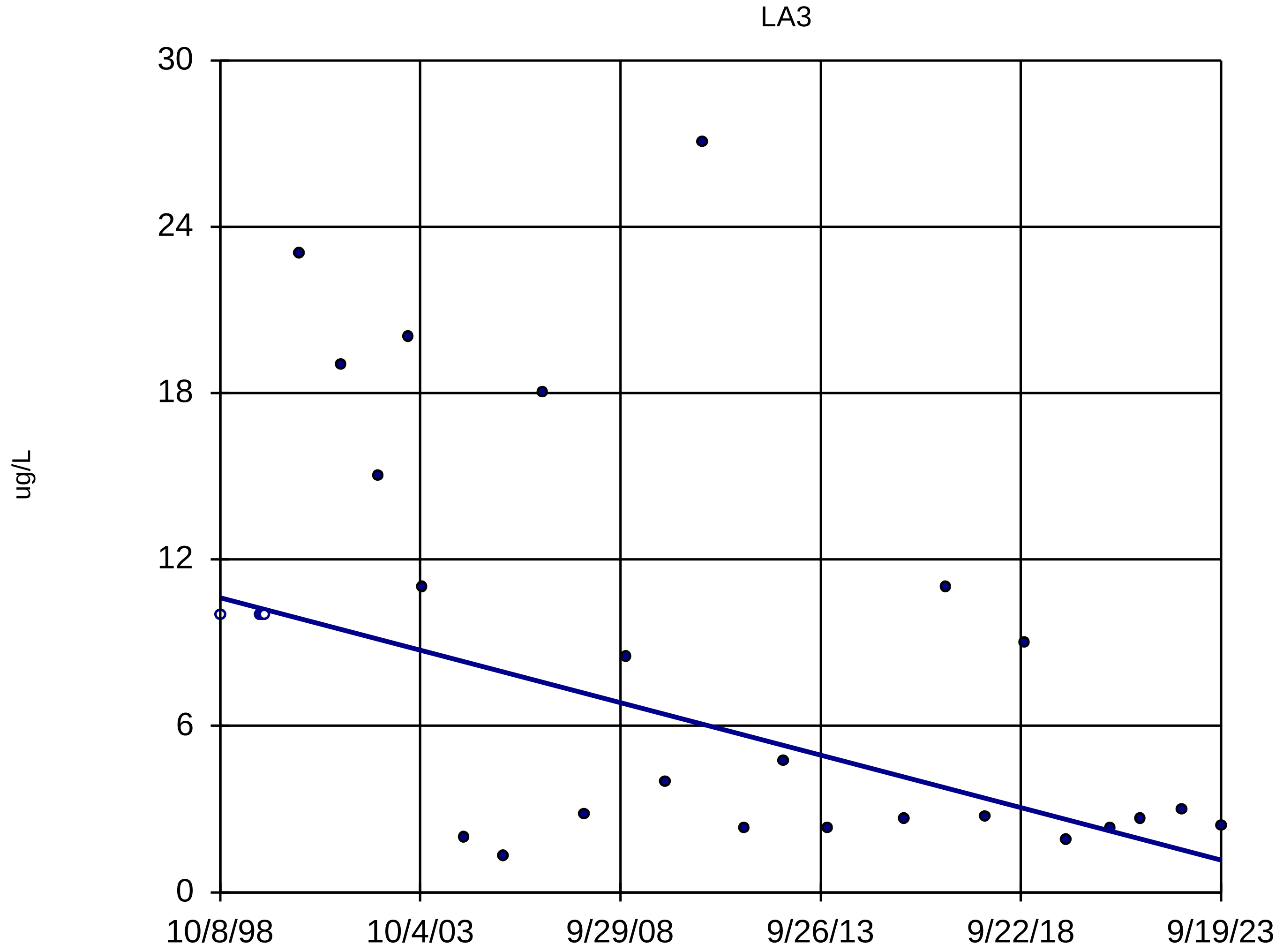
Trend not significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Vinyl chloride   Analysis Run 3/27/2024 10:49 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

Hollow symbols indicate censored values.

Sen's Slope Estimator



n = 28

Slope = -0.379
units per year.

Mann-Kendall
statistic = -127
critical = -101

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

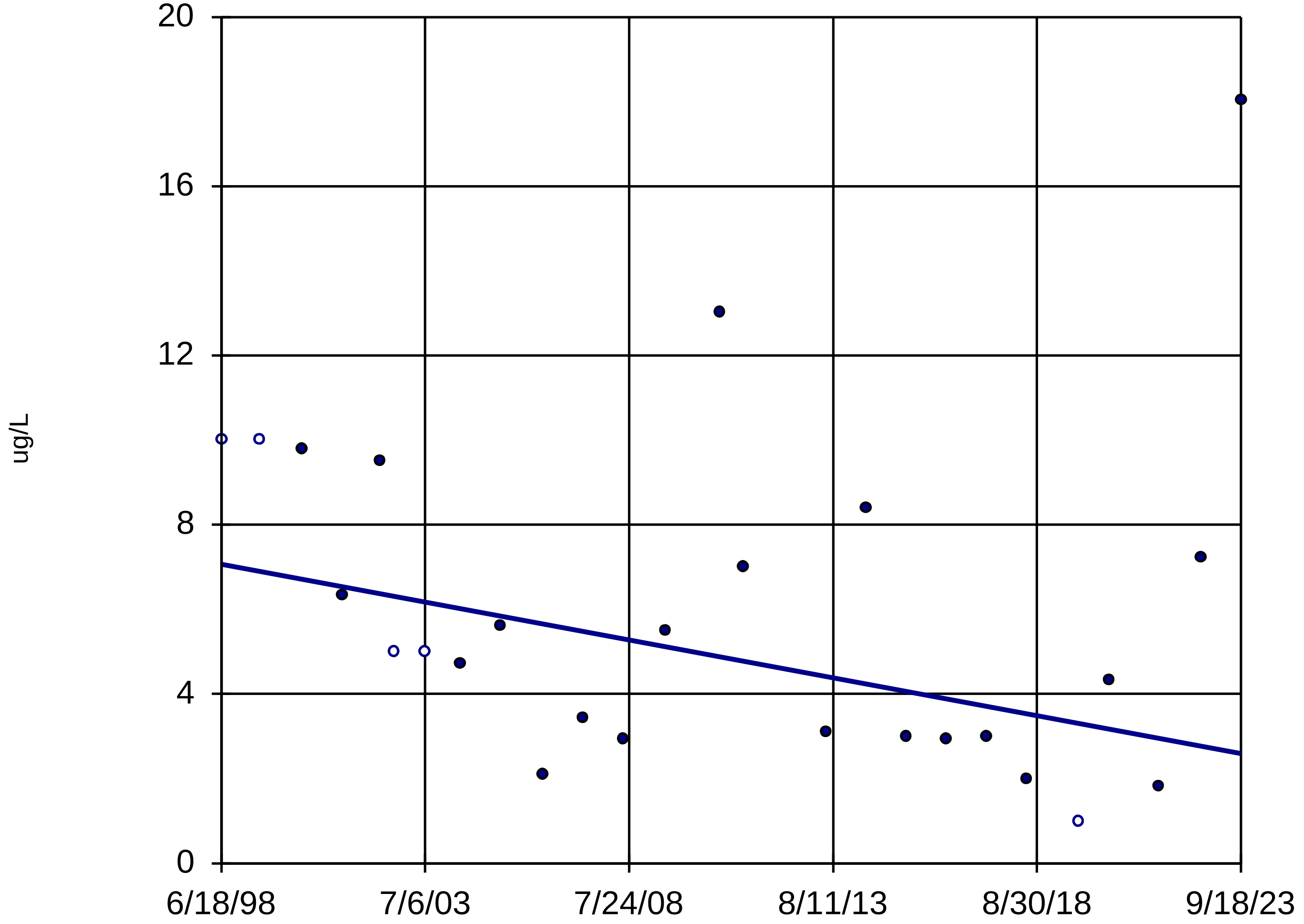
Constituent: Vinyl chloride Analysis Run 3/27/2024 10:49 AM View: OU1
OU3 HBR Data: OU3 Master Data File

Sanitas™ v.10.0.16 Sanitas software licensed to Geotechnology. EPA

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW2



n = 26

Slope = -0.1771
units per year.

Mann-Kendall
statistic = -109
critical = -90

Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

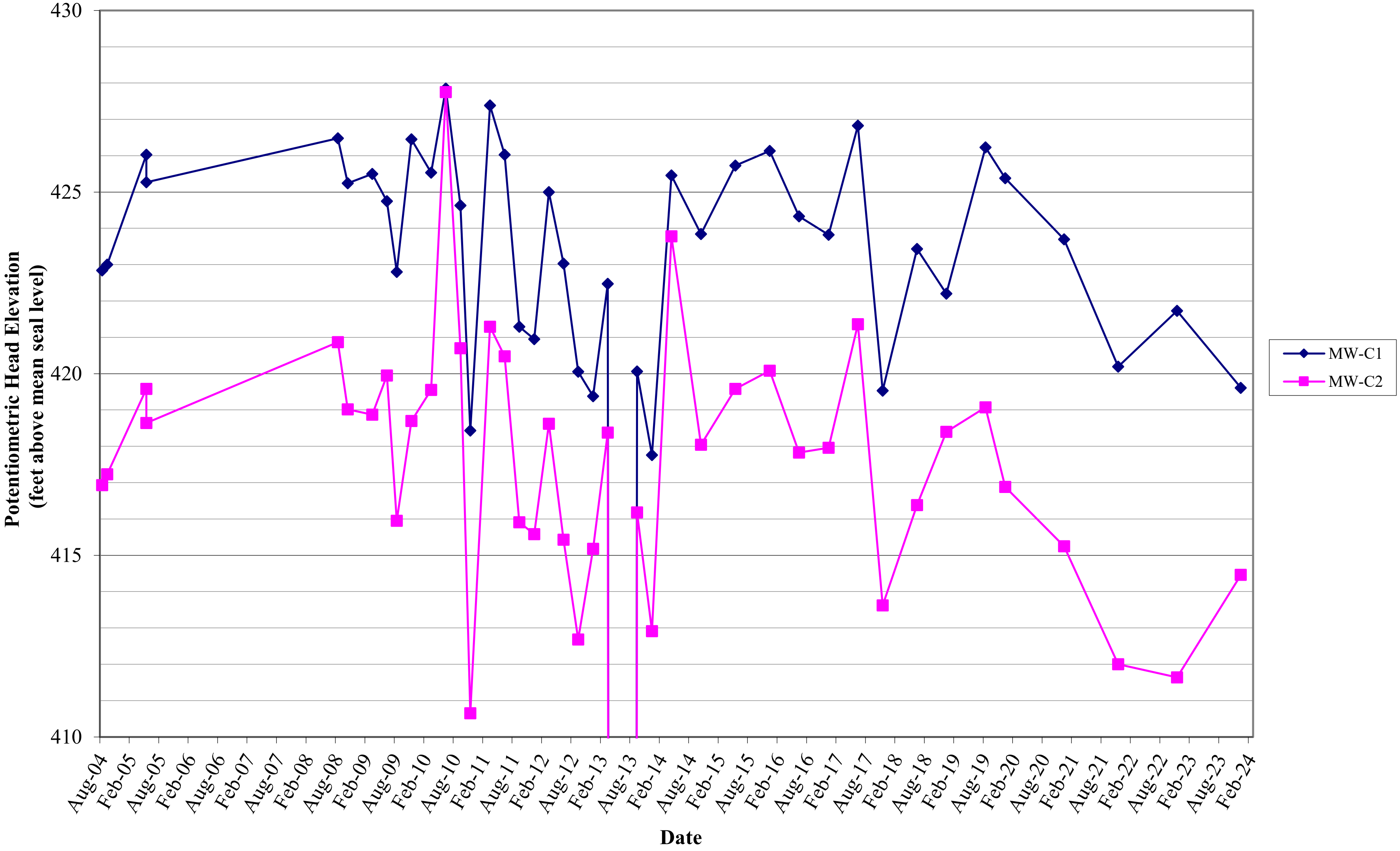
Constituent: Vinyl chloride   Analysis Run 3/27/2024 10:49 AM   View: OU1

OU3 HBR   Data: OU3 Master Data File

APPENDIX H – OU3 HYDROGRAPHS

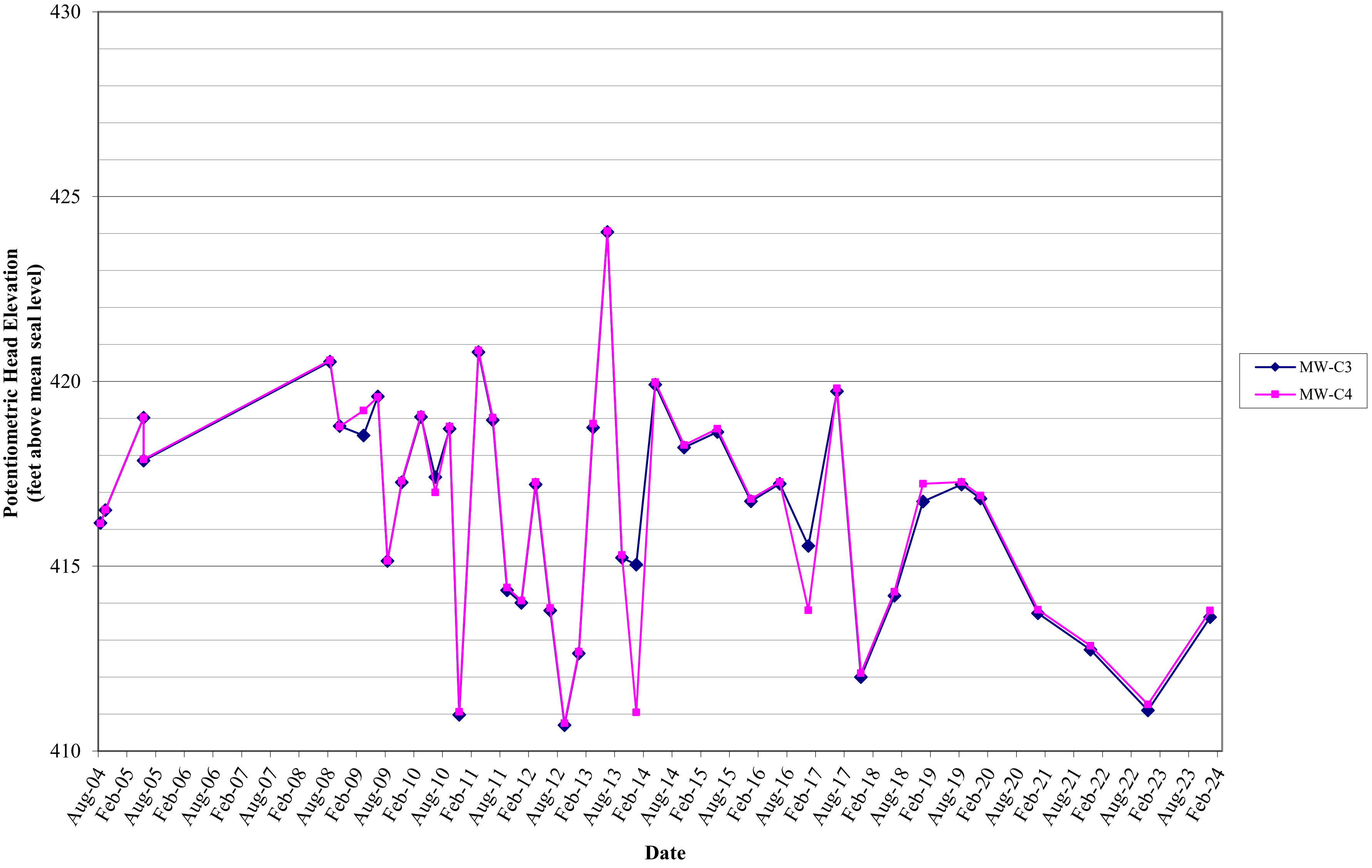
OPERABLE UNIT 3
HAYFORD BRIDGE ROAD GROUNDWATER SITE

GROUNDWATER HYDROGRAPH
MONITORING WELLS MW-C1 AND MW-C2



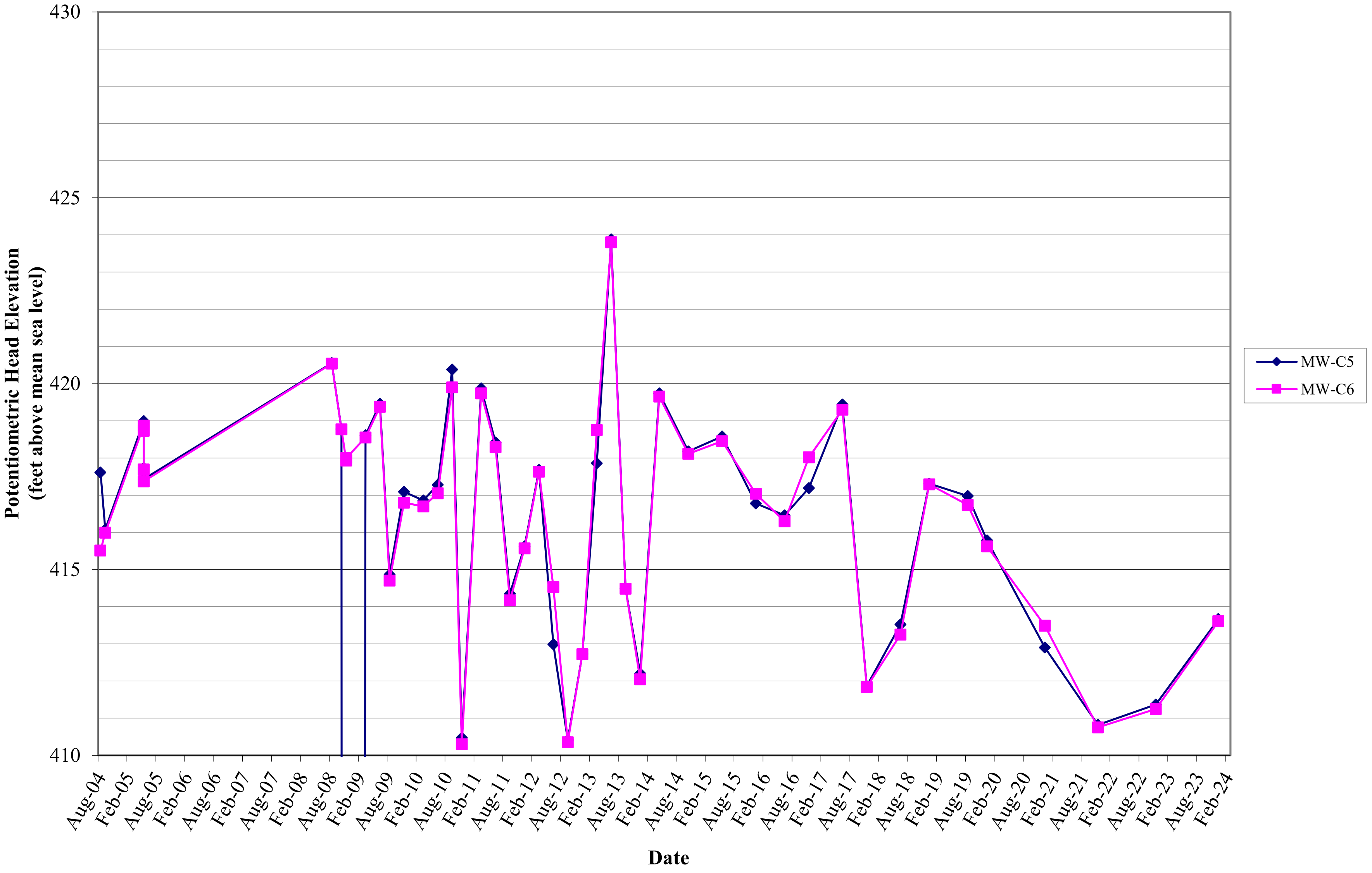
OPERABLE UNIT 3
HAYFORD BRIDGE ROAD GROUNDWATER SITE

GROUNDWATER HYDROGRAPH
MONITORING WELLS MW-C3 AND MW-C4



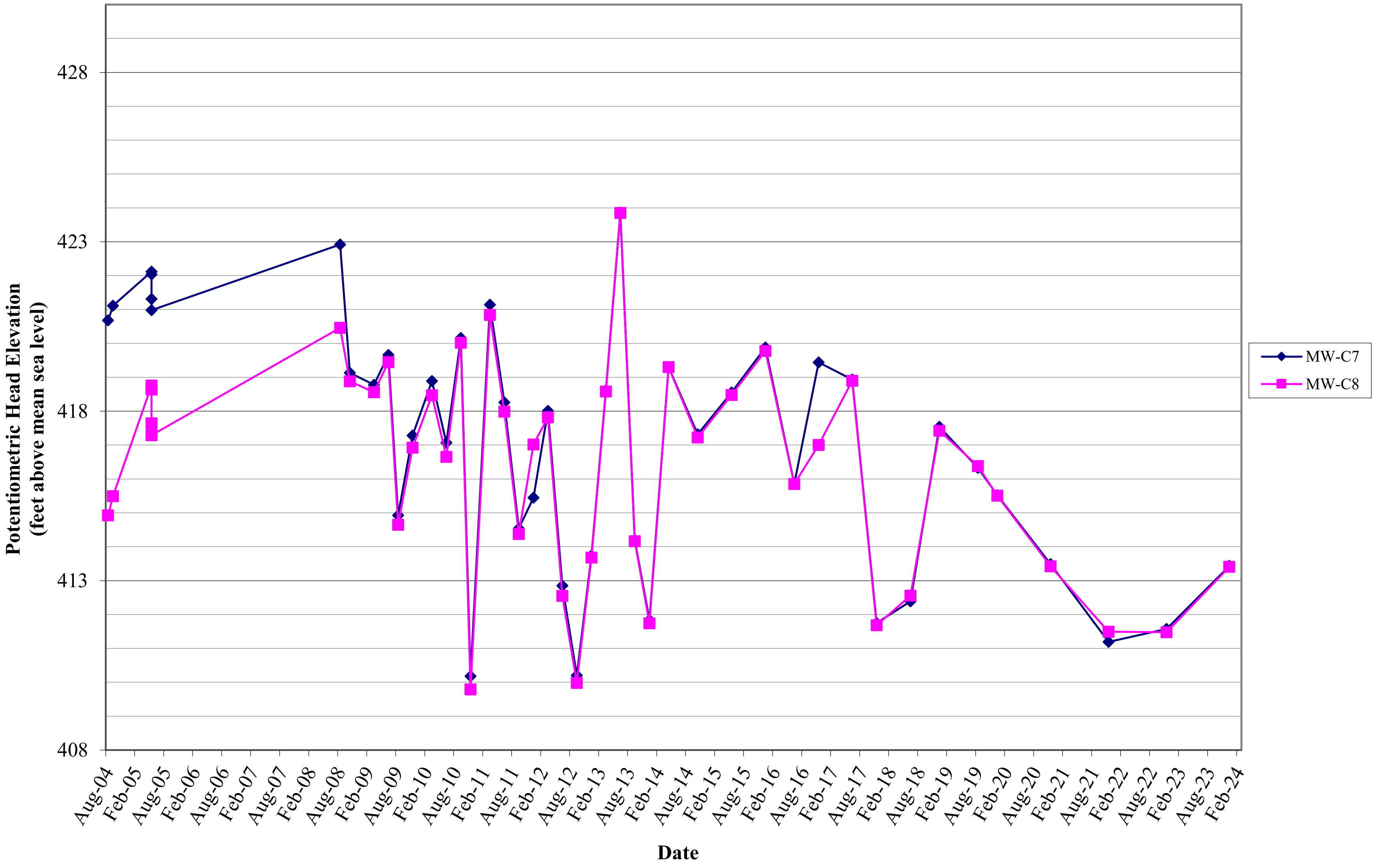
OPERABLE UNIT 3
HAYFORD BRIDGE ROAD GROUNDWATER SITE

GROUNDWATER HYDROGRAPH
MONITORING WELLS MW-C5 AND MW-C6



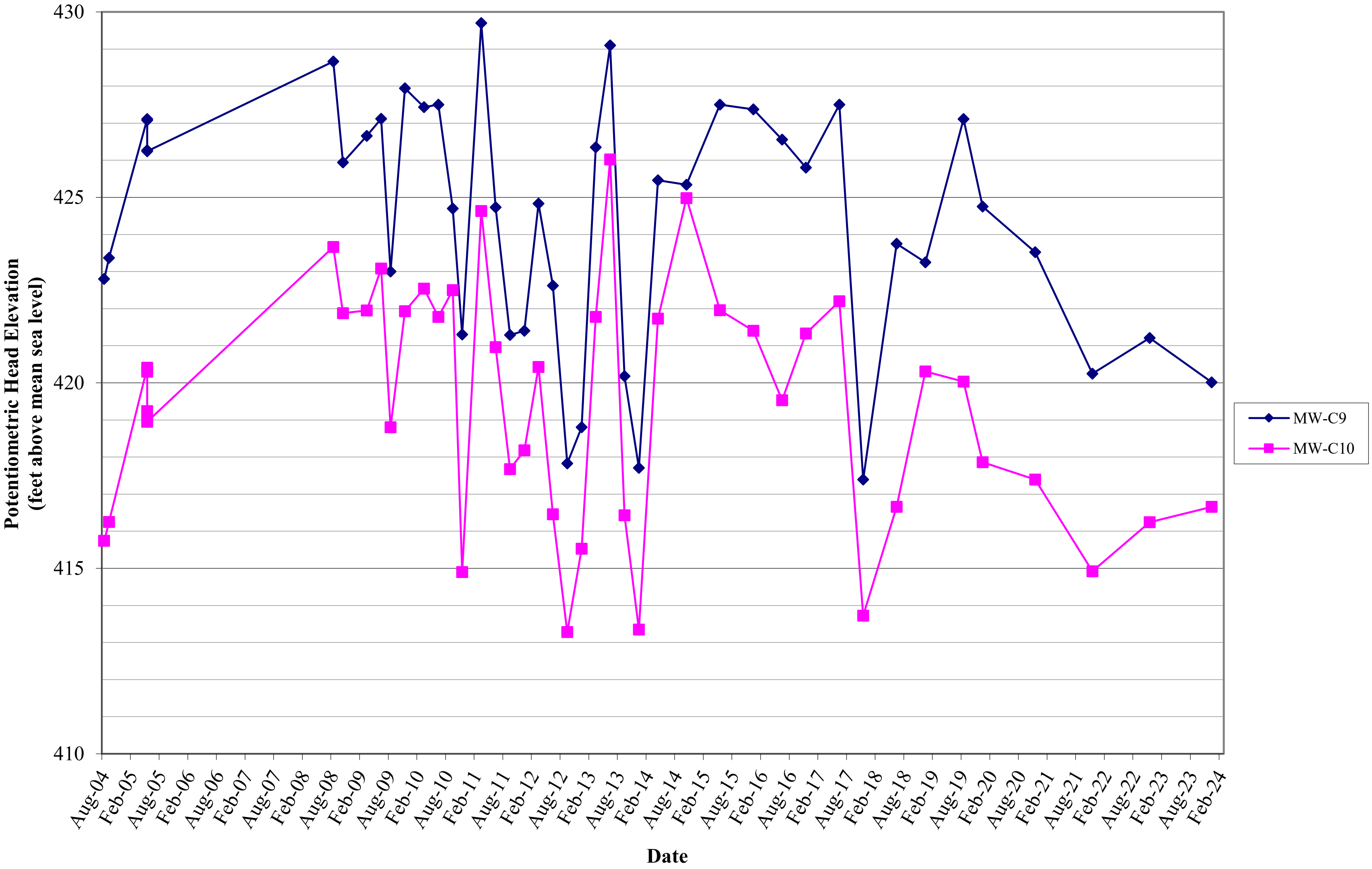
OPERABLE UNIT 3
HAYFORD BRIDGE ROAD GROUNDWATER SITE

GROUNDWATER HYDROGRAPH
MONITORING WELLS MW-C7 AND MW-C8



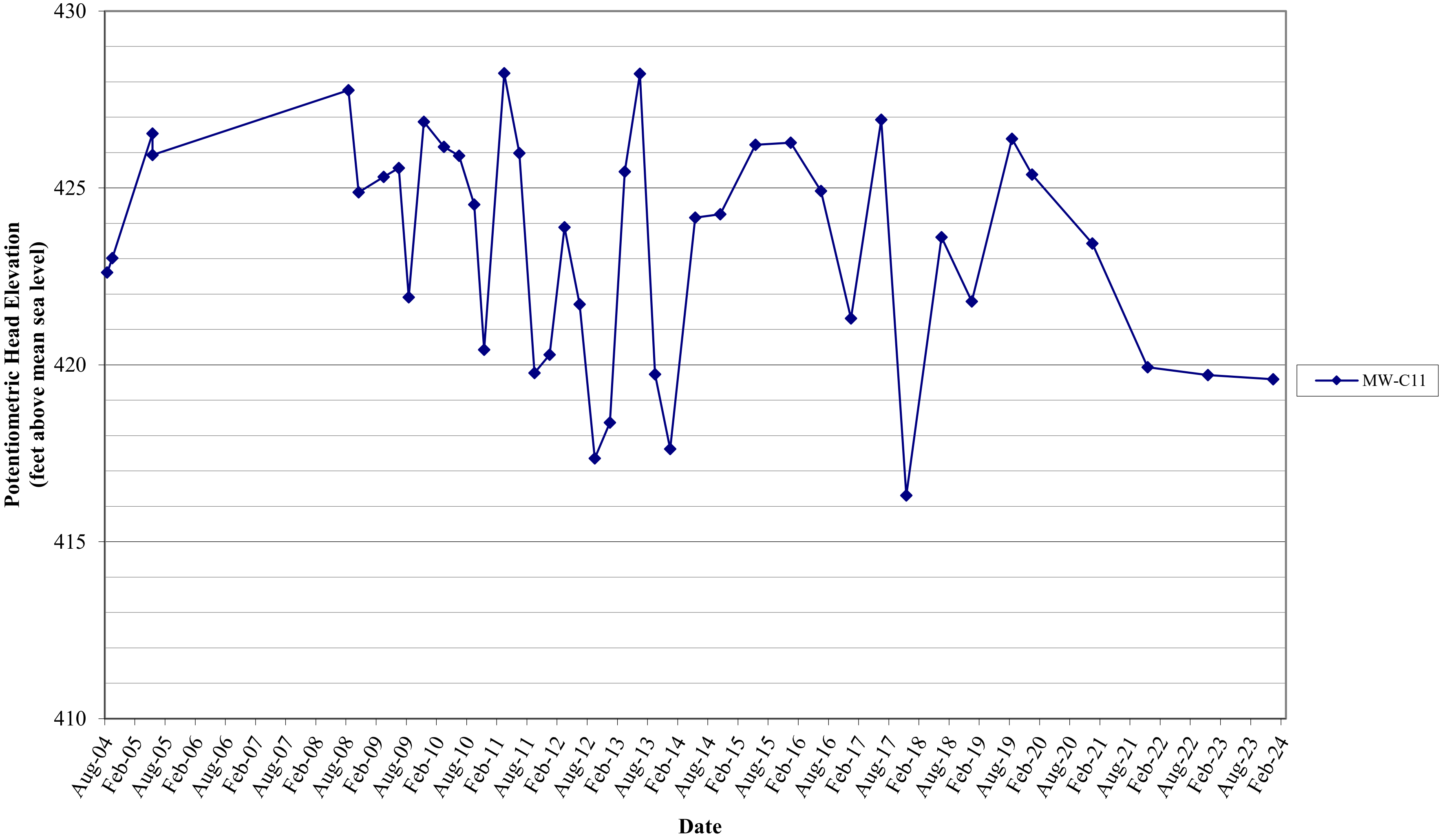
OPERABLE UNIT 3
HAYFORD BRIDGE ROAD GROUNDWATER SITE

GROUNDWATER HYDROGRAPH
MONITORING WELLS MW-C9 AND MW-C10



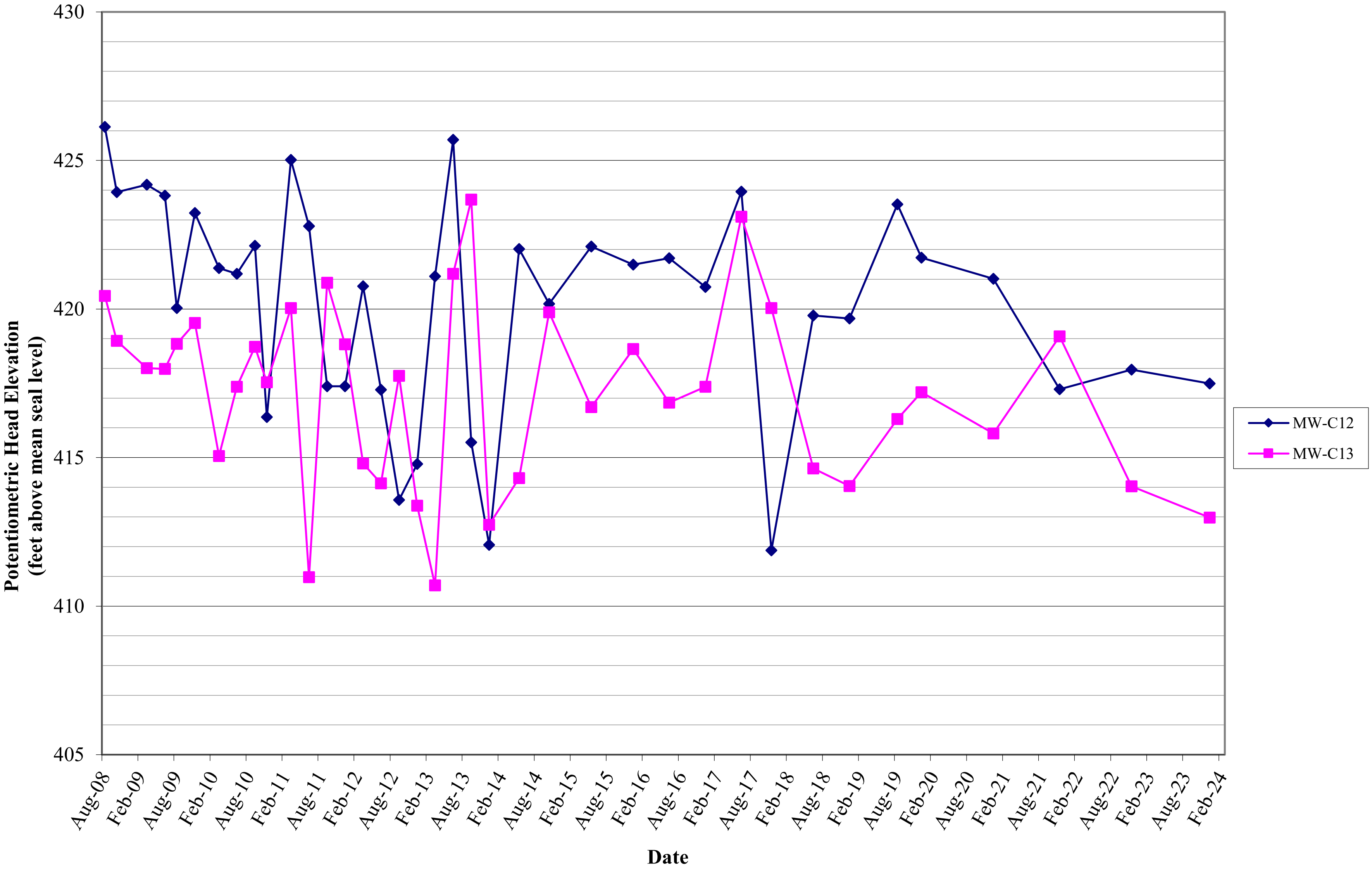
OPERABLE UNIT 3
HAYFORD BRIDGE ROAD GROUNDWATER SITE

GROUNDWATER HYDROGRAPH
MONITORING WELL MW-C11



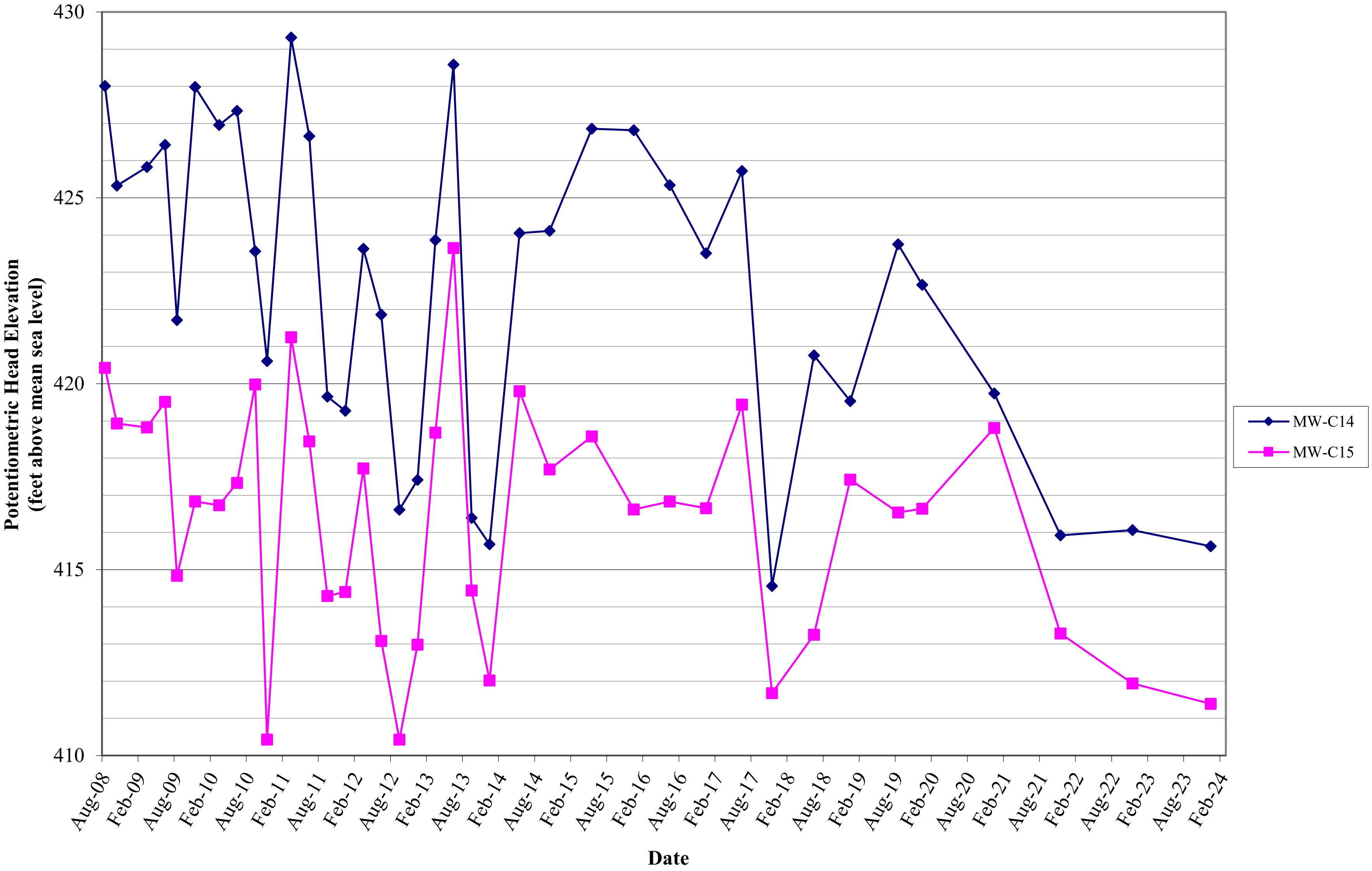
OPERABLE UNIT 3
HAYFORD BRIDGE ROAD GROUNDWATER SITE

GROUNDWATER HYDROGRAPH
MONITORING WELLS MW-C12 AND MW-C13



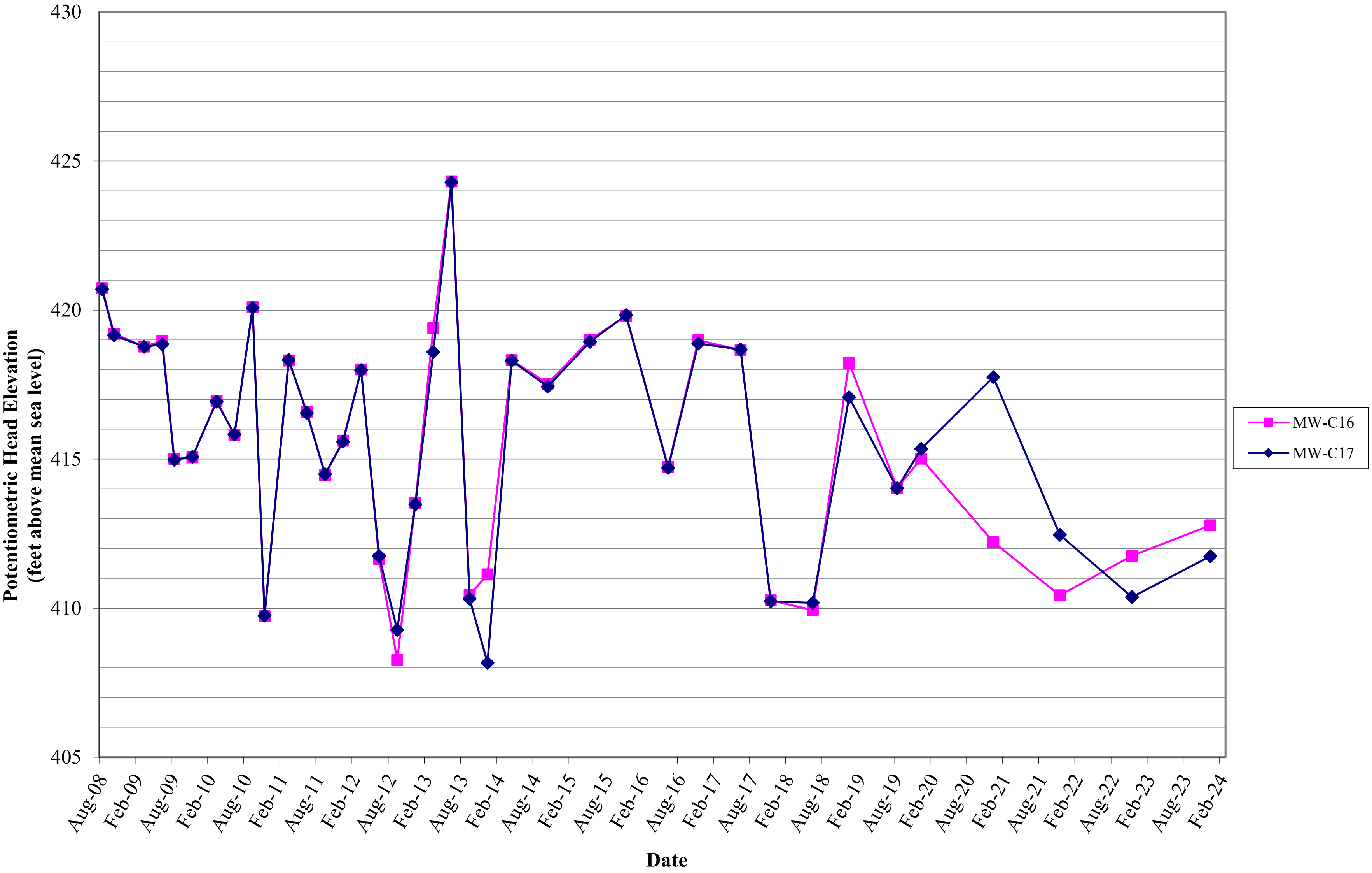
OPERABLE UNIT 3
HAYFORD BRIDGE ROAD GROUNDWATER SITE

GROUNDWATER HYDROGRAPHS
MONITORING WELLS MW-C14 AND MW-C15



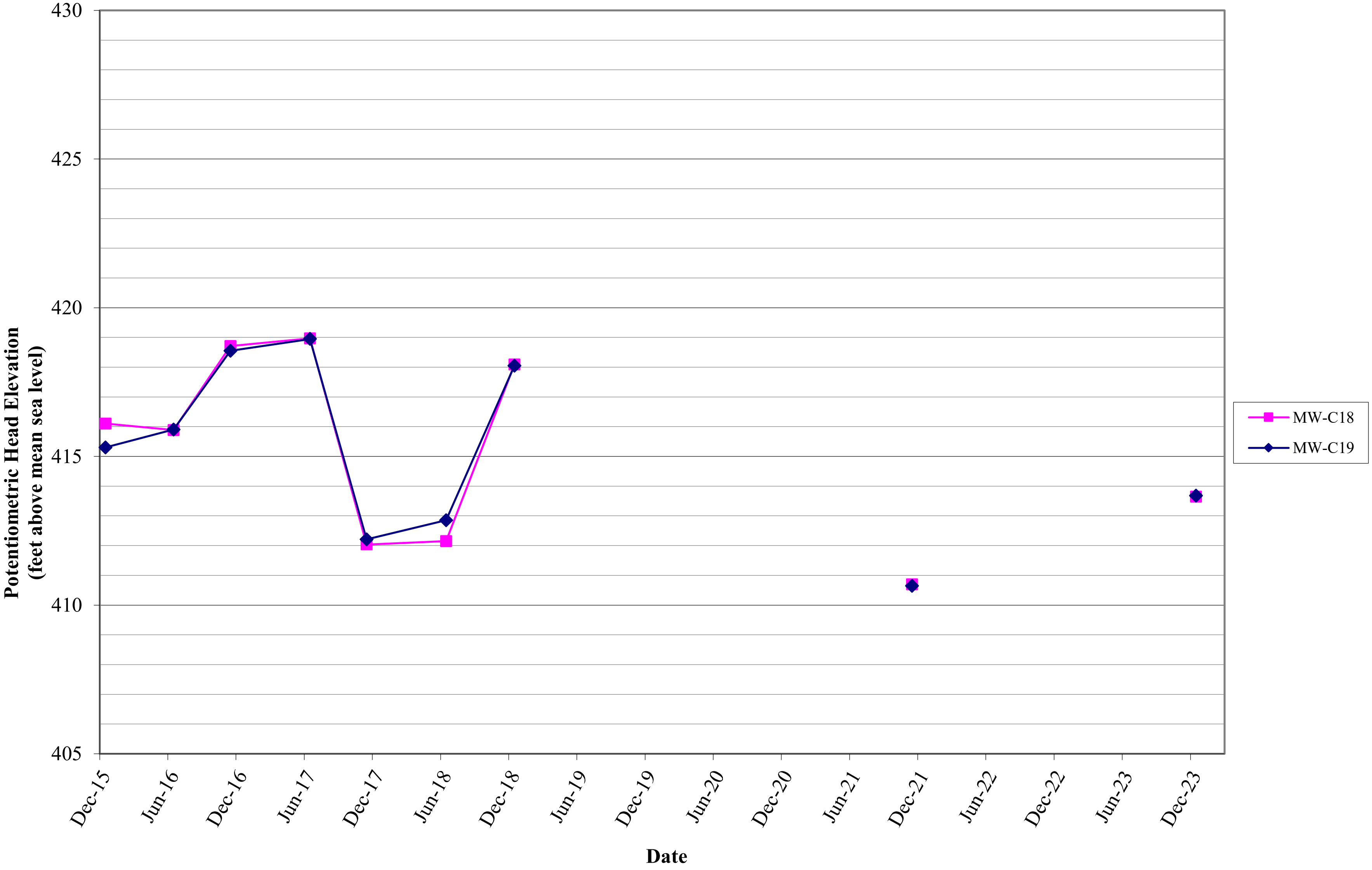
OPERABLE UNIT 3
HAYFORD BRIDGE ROAD GROUNDWATER SITE

GROUNDWATER HYDROGRAPH
MONITORING WELL MW-C16 AND MW-C17

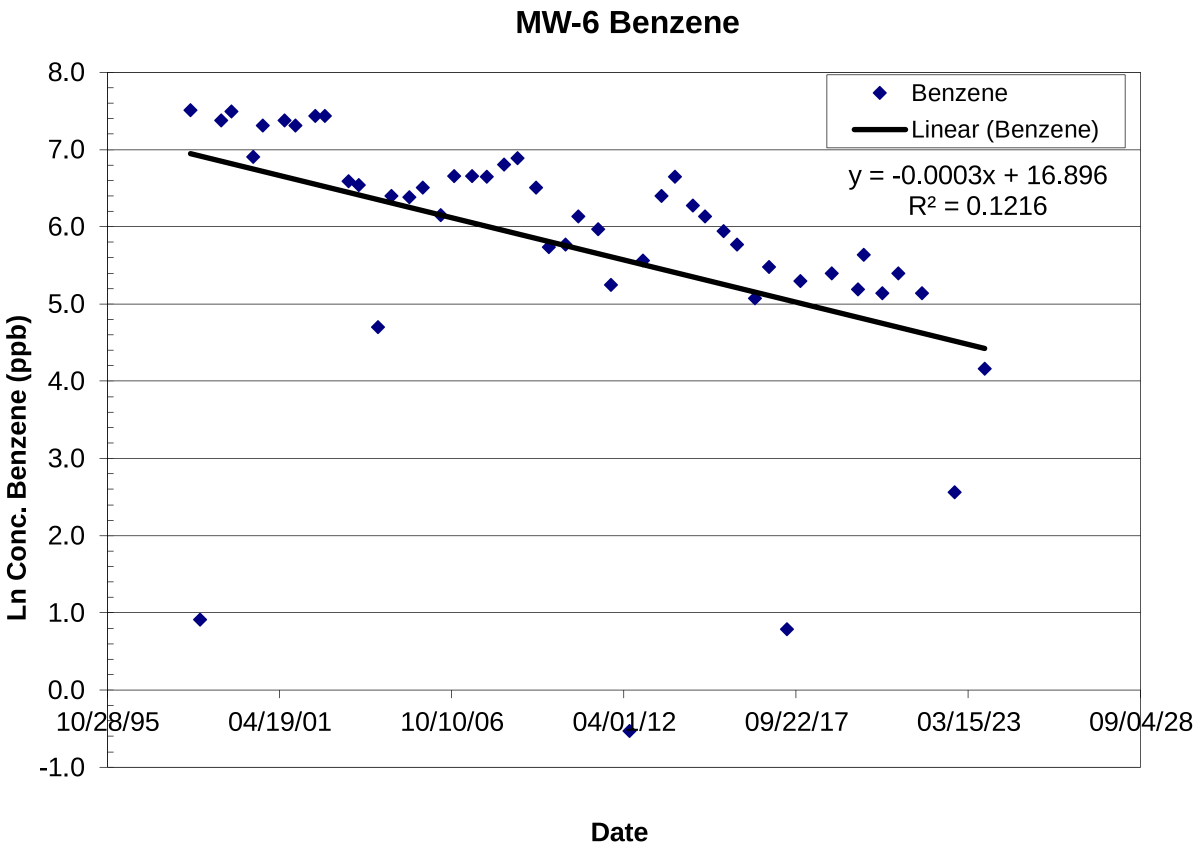


OPERABLE UNIT 3
HAYFORD BRIDGE ROAD GROUNDWATER SITE

GROUNDWATER HYDROGRAPH
MONITORING WELL MW-C18 AND MW-C19



APPENDIX I – REMEDIAL TIMEFRAME ANALYSIS

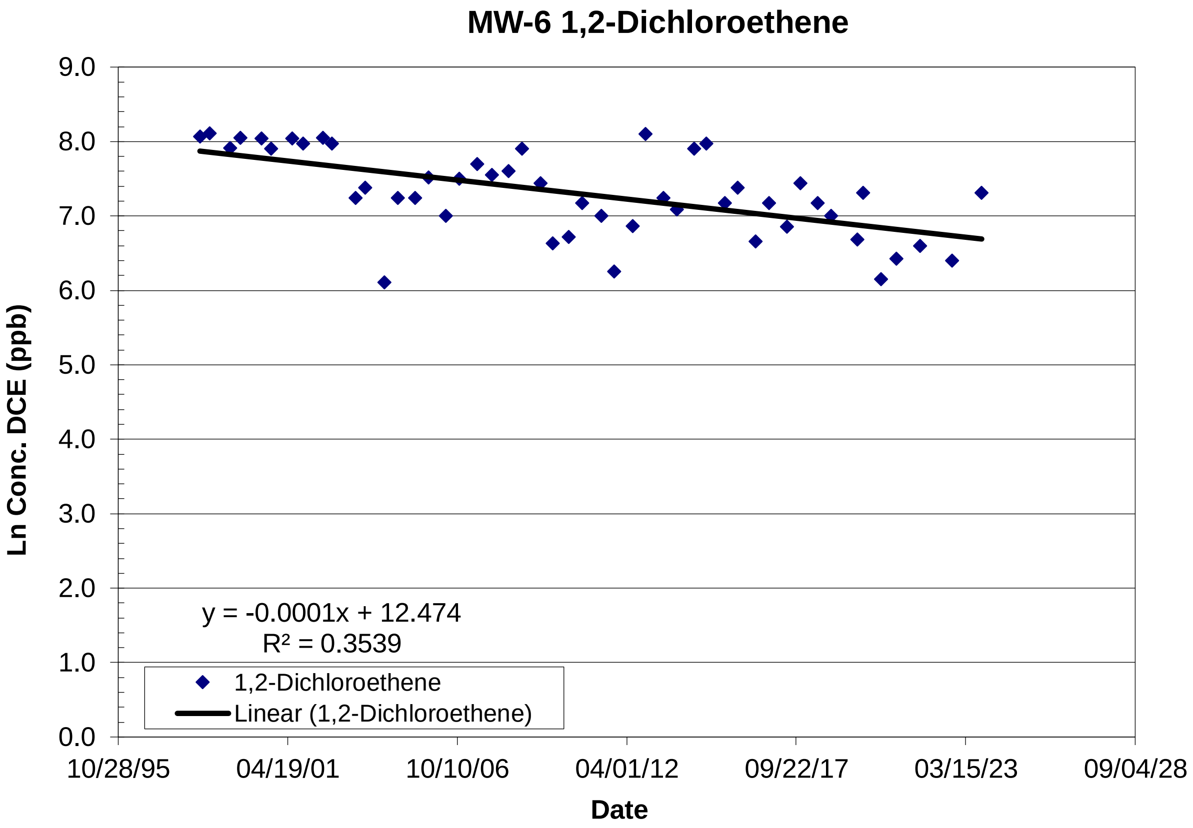


Estimated Attenuation Rate and Remedial Timeframe for Benzene at MW-6

Regression Statistics	
R	0.403
R^2	0.163
Adjusted R^2	0.144
Standard Error	1.579
Observations	47

	Regression (Trend Line) Equation			Confidence Interval	
		Coefficients	*Standard Error*	*Lower 95%*	*Upper 95%*
k_{point}=	Slope (ln(conc) per day)	-0.000265	0.000090	-0.000446	-0.000085

	Remedial Timeframe Estimates				
C_{goal}=	MCL (ppb)	5		5	5
C_{start}=	Current Concentration (ppb)	220		220	220
	$\ln(C_{MCL} / C_{NOW})$	-3.784		-3.784	-3.784
t=	Time to MCL (years)	39		23	123

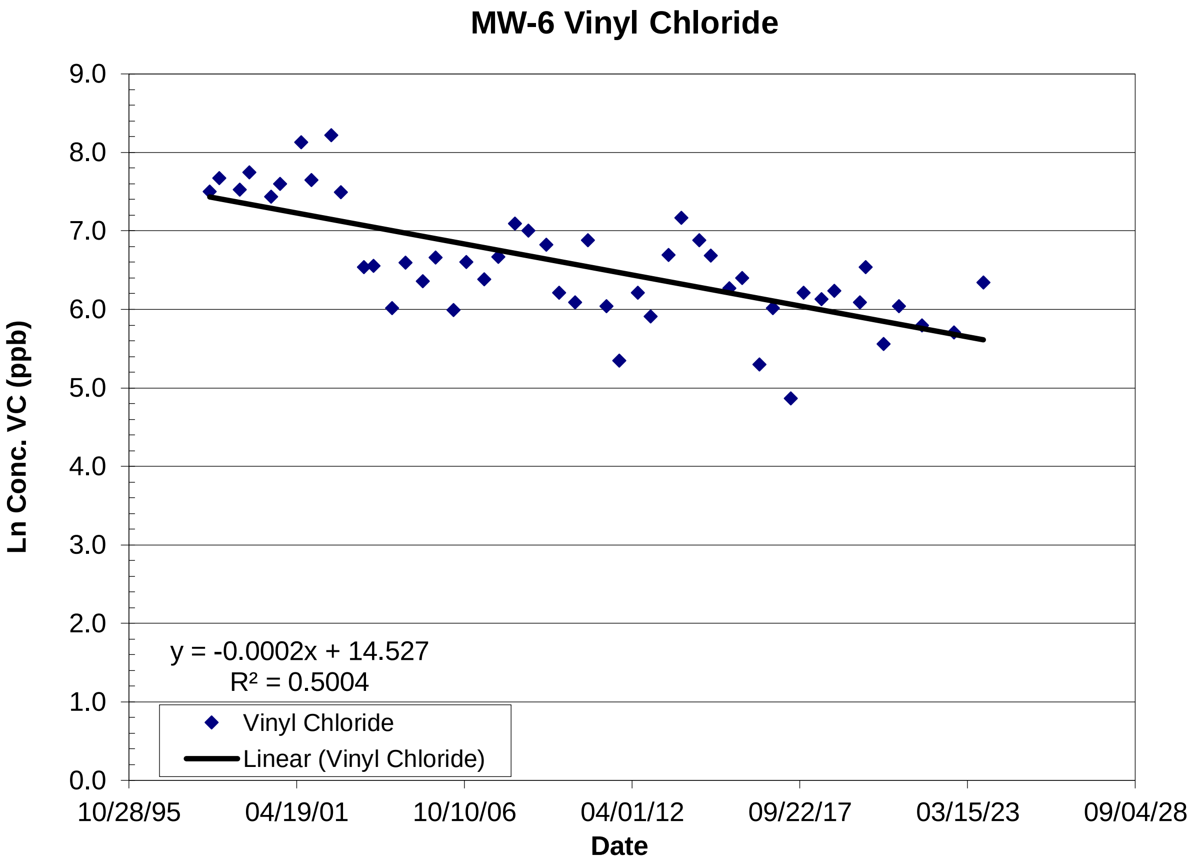


Estimated Attenuation Rate and Remedial Timeframe for 1,2-Dichloroethene at MW-6

Regression Statistics	
R	0.576
R^2	0.332
Adjusted R^2	0.317
Standard Error	0.467
Observations	48

	Regression (Trend Line) Equation			Confidence Interval	
		Coefficients	*Standard Error*	*Lower 95%*	*Upper 95%*
k_{point}=	Slope (ln(conc) per day)	-0.000125	0.000026	-0.000178	-0.000073

	Remedial Timeframe Estimates				
C_{goal}=	MCL (ppb)	70		70	70
C_{start}=	Current Concentration (ppb)	1500		1500	1500
	$\ln(C_{MCL} / C_{NOW})$	-3.065		-3.065	-3.065
t=	Time to MCL (years)	67		47	116



Estimated Attenuation Rate and Remedial Timeframe for Vinyl Chloride at MW-6

Regression Statistics	
R	0.695
R^2	0.483
Adjusted R^2	0.472
Standard Error	0.533
Observations	48

	Regression (Trend Line) Equation			Confidence Interval	
		Coefficients	*Standard Error*	*Lower 95%*	*Upper 95%*
k_{point}=	Slope (ln(conc) per day)	-0.000196	0.000030	-0.000257	-0.000136

	Remedial Timeframe Estimates				
C_{goal}=	MCL (ppb)	2		2	2
C_{start}=	Current Concentration (ppb)	570		570	570
	$\ln(C_{MCL}/C_{NOW})$	-5.652		-5.652	-5.652
t=	Time to MCL (years)	79		60	114

APPENDIX J – FYR INTERVIEW RECORDS

INTERVIEW RECORD

Site Name: Findett Corp. Superfund Site	**EPA ID No.:** MOD006333975	
Subject: Findett Corp. Sixth Five-Year Review Interview with PRP Technical Consultant	**Time:** Click or tap here to enter text.	**Date:** 10/23/2024

Type: ☒ In Person ☐ Telephone ☐ Email ☐ Other: Click or tap here to enter text.

Location: ☐ Site ☒ Work/Office ☐ Home ☐ Other: Click or tap here to enter text.

Contact Made By:

Name: James Curry	**Title:** RPM	**Organization:** U.S. Environmental Protection Agency

Individual Contacted:

Name: Kenny Hemmen, RG	**Title:** Project Manager	**Organization:** Geotechnology, LLC

Telephone No: [redacted]
E-Mail Address: [redacted]
Street Address: [redacted]
City, State, Zip: St. Louis, MO [redacted]

Summary of Conversation

1. What is your overall impression of the project (general sentiment)?

Our overall impression is positive as the OU3 Monitored Natural Attenuation (MNA) remedy is achieving the remedial action objective (RAO) with no exposure risk. The OU1 remedy has not sufficiently contained or reduced the source to support the estimated remedial time frame for OU3 so we are evaluating potential remedial options to enhance the OU3 MNA remedy.

2. Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site?

Our OU3 groundwater sampling, testing and reporting is performed semi-annually and in close coordination with USEPA.

3. Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events and results of the responses.

No, based on our knowledge of OU3.

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency response from local authorities? If so, please give details.

No, based on our knowledge of OU3.

5. Is the remedy functioning as expected? How well is the remedy performing?

Yes, with evaluation of potential remedial options being performed in cooperation with USEPA to possibly enhance the OU3 MNA remedy. The performance of the OU3 MNA remedy is achieving the RAO with no exposure risk.

6. What does the monitoring data show? Are there any trends that show contaminant levels are decreasing?

The OU3 groundwater monitoring data are summarized in our October 18, 2024 OU3 MNA Evaluation report and indicates numerous decreasing contaminant trends and some increasing concentration trends. We are working cooperatively with USEPA to evaluate potential remedial options that can possibly enhance the OU3 MNA remedy.

7. Do you have any comments regarding the site's management or operation?
No

8. Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts.

OU3 groundwater monitoring is performed semi-annually with additional groundwater sampling efforts (e.g., City Well W-8) performed more frequently in close coordination with USEPA. The OU3 MNA remedy has protected human health by eliminating exposure to contaminated groundwater through extensive groundwater sampling and testing and also by the City of St. Charles Wellhead Protection District ordinance prohibiting the installation of private water wells and construction of ponds/lakes below the upper cohesive soil layer.

9. Have there been opportunities to optimize O&M, or sampling efforts? Please describe changes and resultant or desired cost savings or improved efficiency.
OU3 groundwater sampling efforts are coordinated closely with USEPA and the City of St. Charles which has resulted in improved efficiency.

10. Any other general comments?
No

City of St. Charles FYR Interview Form
October 23, 2024

Interviewees:
John Phillips, Utilities Superintend, City of St. Charles – Public Works Department
Paul Michalski, 212 Environmental
Todd Aseltyne, 212 Environmental

Findett Corporation Superfund Site, Operable Unit Nos. 1, 2, and 3

1. What do you know about the Findett Corp. Superfund Site (Site)? How did you first become aware of contamination associated with the Site?
    - Engagement with current City staff began in around 2017.
    - Initial engagement from the City was via conversations with the USEPA.
    - Infrequent data sharing from Geotechnology (now UES) regarding conditions beneath Operable Unit No. 3 (typically provided in semiannual reports) through 2023.
    - There were significant gaps in communication from the USEPA regarding conditions beneath Operable Units No. 1 and No. 2 until December 2023 when Clint Sperry was replaced as the Site Manager by James Curry.

2. What are your concerns about the Site and its cleanup? What is your biggest concern?
    - The City is concerned with an apparent expansion of the chlorinated solvent plume to the north and east away from Operable Unit Nos. 1-3.
    - Directly related to this is the lack of performance data related to the operation, maintenance, and monitoring of the groundwater extraction and treatment system in Operable Unit No. 1 including routine monitoring of the influent and effluent flow rates and dissolved phase concentrations.
    - Concern regarding the run time and efficacy of the groundwater extraction and treatment system in Operable Unit No. 1.
    - Concern regarding adequacy of the lines of evidence and evaluation of the natural attenuation remedy being relied upon within Operable Unit No. 3 and information being shared regarding proposed future corrective measures being considered for Operable Unit Nos. 1 through 3. Remnants of dissolved phase constituents is a cause of concern, as they remain more than 36 years following execution of the agreed upon remedy for Operable Unit Nos. 1 and 2.

- Continued concerns regarding the vapor intrusion pathway and limited evaluation conducted in 2024.
- Continued concerns regarding 1,4-dioxane and PFAS concentrations in soil, groundwater, and vapor as emerging hazardous chemicals.
- Continued concerns regarding PCBs in soil, groundwater, and vapor.
- Concern regarding USEPA decision to allow the sale of a property that had recently been considered for renomination onto the National Priority List to a third party via a tax sale.

3. How are you currently receiving information for the Site?
   - Currently conducting facilitated routine meetings with the USEPA (with part of the focus on Operable Unit Nos. 1 thorough 3) in fulfillment of the Office of Inspector General recommendations regarding community engagement for the Findett Superfund Site. These meetings began in February 2024.
   - Exchanging data and information via a SharePoint site maintained by the USEPA.
   - City is hopeful that the current collaboration continues with the USEPA until corrective measures are determined effective in Operable Unit Nos. 1 thorough 3.

4. Whom would you contact when you have questions about the Site?
   - James Curry, the Site Manager, regarding technical matter
   - Daniel Lyskowski, regarding legal matters
   - Chain of command at the USEPA including Susan Fisher, then Tabitha Adkins, followed by Bob Jurgens

5. What is your opinion of the government’s commitment to cleaning up hazardous waste at the Site?
   - In our perspective, it appears that certain evaluation, investigation, and corrective measures were only conducted at the Findett Superfund Site at the urging of the City after the City evaluated and collected its own data.

6. Is the information from EPA or the state clear and easy to understand?
   - There is not an issue with clarity or ease of understanding, there has been a lack of adequate data collected from Operable Unit Nos. 1 through 3 to evaluate the efficacy of the final correction measures.

- Currently frequency of data collection may not fully capture current conditions beneath Operable Unit Nos. 1 through 3

7. What kind of information about the Site do you want or need and how can we provide you with that information? (Newsletter, Fact Sheets, Internet, Community Meetings, websites, bulletin boards, other) How often?

   - USEPA continues to rely upon the Site Profile Page to provide data and reports to the City; however, as the EPA admits, this website is cumbersome and difficult to navigate. The City would prefer that all future data, reports, and correspondence, etc. be shared via the SharePoint Site established by the USEPA. Alternatively, the USEPA could directly transmit a link to the City which serves to notify the City that new information is available and also provides a more streamlined navigation of the Site Profile Page.
   - Please refer to the City's response to Question No. 2 regarding the additional data and information that the City is requesting from the USEPA with respect to the corrective measures taken in Operable Unit Nos. 1 through 3.

8. Would you like to be added to the electronic mailing list? If so, please provide your e-mail address.

   - The City is currently signed up to receive updates via the electronic mailing list but has failed to receive any updates or information since July 26, 2023. Please add the following to the electronic mailing list:

     Jim Wright Jim.Wright@stcharlescitymo.gov

     John Phillips John.Phillips@stcharlescitymo.gov

     Paul Michalski paul.michalski@212environmental.com

     Todd Aseltyne todd.aseltyne@212environmental.com

9. Do you think that there are stakeholders in the community who are not having their concerns addressed? If so, who should we speak with to learn of these stakeholders' needs?

   - Based on the City's public meetings conducted in 2022 and 2023, as well as the Office of Inspector General's evaluation there were significant inadequacies in stakeholder engagement by the USEPA prior to 2024. The City continues to remain concerned about the timeliness and appropriateness of the USEPA's efforts to engage the broader community regarding their stated concerns for the cleanup of the Findett Superfund Site.

10. Do you know of any individuals or groups that are interested in the Site and may have special needs or need special considerations (deaf, blind, homebound, etc.)?
    - The Developmental Disability Resource Board of St. Charles County has previously expressed concern.

11. Is there anyone in particular whom you think we should be sure to include in our community interviews?
    - The County of St. Charles should be contacted regarding corrective measures at the Findett Superfund Site. Specifically, the USEPA should contact John Greifzu, Assistant Director of Administration [redacted].
    - Additionally, it is important for the USEPA to contact the City of St. Charles School District (Superintendent: Jason Sefrit), Orchard Farm School District (Superintendent: Wade Steinhoff, [redacted]), Francis Howell School District (Superintendent: Kenneth Roumpos,[redacted]), as well as Lindenwood University (President: John Porter,[redacted]).

12. Is there anything else you would like to share about the site?
    - The City should continue to receive real time information to be shared by the USEPA regarding corrective measures for Operable Unit Nos. 1 through 3.

INTERVIEW RECORD

Please fill out the information below. If you have questions please contact Jessica Evans, community involvement coordinator, at 314-296-8182 or evans.jessica@epa.gov.

This form can be sent back to the e-mail address provided above or sent to: EPA Region 7, Attn: Jessica Evans, 11201 Renner Blvd., Lenexa, KS 66219

Site Name: Findett Corp. Superfund Site	**EPA ID No.:** MOD006333975	
Subject: Findett Corp. Superfund Site Sixth Five-Year Review	**Time:** 1830	**Date:** 10/24/2024

Type: X In Person ☐ Telephone ☐ Email ☐ Other:

Location (if needed): ☐ Site ☐ Work/Office ☐ Home X Other: Community Advisory Group (CAG) Meeting

Interviewer Information (If needed)

Name: Jessica Evans/JP Curry/Susan Fisher	**Title:** Community Involvement Coordinator, Remedial Project Manager, Section Supervisor	**Organization:** Environmental Protection Agency

Contact information

Name: [redacted]	**Title:** N/A	**Organization:** CAG/community members

Telephone No: N/A

E-Mail Address: N/A

Street Address: N/A
City, State, Zip: N/A

Summary of Conversation

1. What do you know about the Findett Corp. Superfund Site (Site)? How did you first become aware of contamination associated with the Site?

[redacted] Because of the water contamination we get half of our water from St. Louis because we cannot produce enough water for St. Charles. Found out from social media (Facebook).

[redacted] Pretty extensive knowledge of contamination and remedial efforts with my employment background. First became aware when mayor put out public notice and went to the public meeting.

[redacted] There was a meeting in St. Peters I went to and got the information. Discussed two different ways of cleaning it up, monitor vs. dig and haul. At the time it was decided to monitor it, don't remember discussion on injections. I may have been a property owner at the time and concerned with what was going on.

[redacted] Went to the meeting. I'm on the other side of the city. General concern for contamination of water.

[redacted] Learned a lot when I first met James and the other people interested in the clean up of the site.

2. What are your concerns about the Site and its cleanup? What is your biggest concern?

[redacted] Biggest concern is the amount of misinformation about this issue. Main reason I joined the CAG to listen to what is going on. At previous meetings, drew a lot of troublemakers. OU4: the city and Ameren suing each other made them shut up which fueled even more misinformation. Conspiracy theories running rampant. Bogus water filters being sold/advertised. Kara has had to ban people from her FB page.

[redacted] Biggest concern with the site is first we had to get public involved to trigger the contingencies that were supposed to happen in the original Consent Decree. Second, making sure we are doing a comprehensive investigation and making sure we are initiating remedies/implementing remedies that will solve the problem and not push off into the future.

[redacted] The city didn't look harder at this over the years. And are the MCL levels correct? Are they set at the right level to be protective?

[redacted] The city was on the stance that any amount is too much. How real is that? The political side of numbers where they are at. Lobbyists of chemical companies. Not confident anyone knows what the real number is at. Biggest concern – this is just an attrition game. 20 plus years. Mayor said its not his problem, brings up during election. Have four people here at this meeting. Not in news anymore. Nobody is getting sick but may get sick in 20 years. Pushing it down, kicking it down the line doing the minimum. EPA doesn't have enough power to do it. Lawyers of the big companies have the money to do the minimum requirements. Hear about other stuff not related to this with other sites that have the radiation. We are trying to do something to keep it moving forward. As a citizen, what do I tell people in my group and why nothing is happening and why it is taking so long to do something that shouldn't take so long. Doing this because someone made a law that we have to do it. It's not doing anything to help.

[redacted] Nothing further to add.

[redacted] Once the fix is implemented, it takes a long time for it to work.

[redacted] The fix they are allowed to use because it is cheapest. They could do fixes today but it costs more. Is there a solution that would have worked faster. Is this the fastest, best, efficient manner to clean it up? The citizens would want to know the best approach is being used.

3. How are you currently receiving information for the Site?

[redacted] Receive information from social media (EPA, Facebook, Reddit). Facebook is a lot more conspiracy minded.

[redacted] Site Profile Page and EPA weekly updates

[redacted] EPA emails, city task force, Facebook

[redacted] Site Profile Page, CAG, EPA

[redacted] EPA

4. Whom would you contact when you have questions about the Site?

All – EPA

5. What is your opinion of the government's commitment to cleaning up hazardous waste at the Site?

[redacted] I trust EPA, city is more of a mixed bag due to lawsuit. Assumed they will be tight lipped about OUs 1-3. For Ameren, I am surprised how cooperative they have been. Don't know much about the other PRPs.

[redacted] It is just overwhelmingly frustrating to watch a massively underfunded and an agency that has been stripped of their talent do what they can with what they have and that is not enough. This is not a new problem. See it all over the country on almost every site. Unfortunately, EPA has to stick to a priority list to benefit human health and currently we have clean water and are not a priority.

[redacted] I was apart of it for 12 years. I see a lot. The lack of what was doing was being done. There were off the record conversations and sometimes that needs to be done. I'm glad individuals are taking this seriously and I hope and pray everybody is safe.

[redacted] The individuals at the city/federal level are truly deeply concerned and doing the best they can. The people who run the city/federal politicians have ulterior motives that takes them from doing what is the best for the rest of us. Have to the best you can given the change in politics. Things change based on who is in charge. At the end of the day the people doing to work are doing the best they can. Know people at the city. Before this whole thing. You could tell they want to do what's right. People above them are tying their hands. Can only do what people on the top are telling you what you can do.

[redacted] Our water treatment plants are capable of eliminating all these chemicals at the faucet level. Can be used during political season but they stop worrying about it after that.

6. Is the information from EPA or the state clear and easy to understand?

[redacted] At my level, no and no. This isn't just the data on the website but also the way you talk to people. It's a matter of being a subject matter expert and discussing with the public.

[redacted] The weekly updates are great. The Site Profile Page is not great. So many complaints about finding information; document navigation is an issue. The number one complaint I've heard is the Site Profile Page it is so hard to find anything.

[redacted] 50/50; at some of other websites (MoDNR) you can track down and get different layers and can't find it again.

[redacted] The meetings that have happened; when you take a scientific person that is very deep in their domain of knowledge they can't express themselves to the common person. Made those meetings so difficult – no need to say vinyl chloride a thousand times because it seems like you're talking over us. It makes big, long words and make it unclear. Simplify what is said in a lot less time. Would've alleviated a lot of the fear. If I don't understand, then you are doing something against me. Those types of public meetings – what works better – instead of having those people talk. If you don't have public speakers who are trained to be public speakers. Need to hire somebody to express it in a way that is so much better.

7. What kind of information about the Site do you want or need and how can we provide you with that information? (Newsletter, Fact Sheets, Internet, Community Meetings, websites, bulletin boards, other) How often?

[redacted] There has to be a way to assure people water is safe at the faucet. Bogus filter sellers confusing fluoride and vinyl chloride. Say your water is safe in a simple way while also communicating clean up.

[redacted] Have to find a way to reach the collective public better. Right now, we have just different facets of our population utilizing different information. The people not on social media are missing information. Have to find a way to reach those not on Facebook. Information going out – hard to have an opinion on that but as far as who we are reaching – have to reach all corners of the population.

[redacted] Being down there so long and being myself I look for things. Keep my eyes/ears open. Go down talk to those doing tests in the area. It is hard to get people involved as long as they can turn on tap and not hear it on the news.

Tried to get city paper to say something about the group and it didn't happen. A lot of good information but right now it is slow. Talking about a five-year plan, not in the news and people are not concerned about what they are not scared of. Hard to say how to get people involved.

[redacted] Not much to add. Fear is the only thing that works these days. Don't want to manufacture fear to get the word out. Make messages as clear as we can.

8. Would you like to be added to the electronic mailing list? If so, please ensure your email address is provided.

[redacted] would like to be added.

9. Do you think that there are stakeholders in the community who are not having their concerns addressed? If so, who should we speak with to learn of these stakeholders' needs?

[redacted] If someone was really concerned they would reach out. No, they would have found us.

10. Do you know of any individuals or groups that are interested in the Site and may have special needs or need special considerations (deaf, blind, disabled, homebound, etc.)?

All - We don't know who doesn't know. That is the biggest problem.

11. Is there anyone in particular whom you think we should be sure to include in our community interviews?

[redacted] A lot of recommendations. Not an immediate danger. Water treatment plant is capable of filtering all of the chemicals out for now. There is so much news that is scary and of immediate concern this can be safely ignored/can kicked down the road. Still have clean water, not a priority for them. Need to ask them first. Various grocery stores in town.

[redacted] Interview somebody from hospital (St. Joe (SSM) on fifth street). Only trauma center in St. Charles County. One of the biggest hospitals in the county.

[redacted] All the hospitals. County health department.

12. Is there anything else you would like to share about the site?

[redacted] Thankful for off the record conversations.

INTERVIEW RECORD

Please fill out the information below. If you have questions please contact Jessica Evans, community involvement coordinator, at 314-296-8182 or evans.jessica@epa.gov.

This form can be sent back to the e-mail address provided above or sent to: EPA Region 7, Attn: Jessica Evans, 11201 Renner Blvd., Lenexa, KS 66219

Site Name: Findett Corp. Superfund Site	**EPA ID No.:** MOD006333975	
Subject: Findett Corp. Superfund Site Sixth Five-Year Review	**Time:** 1830	**Date:** 10/24/2024

Type: ☐ In Person ☐ Telephone X Email ☐ Other:

Location (if needed): ☐ Site ☐ Work/Office X Home ☐ Other:

Interviewer Information (If needed)

Name: Jessica Evans/JP Curry/Susan Fisher	**Title:** Community Involvement Coordinator, Remedial Project Manager, Section Supervisor	**Organization:** Environmental Protection Agency

Contact information

Name: [redacted]	**Title:** CAG Group Co-Chair, Community Resident	**Organization:** CAG/community members

Telephone No: [redacted]

E-Mail Address: [redacted]

Street Address: [redacted]

City, State, Zip: St. Charles, MO [redacted]

Summary of Conversation

1. What do you know about the Findett Corp. Superfund Site (Site)? How did you first become aware of contamination associated with the Site?

I was informed of a public meeting the mayor was calling for the community related to OU4 and Ameren's potential as a responsible party near the Site, so I attended in hopes that my background/career in environmental consulting could be of use

2. What are your concerns about the Site and its cleanup? What is your biggest concern?

My biggest concern is obviously that we have chosen an MNA strategy that is simply not working. Not only is there still substantial contamination in the ground, but there is compelling evidence that it is continuing to migrate and expand throughout our city's wellfield. None of this was being addressed until my mayor called a public meeting about a separate responsible party contaminating our wellfield and we learned that contingencies that were supposed to have been enacted as detailed in the original consent decree in relation to this site were not. I also have grave concerns that I still have not seen anything close to a comprehensive investigative effort to identify and delineate the plume both vertically and horizontally, so I'm confused as to how we are going to make competent remedial decisions when we lack the data to do so.

3. How are you currently receiving information for the Site?

City Task Force, Site Profile Page and EPA weekly updates

4. Whom would you contact when you have questions about the Site?

EPA – Jessica Evans. Her communication has been fantastic since the initial city public meeting, but it's concerning that it took our mayor crying for help before any of us were even aware this was happening, and I work in the industry and still didn't know about it.

5. What is your opinion of the government's commitment to cleaning up hazardous waste at the Site?

It is infuriatingly frustrating to watch a massively underfunded agency stripped of their long-time expertise and knowledge do what they can with what they have. It's not enough, and this is not a new problem, as we see it all over the country on almost every government funded Site that's been dumped on the EPA to clean up after the corporate entities responsible get to walk away unscathed. Unfortunately, EPA has to stick to their priority list to benefit human health, and currently we have clean water, so I know how that ends for us, with water customers footing the bill for someone else's contamination.

6. Is the information from EPA or the state clear and easy to understand?

The weekly updates are great. The Site Profile Page is not great. It is incredibly difficult to navigate to find documents, and there has to be a better way to improve the userface. This is the number one complaint I have heard from community members and other CAG members trying to remain informed. I've also been less than impressed with the representatives and speakers that EPA has sent to present at the public meetings. This does not include Susan and Jessica, but the "experts" and project managers that have been sent to address the public at large. We need trained public speakers who can effectively communicate already confusing information to the public in layman's terms. It is very obvious that the people who have been sent to answer questions in front of the community are equal parts woefully uninformed about the Site history, and unequipped to handle public speaking from a community concerned about their health.

7. What kind of information about the Site do you want or need and how can we provide you with that information? (Newsletter, Fact Sheets, Internet, Community Meetings, websites, bulletin boards, other) How often?

We have to find a way to reach the lost corners of our community better. Right now, we have different demographics of our population utilizing different information based on available resources to them, which isn't always factual or helpful in working toward a solution. We also have a wide variety of community demographics not represented in our CAG group because both ours and the EPA's outreach just simply isn't getting to them. I don't have a facebook, and if I wasn't connected via the CAG group or City Task Force, I wouldn't know where to go, because those not on social media are missing information.

8. Would you like to be added to the electronic mailing list? If so, please ensure your email address is provided.

9. Do you think that there are stakeholders in the community who are not having their concerns addressed? If so, who should we speak with to learn of these stakeholders' needs?

I think there are, but they either don't know where to address those concerns, or have been fatigued by a lack of response/action.

10. Do you know of any individuals or groups that are interested in the Site and may have special needs or need special considerations (deaf, blind, disabled, homebound, etc.)?

We don't know who doesn't know. That is the biggest problem.

11. Is there anyone in particular whom you think we should be sure to include in our community interviews?

[redacted]– Interview somebody from hospital (St. Joe (SSM) on fifth street). Only trauma center in St. Charles County. One of the biggest hospitals in the county and serves a large portion of it.

12. Is there anything else you would like to share about the site?

I'm not sure why MNA was chosen as the remediation option, particularly when we knew there was a drinking water source nearby, but that absolutely cannot be the remedial action going forward. As previously stated, there is compelling evidence this plume is migrating (likely due to the influence of the wellfield) and expanding. I'm only 35, so I don't know what the going strategy was for sites like this when this agreement was made, but risking a drinking water source for 70,000 people plus multiple commercial customers at the expense of the taxpayers is precisely the opposite of what the EPA is supposed to be doing. It is absolutely not the fault of the individuals working on this Site on behalf of the EPA, and it's frustrating to watch everyone walk on eggshells week after week because no one has the authority to actually take action.

INTERVIEW RECORD

Please fill out the information below. If you have questions please contact Jessica Evans, community involvement coordinator, at 314-296-8182 or evans.jessica@epa.gov.

This form can be sent back to the e-mail address provided above or sent to: EPA Region 7, Attn: Jessica Evans, 11201 Renner Blvd., Lenexa, KS 66219

Site Name: Findett Corp. Superfund Site	**EPA ID No.:** MOD006333975	
Subject: Findett Corp. Superfund Site Sixth Five-Year Review	**Time: 1030**	**Date: 11/19/2024**

Type: ☐ In Person x Telephone ☐ Email ☐ Other:

Location (if needed): ☐ Site ☐ Work/Office ☐ Home ☐ Other: Telephone conversation

Interviewer Information (If needed)

Name: Jessica Evans/JP Curry	**Title: CIC/RPM**	**Organization: EPA R7**

Contact information

Name: [redacted]	**Title:** [redacted]	**Organization: N/A**

Telephone No:
E-Mail Address:
Street Address:
City, State, Zip:

Summary of Conversation

1. What do you know about the Findett Corp. Superfund Site (Site)? How did you first become aware of contamination associated with the Site?

I'm old time St. Charles. Familiar with Findett/Cadmus way back in early days when it hit the newspaper. Been following since day one. Family was in construction business. Aware of underground contamination – we did work in that area. Recently, hasn't been in papers much but follow St. Charles Wellhead District so that's another way I became aware of what has been going on. Have done considerable environmental sampling and studying reports recently. Under contract to purchase properties in and around the site.

2. What are your concerns about the Site and its cleanup? What is your biggest concern?

To use a worn out phrase, it is what it is. Concerned about future movement and whether or not it will eventually disappear or is this going to be a problem for a long time. If so, will containment help situation/reduce it or will it get worse. What happens in the future and how predictable is that? What is the level of confidence of that?

3. How are you currently receiving information for the Site?

St. Charles Wellhead District – their information on their website is sporadic and confusing. JP has been very helpful, including conference call once with Daniel Lyskowski; was very helpful and clear. Met with Geotechnology a couple times (doing ongoing testing) and more specific – I hired my own environmental consultant (Jim Foley) and relied on him to interpret what I should and should not do (Herlacher). JP has reports from Herlacher.

4. Whom would you contact when you have questions about the Site?

I would clearly contact Mr. Foley or JP. I question city consultant (212) motives. I'm sure he is qualified but his views are slanted. Not a fan of 212. Been in a few conversations with him, did not like the way the conversations went. Did not appreciate their criticisms. Understand vapor intrusion is a big deal and we have to be cautions, past present/future.

5. What is your opinion of the government's commitment to cleaning up hazardous waste at the Site?

I think it is positive. I don't fully understand the effort of remediation going forward but I trust it is in good hands. Government is doing what they need to/have to. Don't question that. Generally think it is positive. Unclear about subsurface efforts to control the movement.

JP – March effort/sampling event was to fully understand southern boundary.

Will there be random tests like that in the future? Is there a five-year plan going forward

JP – working with PRPs – going to be doing work at that property. So far it is limited just to that property. Theres a possibility it goes into closer to Elm Point Wellfield area to ensure wells do not exceed MCLs. So far focusing on source area.

6. Is the information from EPA or the state clear and easy to understand?

Kind of. As a nonscientist, I often get lost in the big words. I don't know if there's a regular update in plain English that would be helpful. I'm sure what you send out is thorough and accurate, I'm just not sure on what schedule that is sent out, not sure that I understand it. I understand that contaminants and chemicals, etc. have big words and big names, not sure if there's a simple way to explain that, but that is a tough task. I don't know how you simplify it for developers.

7. What kind of information about the Site do you want or need and how can we provide you with that information? (Newsletter, Fact Sheets, Internet, Community Meetings, websites, bulletin boards, other) How often?

I want to say say every six months, but I'm not sure of the tests are created/changed that often but it is good in layman's language what the contaminants are doing. If they are as expected/surprising/more concern and then to put that simple progress/lack of progress into a summary. But I'm not sure how often it is to reasonably give that information. How often are Geotech wells monitored?

JP – contamination in them monitored every six months. Entire well monitored annually.

Who gets those reports?

JP – EPA gets them and make them publicly available.

8. Would you like to be added to the electronic mailing list? If so, please ensure your email address is provided.

Yes. EPA has email address.

9. Do you think that there are stakeholders in the community who are not having their concerns addressed? If so, who should we speak with to learn of these stakeholders' needs?

I don't know of any. This has been so visible, and JP has been there when he needs to be. And I think people can get answers if they investigate. If they don't know it's because they didn't ask the right people or the right questions. Would not be inclined to blame the government.

10. Do you know of any individuals or groups that are interested in the Site and may have special needs or need special considerations (deaf, blind, disabled, homebound, etc.)?

I do not.

11. Is there anyone in particular whom you think we should be sure to include in our community interviews?

Have you done this with staff at St. Charles city?

JP – Yes.

St. Chares County - a lot of engineers running around. JP has worked hard to talk to the neighbors around the site. Sometimes they are not cooperative. JP has pretty much reached out to those who are affected.

12. Is there anything else you would like to share about the site?

Yes; are we confident that the correct environmental decisions are based on fact vs. political. Don't have reason to believe political. Has it ever or could it be? I just question whether this site has merit and facts behind it rather than politics.

Where does this end? Is there an end to the contaminants? It is 20 years out. When and where does it end or will we be talking about this forever? Do we know that answer?

I mentioned it earlier but, explanations – get them simplified. Chemicals to non experts. Effort to make it more understood by the broader spectrum.

Is anything we are doing/any of the contaminants is anything affected by Ameren claims. Has the Ameren contaminants connected with the Findett contaminants. Do we know that answer – is that a real problem? Or will that go away?

Developers don't like surprises and so it is hard to ask the government to predict what's going to happen here but if there was a best guess – developers can plan for it. Like if the contaminant was going to go away in 10 years. That's what we plan on. That may be impossible. I'm sure you're doing what you can.

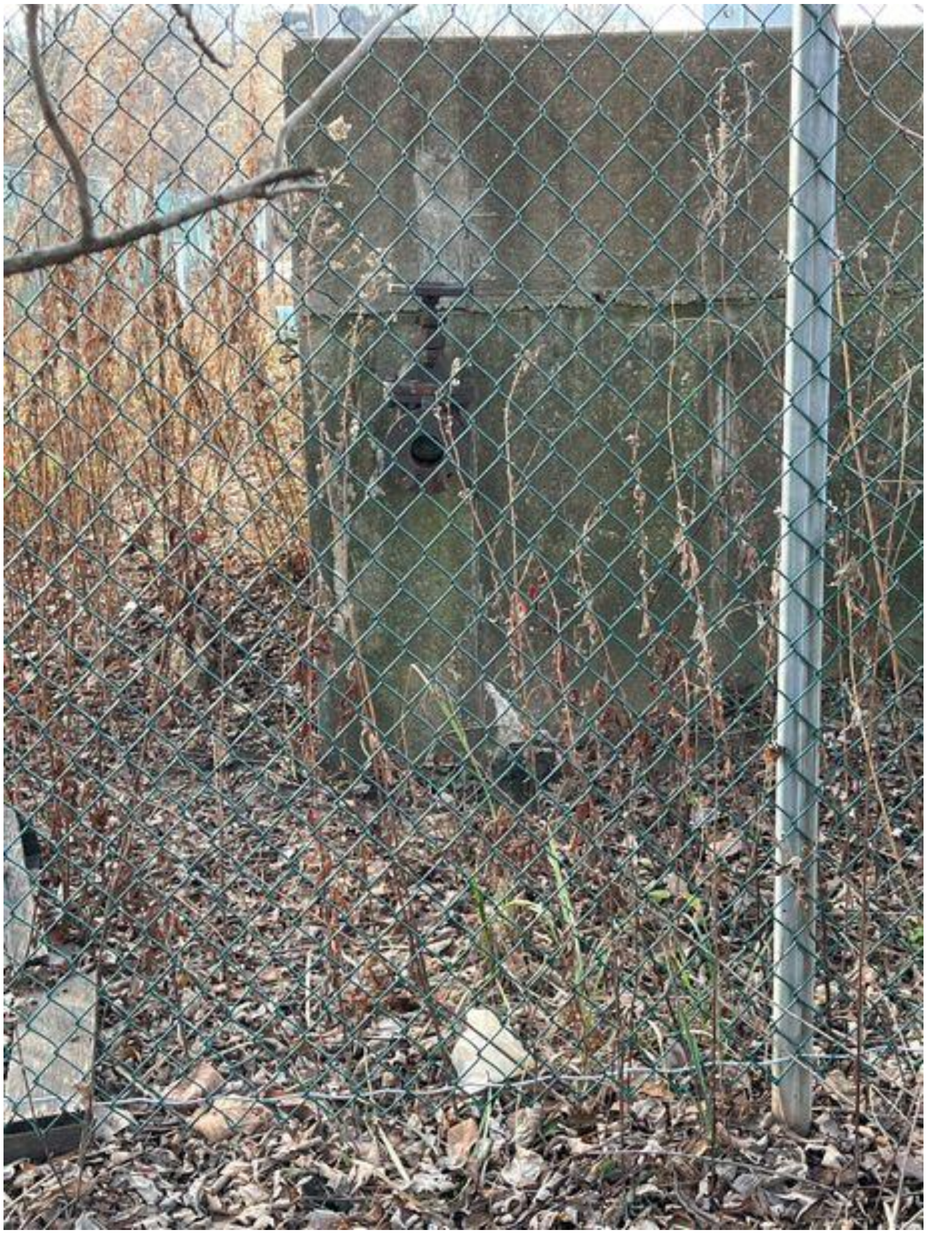
APPENDIX K – PHOTOGRAPHS

October 24, 2024. EW-1 has loose, silver-colored, metal disk as a lid. Disk was replaced with metal lock in January 2025.

December 10, 2024. Concrete trough mentioned in 1976 EPA Report of Investigation discovered.

December 10, 2024. Second angle of concrete trough where historic discharges to north ditch occurred.

December 10, 2024. Small creek originating from surface pond on neighboring property to Findett along north ditch area.



December 10, 2024. Unknown pipe protruding from concrete foundation believed to be coming from under eastern storage tank area.

December 10, 2024. Unknown PVC pipe protruding from concrete foundation on eastern side of former Findett Corp. operations area.

APPENDIX L – 1976 REPORT OF INVESTIGATION AND NPDES PERMIT

REPORT OF INVESTIGATION

ST. CHARLES, MISSOURI

FINDETT SERVICE CORPORATION

OCTOBER 15, 1976

BY

U. S. ENVIRONMENTAL PROTECTION AGENCY
Region VII
Surveillance and Analysis Division

7ES

Site: Findett Corp
ID #: MAD006333975
Break: 1.0
Other: 04#1
10-15-76

0795

INTRODUCTION

At the request of the Oil and Hazardous Materials Section, a sampling investigation of the Findett Service Corporation was conducted by the Water Section in July, 1976. This report presents the results of the investigation.

INVESTIGATIVE PERSONNEL

Investigative Phase:

Date: July 23-24, 1976

Personnel: Robert Greenall

Title: Chemist

Personnel: Stephen Busch

Title: Sanitary Engineer

FACILITY DESCRIPTION

The Findett Service Corporation reclaims used Monsanto hydraulic and heat transfer fluids by removing contaminants and products of degradation. The fluids are distilled and filtered. Residues from the distillations are put into a retention pond and filter paper and filter cartridges are sent to a landfill. Recoveries of fluids are estimated by the Company to be approximately 90 percent.

Estimated wastewater flow at the time of sampling was approximately five gallons per minute (19 liters per minute). The maximum flow was estimated by Company personnel to be 40 gallons per minute (151 liters per minute). The number of hours of weekly operation vary with available work and manpower.

Wastewater is discharged to a branch of the Dardene Creek which ultimately discharges to the upper Mississippi River. No wastewater treatment is provided.

MONITORING PROCEDURE

An ISCO 1680 automatic wastewater compositor was installed at the facility discharge trough on July 21, 1976. The samples were composited over a period of approximately 24 hours and were collected through July 24, 1976. Grab samples were taken on July 23 from a small ditch leading from the retention basin to the creek and from the creek at the edge of the property line. The results of the monitoring are presented in the attached tables.

FINDINGS

1. Two discharges from the facility to the creek were observed. A concrete trough discharged continuously during plant operation and was sampled with a wastewater compositor. A grab sample taken from this discharge on July 24 contained 78 µg/ml polychlorinated biphenyls (PCB). The other discharge was from a pipe which was connected to a solvent tank. This line is used only when solvents in the tank are changed. The solvent is drained into barrels and the tank is washed with water. The wash water is discharged to the creek. No discharge was made during the sampling period.

2. On the south side of the facility is a retention pond which is used to hold residue from the distillation process. A row of wooden pallets had been laid on one side of the pond and barrels labeled, "hydraulic fluid," had been turned on their side on the pallets to drain. A small ditch led from the pond to the creek. At the time of the sampling the pond was full and any addition of liquid would have caused a discharge to the creek. A grab sample taken from liquid in the ditch on July 23 contained 180,000 µg/l PCB and 2408 mg/l oil and grease.

3. At sometime in the past, oil had been dumped in the creek on the north side of the plant. There were four distinct areas where the creek bank was covered with oil. At the point of one oil dump, there were nine empty five gallon buckets which had contained some type of oil. Another area was littered with oil barrel tops. A grab sample taken from the creek at the edge of the property line on July 23 contained 20 mg/l oil and grease, and 639 µg/l PCB.

RESULTS OF ORGANIC ANALYSIS

FINDETT COMPANY

1. Grab sample taken from retention basin ditch on July 23, 1976.

   Several PCB components were identified including the dichloro, trichloro, tetrachloro, pentachloro, and hexachloro biphenyl isomers. A significant amount of a bromine containing compound was present but could not be identified.

   180,000 PPB of PCB as
   AROCLOR 1242

2. Grab sample taken from the creek at property line on July 23, 1976.

   A small amount of bromobenzene was detected by GC/MS.

   639 PPB of PCB as
   AROCLOR 1242

3. Grab sample taken from effluent trough on July 24, 1976.

   No significant components detected by GC/MS.

   78 PPB of PCB as
   AROCLOR 1242

```
    STATION DESCRIPTION: FINDETT SERVICE CORP             ST CHARLES        ST CHARLES        MO
    STORET NO.  002284

                          *****          C O M P O S I T E   S A M P L E   D A T A          *****

 DATE/TIME                          220776 1000                                 230776 0855
                                    230776 0855                                 240776 0810

 TYPE OF SAMPLER                    ISCO 1680 HS                                ISCO 1680 HS
 LAB NO.                            953150                                      953152

 PARAMETERS                                                                                          ARITH MEAN

 00095 CNDUCTVY AT 25C MICROMHO          303.00                                   303.00              303.0000
 00340   COD   HI LEVEL  MG/L            300.00                                    10.00K             155.0000
 00403   LAB       PH       SU             9.00                                     9.00                9.0000
 00530 RESIDUE TOT NFLT   MG/L             6.00                                     4.00K               5.0000
 00610  NH3-N    TOTAL   MG/L              0.40K                                    0.40K               0.4000
 00625 TOT KJEL    N     MG/L              0.40L                                    0.40L               0.4000
 00630 NO2&NO3 N-TOTAL   MG/L              1.56                                     0.32                0.9400
 00665 PHOS-TOT         MG/L P             0.20L                                    0.20L               0.2000
 01027 CADMIUM CD,TOT    UG/L              1.00K                                    1.00K               1.0000
 01034 CHROMIUMCR,TOT    UG/L              5.00K                                    5.00K               5.0000
 01042 COPPER  CU,TOT    UG/L             15.00                                    29.00               22.0000
 01051 LEAD     PB,TOT   UG/L             30.00K                                   35.00               32.5000
 01067  NICKEL NI,TOTAL  UG/L             20.00                                    20.00               20.0000
 01092 ZINC     ZN,TOT   UG/L             10.00K                                   12.00               11.0000
 01105 ALUMINUM AL,TOT   UG/L             15.00                                    20.00               17.5000

                          *****                    G R A B   S A M P L E   D A T A          *****

 DATE/TIME                          230776 0905     230776 0915     230776 0935     240776 0815

 LAB NO.                            953151          953400          953401          953153

 PARAMETERS                                                                                          ARITH MEAN

 00010  WATER    TEMP    CENT         22.50            ***              ***             22.00
 00560 OIL-GRSEFREON-IR  MG/L          1.00K        2408.00            20.40             1.70         607.7750

    NOTE:  *** INDICATES PARAMETER NOT APPLICABLE
```

SEP 8 1976

CHRISTOPHER S. BOND
GOVERNOR

JAMES L. WILSON
DIRECTOR

missouri department of natural resources

~~[illegible]~~St.
P O Box 1368 Jefferson City, Missouri 65101 314-751-3241

File Number: 3.500 St. Charles County
Findett Corporation

Permit Number: MO-0092754

August 27, 1976

Mr. John T. Rogers, Add-In Corporation
c/o Mr. Milton A. Tegethoff
R. R. #1, Box 13
St. Charles, MO 63301

Dear Permittee:

Pursuant to the Federal Water Pollution Control Act, under the authority granted to the State of Missouri and in compliance with the Missouri Clean Water Law, we have issued and are enclosing your National Pollutant Discharge Elimination System (NPDES) Permit to Discharge from your above-referenced facility.

Please READ your permit carefully: Your NPDES Permit to Discharge includes standard and special conditions which must be followed to remain in compliance with the requirements of the Federal Water Pollution Control Act and the Missouri Clean Water Law.

Monitoring reports required by the special conditions must be submitted on a periodic basis. Copies of the necessary report forms are enclosed. If you have any questions concerning these reports, please do not hesitate to call this office or our regional office.

This NPDES Permit is both your Federal discharge permit and your new State operating permit and replaces all previous State operating permits for this facility. In all future correspondence regarding this facility, please refer to your NPDES Permit number, the facility name and the file number listed at the top of this page.

I am sure that you appreciate the importance of eliminating pollution from our Nation's waters and will abide by the terms and conditions of the NPDES Permit. If you have any questions concerning this permit, please do not hesitate to call this office or our regional office at 8360 Watson Rd., St. Louis, MO 63119, phone (314) 849 1313.

Yours truly,

James L. Wilson

James L. Wilson
Director
Department of Natural Resources

JLW/ RHB/hc
Enclosure

cc: EPA - Permit Branch
Billing Dept - Permit Branch

SLRO ✓

DEPARTMENT OF
RAL RESOURCES

[illegible]it No. MO-0092754
A[illegible]ication No. MO-0092754

MISSOURI CLEAN WATER COMMISSION
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the Federal Water Pollution Control Act, Public Law 92-500, 92nd Congress, (Hereinafter, the Act) as amended, and the Missouri Clean Water Law, (Chapter 204 R.S.Mo. Cum. Supp. 1973, hereinafter, the Law),

Owner: Mr. John T. Rogers, Add-In Corporation

Owner's Address: c/o Mr. Milton A. Tegethoff, R. R. #1, Box 13, St. Charles, Missouri 63301

Facility Name: Findett Corporation

Facility Address: R. R. #1, St. Charles, Missouri 63301

Legal Description: NE¼, SE¼, Sec. 23, T47N, R4E, St. Charles County

Receiving Stream & Basin: Branch of Dardenne Creek - Upper Mississippi River Basin (Alton Dam to Des Moines River)

is authorized to discharge from the facility described herein, in accordance with effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

An untreated discharge of process and cooling waters to a stormwater ditch from a chemical recycling operation having an estimated average daily flow of 15,500 gallons.

This permit shall become effective on August 27, 1976 , unless appealed in accordance with Section 204.051.6 of the Law.

This permit and the authorization to discharge shall expire at midnight, 8/26/81

Dated this 27th day of August, 1976

ORIGINAL SIGNED BY

James L. Wilson

James L. Wilson
Director, Department of Natural Resources
Permit Administrator for Missouri Clean Water Commission

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The effluent limitations shall become effective on the dates specified herein. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
	Interim Limitations	Interim Limitations	Final Limitations		
Effective Date		Issuance	7/1/77		
Outfall Number and Effluent Parameter(s)		Daily Average	Daily Average	Measurement Frequency	Sample Type
Outfall #001					
Flow-m^3/Day (MGD)		no limits	no limits	once/month	24 hour total
pH - Units (Not to be averaged)		6.0-9.0	6.0-9.0	once/month	grab
Suspended Solids		100 mg/1	30 mg/1	once/quarter	****
Oil & Grease		100 mg/1	15 mg/1	once/quarter	****
Aluminum		no limits	5 mg/1	once/quarter	****
Copper		no limits	1.0 mg/1*	once/quarter	****
Zinc		no limits	1.0 mg/1	once/quarter	****
Lead		no limits	0.1 mg/1	once/quarter	****
Flouride		no limits	3.0 mg/1	once/quarter	****
Ammonia		no limits	0.3 mg/1	once/quarter	****
Phenols		no limits	1.0 mg/1	once/quarter	****
Temperature		**	**	once/month	grab
Poly-chlorinated Biphenyls		***	***	once/quarter	****
Chemical Oxygen Demand		no limits	100 mg/1	once/quarter	****

* The concentration of copper shall not exceed 0.025 mg/1 when the concentration of zinc is 1.0 mg/1.

** Receiving stream temperature ± 5°F. Temperature of the receiving stream shall not exceed 90°F due to the effluent discharge.

*** There shall be no measureable concentration of poly-chlorinated biphenyls in the effluent discharge.

**** Sample shall be a composite made up of 4 grab samples collected within a 24 hour period with a minimum of 2 hours between each grab.

Monitoring reports shall be submitted quarterly , the first report is due 1/28/77

There shall be no discharge of floating solids or visible foam in other than trace amounts.

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached PART I standard conditions dated October 1, 1975 , and hereby incorporated as though fully set forth herein.

C. SCHEDULE OF COMPLIANCE See Attached

SCHEDULE OF COMPLIANCE

The permittee shall achieve elimination of the existing discharges in accordance with the following schedule:

1. Submit reports of progress toward eliminating the present discharge on the following dates:

    a. November 30, 1976
    b. March 31, 1977

2. Achieve compliance with final effluent limitations by June 30, 1977

SPECIAL CONDITION

Permittee is to abandon the treatment facilities described herein and shall connect the tributary waste load to trunk sewers within 180 days of notice of availability if trunk sewers operated by one of the authorities outlined in Section VI, Subsection 6.01 A, B, or C of CWC Regulation 5 are made available to the site during the time a valid discharge permit exists.

APPENDIX M – 1984 AND 1987 SAMPLING REPORTS AND DATA TRANSMITTALS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY cc: 5/16/84

Deana Bailey

DATE 5/14/84

SUBJECT Transmittal of Laboratory Data

FROM Charles P. Hensley BQK
Chief, Laboratory Branch, ENSV

TO Ketter
Att Oberle

Analyses have been completed for the following activities and the data results are attached.

Activity No.	Description
AA95	Fripett

Attachments

cc: Data Files

EPA Form 1320-6 (Rev. 3-76)

RECEIVED
MAY 17 1984

E 85EK.OK.
30829414

DATA QUALIFIERS FOR EPA REGION VII

U	not detected. For EPA VII lab data U is applied only in conjunction with detection limits. For contract lab data it is applied to contract required limits.
M	The value indicated is below the quantitation limit but above the detection limit.
J	The value is of unknown quality. Approximate value.
I	analysis attempted but no result can be reported.

FIELD SHEET

U.S. Environmental Protection Agency, Region VII
ENVIRONMENT SERVICES DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KS 66115

SITE Identification: FINDETT ST. CHARLES, MO

COLLECTION DATA: YR 83 MO 11 DAY 16 TIME 0855 LEADER: OBERLE

SAMPLE NUMBER: AA9508 SMO #: 8

SAMPLED MEDIA: SOIL, DUST, RINSATE, [✓ SEDIMENT] OTHER ________
SAMPLE SPLIT: ☒ YES / ☐ NO
FINDETT

SAMPLE CONTAINER:	TAG COLOR	PRESERVATIVE	ANALYSIS REQUESTED	STE
PT. JAR	~~PURPLE~~		~~001 - ACIDS~~	5
	~~PURPLE~~		~~002 - B/N~~	
	BLUE		003 - ~~PEST~~	
			- PCB's	
			-	

DEPTH: 0-2" PAN #: _____ ALIQUOTS: 5

SAMPLERS: Buchanan / Oberle

COMMENTS OF FIELD PERSONNEL

SITE DESCRIPTION: FIN

Sample point #1

50ft segment (50-100') eastward of junction of east drainage ditch & north drainage ditch.

SCIEX RESULTS: ________

FIELD SHEET
U.S. Environmental Protection Agency, Region VII
ENVIRONMENT SERVICES DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KS 66115

SITE Identification: FINDETT ST. CHARLES, MO

COLLECTION DATA: YR 83 MO 11 DAY 16 TIME 0930 LEADER: OBERLE

SAMPLE NUMBER: AA9510 SMO #: 10

SAMPLED MEDIA: SOIL, DUST, RINSATE, [✓ SEDIMENT] OTHER __________

SAMPLE SPLIT: X YES / __NO

FINDETT

SAMPLE CONTAINER:	TAG COLOR	PRESERVATIVE	ANALYSIS REQUESTED
PT. JAR	~~PURPLE~~		~~001 - [illegible]~~
	~~PURPLE~~		~~002 - [illegible]~~
	BLUE		003 - ~~[illegible]~~
			- PCB's
			-

DEPTH: 0-2" PAN #: _____ ALIQUOTS: 5

SAMPLERS: Bachanan / Oberle

COMMENTS OF FIELD PERSONNEL

SITE DESCRIPTION: FIN

Sample Point #2
≈ 40ft west of Findett Property line along north drainage ditch 50ft segment

SCIEX RESULTS: __________

FIELD SHEET

U.S. Environmental Protection Agency, Region VII
ENVIRONMENT SERVICES DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KS 66115

SITE Identification: FINDETT ST. CHARLES, MO

COLLECTION DATA: YR 83 MO 11 DAY 16 TIME 0930 LEADER: OBERLE

SAMPLE NUMBER: AA9511 SMO #: 11

SAMPLED MEDIA: SOIL, DUST, RINSATE, [✓ SEDIMENT,] OTHER ________
SAMPLE SPLIT: X YES / __NO
FINDETT

SAMPLE CONTAINER:	TAG COLOR	PRESERVATIVE	ANALYSIS REQUESTED
PT. JAR	PURPLE ~~PURPLE~~ ~~[illegible]~~		PRIORITY POLLUTANTS ~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~

DEPTH: 0-2" PAN #: _____ ALIQUOTS: 5

SAMPLERS: Oberle / Buchanan

COMMENTS OF FIELD PERSONNEL

SITE DESCRIPTION: FIN

Sample Point #2
≈ 40ft west of Findett
Property line along
north drainage creek
50ft segment

SCIEX RESULTS: __________

FIELD SHEET

U.S. Environmental Protection Agency, Region VII
ENVIRONMENT SERVICES DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KS 66115

SITE Identification: FINDETT ST. CHARLES, MO

COLLECTION DATA: YR 83 MO 11 DAY 16 TIME 1020 LEADER: OBERLE

SAMPLE NUMBER: AA9512 SMO #: 12

SAMPLED MEDIA: SOIL, DUST, RINSATE, [✓ SEDIMENT] OTHER __________
SAMPLE SPLIT: [✓ YES] / __NO
FINDETT

SAMPLE CONTAINER:	TAG COLOR	PRESERVATIVE	ANALYSIS REQUESTED
PT. JAR	~~[illegible]~~		~~[illegible]~~
	~~[illegible]~~		~~[illegible]~~
	BLUE		003 - ~~[illegible]~~ PCBs
			-
			-

DEPTH: 0-2" PAN #: _____ ALIQUOTS: 5

SAMPLERS: Buchanan/Oberle

COMMENTS OF FIELD PERSONNEL

SITE DESCRIPTION: FIN Sample Point #3
200-250' N of Elm Point Rd
along east ditch of Hayford
Road. 50 ft segment

SCIEX RESULTS: __________

FIELD SHEET

U.S. Environmental Protection Agency, Region VII
ENVIRONMENT SERVICES DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KS 66115

SITE Identification: FINDETT ST. CHARLES, MO

COLLECTION DATA: YR 83 MO 11 DAY 16 TIME 1020 LEADER: OBERLE

SAMPLE NUMBER: AA9513 SMO #: 13

SAMPLED MEDIA: SOIL, DUST, RINSATE, [✓ SEDIMENT], OTHER ________
SAMPLE SPLIT: X YES / __NO
FINDETT

SAMPLE CONTAINER:	TAG COLOR	PRESERVATIVE	ANALYSIS REQUESTED
PT. JAR	PURPLE [illegible] [illegible]	PRIORITY Pollutants	[illegible]DS [illegible] [illegible]T

DEPTH: 0-2" PAN #: _____ ALIQUOTS: 5

SAMPLERS: Oberle/Buchanan

COMMENTS OF FIELD PERSONNEL

SITE DESCRIPTION: FIN Sample Point #3
200-250ft North of Elm Point Rd along Hayford Bridge Rd. 50ft segment.

SCIEX RESULTS: __________

FIELD SHEET
U.S. Environmental Protection Agency, Region VII
ENVIRONMENT SERVICES DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KS 66115

SITE Identification: FINDETT ST. CHARLES, MO

COLLECTION DATA: YR 83 MO 11 DAY 16 TIME 1645 LEADER: OBERLE

SAMPLE NUMBER: AA9514 SMO #: 14

SAMPLED MEDIA: SOIL, DUST, RINSATE, [✓ SEDIMENT] OTHER ________
SAMPLE SPLIT: ☒YES / __NO
FINDETT

SAMPLE CONTAINER:	TAG COLOR	PRESERVATIVE	ANALYSIS REQUESTED
PT. JAR	~~[illegible]~~ ~~[illegible]~~ BLUE		~~[illegible]~~ ~~[illegible]~~ 003 - ~~[illegible]~~ - PCB's -

DEPTH: 0-24 PAN #: _____ ALIQUOTS: 5

SAMPLERS: Buchanan/Oberle

COMMENTS OF FIELD PERSONNEL

SITE DESCRIPTION: FIN Sample Point #4
112ft segment of Hayford Rd
east drainage ditch
≈1000ft ~~S~~ N. of Elm
Point Rd

SCIEX RESULTS: ________

FIELD SHEET

U.S. Environmental Protection Agency, Region VII .
ENVIRONMENT SERVICES DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KS 66115

SITE Identification: FINDETT ST. CHARLES, MO

COLLECTION DATA: YR 83 MO [illegible] DAY 16 TIME 1045 LEADER: OBERLE

SAMPLE NUMBER: AA9515 SMO #: 15

SAMPLED MEDIA: SOIL, DUST, RINSATE, [✓ SEDIMENT] OTHER ___________
SAMPLE SPLIT: X YES / __NO
FINDETT

SAMPLE CONTAINER:	TAG COLOR	PRESERVATIVE	ANALYSIS REQUESTE
PT. JAR	PURPLE ~~[illegible]~~ ~~[illegible]~~	PRIORITY POLLUTANTS	~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~

DEPTH: 0-2" PAN #: _____ ALIQUOTS: 5

SAMPLERS: Oberle/Buchanan

COMMENTS OF FIELD PERSONNEL

SITE DESCRIPTION: FIN Sample POINT # 4
112 ft segment from east drainage ~~east~~ ditch along Hayford Rd ≈ 1000 ft north of Elm Point Rd.

SCIEX RESULTS: ___________

FIELD SHEET
U.S. Environmental Protection Agency, Region VII
ENVIRONMENT SERVICES DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KS 66115

SITE Identification: FINDETT ST. CHARLES, MO

COLLECTION DATA: YR 83 MO 11 DAY 16 TIME 0930 LEADER: OBERLE

SAMPLE NUMBER: AA9527 SMO #: 2

SAMPLED MEDIA: SOIL, DUST, RINSATE, SEDIMENT, OTHER Water

SAMPLE SPLIT: X YES / __NO

FINDETT

SAMPLE CONTAINER:	TAG COLOR	PRESERVATIVE	ANALYSIS REQUESTE
2- 1/2 GAL J.	~~PURPLE~~		[illegible]
	~~PURPLE~~		[illegible]
	BLUE		003 - [illegible]
			- RB's
			-

DEPTH: Surface 0-2" PAN #: _____ ALIQUOTS: NA

SAMPLERS:______________________________

COMMENTS OF FIELD PERSONNEL

SITE DESCRIPTION: FIN Sample Point #2

North drainage creek
app aprox 40ft west of Findett
property line

SCIEX RESULTS: __________

FIELD SHEET
U.S. Environmental Protection Agency Region VII
ENVIRONMENT SERVICES DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KS 66115

SITE Identification: FINDETT ST. CHARLES, MO

COLLECTION DATA: YR 83 MO 11 DAY 16 TIME 0930 LEADER: OBERLE

SAMPLE NUMBER: AA9528 SMO #: 3

SAMPLED MEDIA: SOIL, DUST, RINSATE, SEDIMENT, OTHER WATER
SAMPLE SPLIT: X YES / __NO
FINDETT

SAMPLE CONTAINER:	TAG COLOR	PRESERVATIVE	ANALYSIS REQUESTED
2- 1/2 GAL. J.	PURPLE ~~PURPLE~~ ~~BLUE~~	Priority Pollutants	~~001 — ACIDS~~ ~~002 — [illegible]~~ ~~003 — PEST~~ - -

DEPTH: 0-2" PAN #: _____ ALIQUOTS: NA

SAMPLERS: Buchanan/Oberle

COMMENTS OF FIELD PERSONNEL

SITE DESCRIPTION: FIN

Sample Point #2

≈ 40ft west of Findett property line in north drainage ditch.

SCIEX RESULTS: __________

TITLE:FINDETT
MATRIX: SEDIMENT
UNITS: UG/KG

ANALYSIS TYPE: CONTRACT ACID ORGANICS
DATE: 3/5/84
METHOD #: 9301M06

SAMPLE PREP:
ANALYST: TLD REVIEWER:
LAB:ENCOTEC

		SAMPLE NUMBERS			
		AA9509	AA9511	AA9513	AA9515
COMPOUND	STORET#				
2,4,6 TRICHLOROPHENOL	34624	10000.U	10000.U	400.U	400.U
P-CHLORO-M-CRESOL	34455	20000.U	20000.U	800.U	800.U
2-CHLOROPHENOL	34589	10000.U	10000.U	400.U	400.U
2,4 DICHLOROPHENOL	34604	10000.U	10000.U	400.U	400.U
2,4 DIMETHYLPHENOL	34609	10000.U	10000.U	400.U	400.U
2-NITROPHENOL	34594	20000.U	20000.U	800.U	800.U
4-NITROPHENOL	34649	100000.U	100000.U	4000.U	4000.U
2,4-DINITROPHENOL	34619	50000.U	50000.U	2000.U	2000.U
4,6 DINITRO-2-METHYLPHENOL	34660	20000.U	20000.U	800.U	800.U
PENTACHLOROPHENOL	39061	20000.U	20000.U	800.U	800.U
PHENOL	34695	32000.J	10000.U	400.U	400.U

TITLE:FINNETT
MATRIX: WATER
UNITS: UG/L

ANALYSIS TYPE: CONTRACT ACID ORGANICS
DATE: 3/7/84
METHOD #: [illegible]

SAMPLE PREP:
ANALYST: TLD   REVIEWER:
LAB:ENCOTEC

SAMPLE NUMBERS

COMPOUND	STORET#	AA9528
2,4,6 TRICHLOROPHENOL	34621	10.U
P-CHLORO-M-CRESOL	34452	20.U
2-CHLOROPHENOL	34586	10.U
2,4 DICHLOROPHENOL	34601	10.U
2,4 DIMETHYLPHENOL	34606	10.U
2-NITROPHENOL	34591	20.U
4-NITROPHENOL	34646	100.U
2,4-DINITROPHENOL	34616	50.U
4,6 DINITRO-2-METHYLPHENOL	34657	20.U
PENTACHLOROPHENOL	39032	20.U
PHENOL	34694	10.U

TITLE:FINDETT
MATRIX: SEDIMENT
UNITS: UG/KG

ANALYSIS TYPE: CONTRACT BASE-NEU ORGANICS
DATE: 3/8/84
METHOD #: 9301M06

SAMPLE PREP:
ANALYST: TLD REVIEWER:
LAB:ENCOTEC

SAMPLE NUMBERS

COMPOUND	STORET#	AA9509	AA9511	AA9513	AA9515
ACENAPHTHENE	34208	10000.U	10000.U	400.U	400.U
BENZIDINE	39121	40000.U	40000.U	1600.U	1600.U
1,2,4 TRICHLOROBENZENE	34551	10000.U	10000.U	400.U	400.U
HEXACHLOROBENZENE	39701	10000.U	10000.U	400.U	400.U
HEXACHLOROETHANE	34399	10000.U	10000.U	400.U	400.U
BIS(2-CHLOROETHYL)ETHER	34276	10000.U	10000.U	400.U	400.U
2-CHLORONAPHTHALENE	34584	10000.U	10000.U	400.U	400.U
1,2 DICHLOROBENZENE	34539	10000.U	10000.U	400.U	400.U
1,3 DICHLOROBENZENE	34569	10000.U	10000.U	400.U	400.U
1,4 DICHLOROBENZENE	34574	10000.U	10000.U	400.U	400.U
3,3' DICHLOROBENZIDINE	34634	20000.U	20000.U	800.U	800.U
2,4 DINITROTOLUENE	34614	20000.U	20000.U	800.U	800.U
2,6 DINITROTOLUENE	34629	10000.U	10000.U	400.U	400.U
1,2 DIPHENYLHYDRAZINE	34349	20000.U	20000.U	800.U	800.U
FLUORANTHENE	34379	10000.U	10000.U	400.U	400.U
4-CHLOROPHENYL PHENYL ETHER	34644	10000.U	10000.U	400.U	400.U
4-BROMOPHENYL PHENYL ETHER	34639	10000.U	10000.U	400.U	400.U
BIS(2-CHLOROISOPROPYL)ETHER	34286	20000.U	20000.U	800.U	800.U
BIS(2-CHLOROETHOXY)METHANE	34281	20000.U	20000.U	800.U	800.U
HEXACHLOROBUTADIENE	39705	10000.U	10000.U	400.U	400.U
HEXACHLOROCYCLOPENTADIENE	34389	10000.U	10000.U	400.U	400.U
ISOPHORONE	34411	10000.U	10000.U	400.U	400.U
NAPHTHALENE	34411	10000.U	10000.U	400.U	400.U
NITROBENZENE	34450	10000.U	10000.U	400.U	400.U
N-NITROSODIPHENYLAMINE	34436	10000.U	10000.U	400.U	400.U
N-NITROSODI-N-PROPYLAMINE	34431	10000.U	10000.U	400.U	400.U
BIS(2-ETHYLHEXYL) PHTHALATE	39102	10000.U	10000.U	400.U	84.J
BENZYL BUTYL PHTHALATE	34295	10000.U	10000.U	400.U	400.U
DI-N-BUTYL PHTHALATE	39112	10000.U	10000.U	400.U	432.J
DI-N-OCTYL PHTHALATE	34599	10000.U	13000.J	400.U	400.U
DIETHYL PHTHALATE	34339	10000.U	10000.U	400.U	400.U
DIMETHYL PHTHALATE	34344	10000.U	10000.U	400.U	400.U
BENZO(A)ANTHRACENE	34529	10000.U	53000.J	400.U	400.U
BENZO(A)PYRENE	34250	20000.U	20000.U	800.U	800.U
BENZO(B)FLUORANTHENE	34233	20000.U	20000.U	800.U	800.U
BENZO(K)FLUORANTHENE	34245	20000.U	20000.U	800.U	800.U
CHRYSENE	34323	10000.U	10000.U	400.U	400.U
ACENAPHTHYLENE	34203	10000.U	10000.U	400.U	400.U
ANTHRACENE	34223	10000.U	10000.U	400.U	400.U
BENZO(GHI)PERYLENE	34524	20000.U	20000.U	800.U	800.U
FLUORENE	34384	10000.U	10000.U	400.U	400.U
PHENANTHRENE	34464	10000.U	10000.U	400.U	400.U
DIBENZO(A,H)ANTHRACENE	34559	20000.U	20000.U	800.U	800.U
INDENO(1,2,3,CD)PYRENE	34406	20000.U	20000.U	800.U	800.U
PYRENE	34472	10000.U	10000.U	400.U	400.U

TITLE:FINDETT
MATRIX: WATER
UNITS: UG/L

ANALYSIS TYPE: CONTRACT BASE-NEU ORGANICS
DATE: 3/7/84
METHOD #: [illegible]

SAMPLE PREP:
ANALYST: TLD REVIEWER: Amc
LAB:ENCOTEC

SAMPLE NUMBERS

COMPOUND	STORET#	AA952B
ACENAPHTHENE	34205	10.U
BENZIDINE	39120	40.U
1,2,4 TRICHLOROBENZENE	34551	10.U
HEXACHLOROBENZENE	39700	10.U
HEXACHLOROETHANE	34396	10.U
BIS(2-CHLOROETHYL)ETHER	34273	10.U
2-CHLORONAPHTHALENE	34581	10.U
1,2 DICHLOROBENZENE	34536	10.U
[illegible],3 DICHLOROBENZENE	34566	10.U
[illegible],4 DICHLOROBENZENE	34571	10.U
3,3' DICHLOROBENZIDINE	34631	20.U
2,4 DINITROTOLUENE	34611	20.U
2,6 DINITROTOLUENE	34626	10.U
1,2 DIPHENYLHYDRAZINE	34346	20.U
FLUORANTHENE	34376	10.U
4-CHLOROPHENYL PHENYL ETHER	34641	10.U
4-BROMOPHENYL PHENYL ETHER	34636	10.U
BIS(2-CHLOROISOPROPYL)ETHER	34283	20.U
BIS(2-CHLOROETHOXY)METHANE	34278	20.U
HEXACHLOROBUTADIENE	39702	10.U
HEXACHLOROCYCLOPENTADIENE	34386	10.U
ISOPHORONE	34408	10.U
NAPHTHALENE	34408	10.U
NITROBENZENE	34447	10.U
N-NITROSODIPHENYLAMINE	34433	10.U
N-NITROSODI-N-PROPYLAMINE	34428	20.U
BIS(2-ETHYLHEXYL) PHTHALATE	39100	10.U
BENZYL BUTYL PHTHALATE	34393	10.U
DI-N-BUTYL PHTHALATE	39110	10.U
DI-N-OCTYL PHTHALATE	34596	10.U
DIETHYL PHTHALATE	34336	21.U
DIMETHYL PHTHALATE	34341	10.U
BENZO(A)ANTHRACENE	34526	10.U
BENZO(A)PYRENE	34247	20.U
BENZO(B)FLUORANTHENE	34230	20.U
BENZO(K)FLUORANTHENE	34242	20.U
CHRYSENE	34320	10.U
ACENAPHTHYLENE	34200	10.U
ANTHRACENE	34220	10.U
BENZO(GHI)PERYLENE	34521	20.U
FLUORENE	34381	10.U
PHENANTHRENE	34461	10.U
DIBENZO(A,H)ANTHRACENE	34556	20.U
INDENO(1,2,3,CD)PYRENE	34403	20.U
PYRENE	34469	10.U

TITLE:FINDETT
MATRIX: SEDIMENT
UNITS: UG/KG

ANALYSIS TYPE: HSL EXTRACTABLES
DATE: 3/8/84
METHOD #: 9301M06

SAMPLE PREP:
ANALYST: TLD REVIEWER:
LAB:ENCOTEC

		SAMPLE NUMBERS			
		AA9509	AA9511	AA9513	AA9515
COMPOUND	STORET#				
ANILINE	*****	10000.U	10000.U	400.U	400.U
BENZYL ALCOHOL	75212	20000.U	20000.U	800.U	800.U
4-CHLOROANILINE	*****	50000.U	50000.U	2000.U	2000.U
DIBENZOFURAN	75647	10000.U	10000.U	400.U	400.U
2 METHYLNAPHTHALENE	*****	20000.U	20000.U	800.U	800.U
2-NITROANILINE	*****	100000.U	100000.U	4000.U	4000.U
3-NITROANILINE	*****	100000.U	100000.U	4000.U	4000.U
4-NITROANILINE	*****	100000.U	100000.U	4000.U	4000.U
BENZOIC ACID	75315	100000.U	100000.U	4000.U	4000.U
2-METHYLPHENOL	*****	10000.U	10000.U	400.U	400.U
4-METHYLPHENOL	*****	10000.U	10000.U	400.U	400.U
2,4,5 TRICHLOROPHENOL	*****	100000.U	100000.U	4000.U	4000.U

```
TITLE:FINDETT                         ANALYSIS TYPE: HSL EXTRACTABLES                 SAMPLE PREP:
MATRIX: WATER                         DATE: 3/7/84                                    ANALYST: TLD   REVIEWER: Amc
UNITS: UG/L                           METHOD #: [illegible]                           LAB:ENCOTEC

                                                    SAMPLE NUMBERS

                                   AA9528
       COMPOUND              STORET#

ANILINE                       77089      10.U
BENZYL ALCOHOL                81671      20.U
4-CHLOROANILINE               *****      50.U
DIBENZOFURAN                  81302      10.U
2 METHYLNAPHTHALENE           77416      20.U
2-NITROANILINE                *****     100.U
3-NITROANILINE                *****     100.U
4-NITROANILINE                *****     100.U
BENZOIC ACID                  77247     100.U
2-METHYLPHENOL                77152      10.U
4-METHYLPHENOL                77151      10.U
2,4,5 TRICHLOROPHENOL         77687     100.U
```

TITLE:FINDETT CORP., PCB'S
MATRIX: SEDIMENT
UNITS: UG/KG

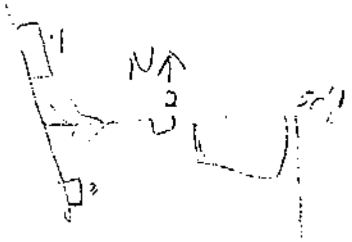
ANALYSIS TYPE: PCB'S
DATE: 5/11/84
METHOD #: EE0655R

SAMPLE PREP: Low.
ANALYST: CMD REVIEWER: RB.
LAB:EPA 7

COMPOUND	STORET#	SAMPLE NUMBERS AA9508 G2274	AA9509 G2275	AA9510 G2276	AA9511 G2277	AA9512 G2278	AA9513 G2279	AA9514 G2280	AA9515 G2281
		1		2		3		4	
CB 1242	39499	300. U	3000. U	53000. J	33000. J	30. U	30. U	30. U	30. U
CB 1254	39507	6200. J	5100. J	7200. J	6200. J	35. U	35. U	63. J	40. J
CB 1221	39491	250. U	2500. U	2500. U	2500. U	25. U	25. U	25. U	25. U
CB 1232	39495	100. U	1000. U	1000. U	1000. U	10. U	10. U	10. U	10. U
CB 1240	39503	7000. J	8700. J	3000. U	3000. U	30. U	30. U	30. U	30. U
CB 1260	39511	540. J	1000. U	1000. U	1000. U	10. U	10. U	10. U	10. U
CB 1016	39514	300. U	3000. U	3000. U	3000. U	30. U	30. U	30. U	30. U

Amounts are estimated.
Use only for qualitative purposes

AMC
5/14/84



U = undetected
J =

TITLE:FINDETT CORP., PCB'S
MATRIX: WATER
UNITS: UG/L

ANALYSIS TYPE: PCB'S
DATE: 5/11/84
METHOD #: CE00SWP

SAMPLE PREP: Contractor
ANALYST: CMR REVIEWER: Rb.
LAB:EPA 7

COMPOUND	STORET#	AA9627 G2282		AA9528 G2283		AA9502 G2287	
PCB 1242	39496		2.2J	.35	U	.35	U
PCB 1254	39504	.96	J	.47	J	.4	U
PCB 1221	39488	.3	U	.3	U	.3	U
PCB 1232	39492	.1	U	.1	U	.1	U
PCB 1240	39500	.35	U		1.2J	.35	U
PCB 1260	39508	.1	U	.1	U		2.6J
PCB 1016	34671	.35	U	.35	U	.35	U

Amounts are estimated
Use only for qualitative purposes

5/14/84

09-2-1

ecology and environment, inc.
CLOVERLEAF BUILDING 3, 6405 METCALF, OVERLAND PARK, KANSAS 66202, TEL. 913/432-9961

International Specialists in the Environment

Site: Hayford Bridge #3
ID #: MOD064658933
Break: 1.2
Other: E+E
3-24-87

40630874
Superfund

MEMORANDUM

TO: Paul Doherty, RPO

THRU: Sharon Martin, AFITOM

FROM: Bob Wiggans, E&E/FIT

DATE: March 24, 1987

SUBJECT: Cadmus Corporation, St. Charles, Missouri
Sampling Trip Report
TDD # F-07-8612-03 PAN# FM00233SI
Site #09G Project #001

INTRODUCTION

The Ecology and Environment Inc. Field Investigation Team (E&E/FIT) was tasked by the Region VII office of the U. S. Environmental Protection Agency (EPA) to collect surface and subsurface soil samples, subsurface water samples, and drainage samples from the Cadmus Corporation site in St. Charles, Missouri (Figures 1 and 2). The objective of this sampling was to determine if previously detected volatile organic compound (VOC's) and polychlorinated biphenyl (PCB) contamination has migrated from the adjacent facility (Findett Corporation), or if this contamination may have originated from Cadmus. The data generated from this sampling effort will be used by the EPA as part of a remedial investigation of the Findett Corporation to be conducted in the near future.

The sampling plan called for four soil samples to be collected from each of four borings drilled to twenty feet. An additional boring was to be drilled if field screening results from the AID portable gas chromatograph showed PCB contamination in the two borings near the Findett quench pond. If water was encountered during the drilling operations, a water sample was to be collected at that point. In addition, surficial soil/sediment samples were to be collected from the drainage ditches along the south and east property lines, from along the edge of the quench pond, and from an off-site location as a background sample. All samples were to be analyzed for base/neutrals/acids, total metals, VOA's, and pesticides. Additionally, water samples were filtered for dissolved metals analysis.

SAMPLING

The field work for Cadmus Corporation was done in conjunction with other field work being done in the St. Louis area beginning January 26, 1987. The E&E/FIT, consisting of Robert Wiggans, Nancy Kepko, Neal Hudson, John Cook and Ron Wood, arrived on-site at Cadmus Corporation on January 29, 1987. The access agreement arranged with Cadmus Corp. (attached) required that a company representative be present at all times the E&E/FIT were on-site, and that work could not begin until after 12:00 noon each day. Sample locations are shown on Figure 3 and summarized in Table 1.

On January 29, 1987, soil/sediment samples were collected from the drainage ditches along the south and east property lines. Each sample consisted of five aliquots, 0-2 inches deep. Drilling at boring #1 located 24 feet north, 36 feet west of the northeast building corner, was iniated using the EPA, CME-45, drill rig. A composite soil sample was taken of the auger cuttings from 0-5 feet deep. Two, 24 inch, split spoon samples were then taken at depths of 5-7 feet and 7.5-9.5 feet. These were composited into one sample and was considered to be representive of the entire 5-10 foot depth. During the drilling of boring #1, water was encountered at approximately 6 feet. Drilling was temporarily discontinued at 7.5 feet to take a water sample from inside the hollow stem auger. There was not enough water in the boring to collect enough sample for all the parameters at this time. It was decided to discontinue drilling for the day to allow enough water to infiltrate into the boring to complete the water samples for that boring. PCB concentrations obtained from the field screening were: 25 ppm at 0-5 feet and less than 0.5, ppm at 5-10 feet. Field screening results are summarized in Table 2.

On January 30, 1987 the water sample for boring #1 was completed and drilling was resumed. Two 24-inch spilt spoon samples were taken in the interval from 10-15 feet and composited into one sample. Two 24-inch split spoon samples were also taken in the interval from 15-20 feet and composited into one sample. A cement bentonite grout mixture, in the ratio of 6 gallons of water to 94 # Type I Portland to 10 # bentonite, was used to backfill the boring as the augers were removed. Upon completion of the boring it was discovered that the water-core to the EPA steam generator had burst making the unit inoperable. Decontamination of the augers had to be postponed until a rental steam generator could be obtained. PCB concentrations obtained from the field screening were: less than 0.5 ppm from 10-15 feet, and less than 0.5 ppm from 15-20 feet.

Mike Worster, the President of Cadmus Corporation, had stated that he would not be available to be on-site as the Cadmus representative throughout the weekend, January 31 and February 1, and that he would not designate an alternate represenetive. The E&E/FIT therefore decided to postpone further work until the following week and to return to Kansas City.

On February 3, 1987 the E&E/FIT returned to St. Charles. Drilling was initiated on Boring #2, located 21 feet north, 5 feet west of the northeast building corner. Based on the results from the field screening on boring #1, it was decided to take two separate samples in the 0-5 feet interval in an attempt to further delineate the possible zones of contamination in the upper 5 feet. In addition, one 24-inch split spoon sample would be taken in each succeeding 5 foot interval and would be considered to be representative of the entire 5 foot column. One soil sample was collected from the auger cuttings 0-2.5 feet, and one 24-inch spolt spoon soil sample was taken from 2.5-4.5 feet. 24 inch split spoon soil samples were also taken at depths of: 7.5-9.5 feet, 12.5-14.5 feet, and 17.5-19.5 feet. Drilling was temporarily discontinued at 7.5 feet to collect a water sample (there was no problem of recharge in boring #2).

During removal of the center rod from the hollow stem augers, prior to grouting the boring, the pilot bit became wedged in the top 5 feet of auger flight. This prohibited full removal of the center rod. The auger flight had to be backed out 2.5 feet, while the top 5 feet of auger with the center rod was removed; before the boring could be backfilled with grout in the same manner as boring #1. PCB concentrations for boring #2 obtained from the field screening were: 1430 ppm from 0-2.5 feet, 35 ppm from 2.5-4.5 feet, 223 ppm from 7.5-9.5 feet, 10 ppm from 12.5-14.5 feet, 12 ppm from 17.5-19.5 feet, and 17 ppm for the water sample.

On February 4, 1987 drilling was initiated on boring #3 located 7 feet south, 21 feet east of the northeast building corner. Boring #3 had to be relocated further west than proposed in the work plan due to the close proximity of active propane storage tanks. Steve Vaughn, E&E/FIT, arrived on-site to assume the responsibility of drill rig operator. During set-up on the boring location, a hydraulic fitting to the drill rig sliding carriage burst. The E&E/FIT had to obtain and install a replacement fitting before continuing.

One soil sample from boring #3 was taken of the auger cuttings at 0-2.5 feet. 24 inch split spoon samples were taken at depths of: 2.5-4.5 feet, 7.5-9.5 feet, and 12.5-14.5 feet. Drilling was temporarily discontinued and a water sample was collected at approximately 10.0 feet. The clay in boring #3 was not as saturated as the clay in the previous 2 borings, but it was considerably more stiff. At 12.5 feet the CME-45 drill rig did not have enough power to drill deeper through the stiff material and drilling was discontinued at that point. As on boring #2, the center bit became wedged in the top five feet of auger flight during removal of the center rod. The same proceedure for back filling boring #3, with the cement/bentonite grout, was used as at boring #2. PCB concentrations for boring #3 obtained from the field screening were: 539 ppm at 0-2.5 feet, 415 ppm at 2.5-4.5 feet, 21 ppm at 7.5-9.5 feet, and 4.5 ppm at 12.5-14.5 feet.

On February 5, 1987 while setting up on boring #4, located on the south side of the building, the hydraulic pump on the drill rig failed. This required taking the rig to the CME facility in St. Louis for repair. Mr. Worster said that he would not be available to be on-site the next several days. It was therefore decided to discontinue drilling and collect two surficial samples 0-12 inches deep, along the drive on the south side of the building. These samples were collected by digging with a pick under approximately 12-18 inches of gravel cover. Sample locations were: 2 feet west, 17 feet south of the southeast building corner (I099G020); and 61 feet west, 27 feet south of the southeast building corner (I099G022). One off-site surface background sample was taken along Elm Point Road, west of the site entrance.

Due to the rig failure, the additional samples that were to be taken on the basis of the field screening results, were not taken. In addition, an off-site upgradient subsurface water sample that was to be taken to address HRS concerns, was not collected.

It was found that the proposed location for the sample along the edge of the quench pond was on Findett Corporation property. Findett Corporation would not grant access to their property to collect this sample.

Soil samples were hazard-packed, and all samples were delivered to the Region 7 EPA Lab on February 3, 1987.

DECONTAMINATION

Non expendable sampling equipment was decontaminated by using a water/alconox wash; followed by a potable water rinse, a methanol rinse, and a final rinse with deionized water. The drill rig equipment was decontaminated by using a Landa Corporation Model PHW3-710 steam generator and a water/alconox solution. This was followed by a potable water rinse, a methanol rinse, and a final rinse with deionized water. Potable water was obtained from the Sunset Hills fire station in St. Louis. A sample of this water was collected for analysis.

Contaminated disposable equipment was collected in plastic bags and turned over to the Region 7 EPA Lab in Kansas City, Kansas for disposition on February 6, 1987.

Auger cuttings were collected in 2 plastic lined, DOT approved, 55 gallon steel drums for each boring. The drums were placed on 4 foot X 4 foot wood pallets and stored on-site pending sample analysis. Mr. Worster stated that after consulting with the Cadmus Corp. lawyer, that he did not want to store the drums on-site as outlined in the work plan. The E&E/FIT called Region 7 EPA on this matter and was initially told that if Cadmus Corp. would not accept the drums, the undrummed auger cuttings were to be left on-site. Region 7 EPA Assistant Regional Counsel, J. Scott Pemberton, later determined that the cuttings should be drummed and left on-site, and that Mr. Worster would have to address his concerns to the EPA.

SUMMARY

A total of three borings were completed at the Cadmus Corporation site in St. Charles, MO. Four soil samples were collected from boring #1 to a total depth of 20 feet. Five soil samples were collected from boring #2 to a total depth of 19.5 feet. Four soil samples were collected from boring #3 to a total depth of 14.5 feet. One water sample was collected from each boring at depths ranging from approximately 6 feet to approximately 10 feet. Two surficial soil/sediment samples, consisting of 5 aliquots, from 0-2 inches, were collected along the south and east drainage ditches. One off-site background surficial sample was collected along Elm Point Road west of the facility entrance. Two soil samples, 0-12 inches deep, were collected from under the gravel cover, south of the main building. One sample was taken of the water obtained from the Sunset Hills Fire Department that was used for decontamination.

A final report will be prepared upon receipt of the data transmittal package. A completed 2070-13 SI form will be attached to the final report. Disposition of the drummed auger cuttings will be determined upon receipt of analytical data.

TABLE 1: SAMPLE SUMMARY
CADMUS CORPORATION
St. Charles, Missouri
F-07-8612-03 FM00233SI

EPA Sample Number	Sample Location	Media	Date Sampled
I099G 001	South Drainage Ditch	Soil/Sediment	01/29/87
I099G 002	East Drainage Ditch	Soil/Sediment	01/29/87
I099G 003	Boring 1, 0-5 feet	Soil	01/29/87
I099G 004	Boring 1, 5-10 feet	Soil	01/29/87
I099G 005	Boring 1, 10-15 feet	Soil	01/30/87
I099G 006	Boring 1, 15-20 feet	Soil	01/30/87
I099G 007	Boring 1	Water	01/30/87
I099G 008	Field Blank	Water	01/30/87
I099G 009	Boring 2, 0-2.5 feet	Soil	02/03/87
I099G 010	Boring 2, 2.5-4.5 feet	Soil	02/03/87
I099G 011	Boring 2, 7.5-9.5 feet	Soil	02/03/87
I099G 012	Boring 2, 12.5-14.5 feet	Soil	02/03/87
I099G 013	Boring 2	Water	02/03/87
I099G 013D	Duplicate of I099G013	Water	02/03/87
I099G 014	Potable decon water	Water	02/03/87
I099G 015	Boring 2, 17.5-19.5	Soil	02/03/87
I099G 016	Boring 3, 0-2.5 feet	Soil	02/04/87
I099G 017	Boring 3, 2.5-4.5 feet	Soil	02/04/87
I099G 018	Boring 3, 7.5-9.5 feet	Soil	02/04/87
I099G 019	Boring 3, 12.5-14.5 feet	Soil	02/04/87
I099G 020	27'S, 61'W, of SE building corner, 0-12 inches	Soil	02/05/87
I099G 020D	Duplicate of I099G020	Soil	02/05/87
I099G 021	Boring 3	Water	02/04/87
I099G 022	17'S, 2'W of SE building corner, 0-12 inches	Soil	02/05/87
I099G 023	Off-site background	Soil	02/05/87

Note: Samples are requested to be analyzed for BNA, VOA, Metals (dissolved metals for water), and Pesticides. Sample locations are shown on Figure 3.

TABLE 2: FIELD SCREENING SUMMARY

CADMUS CORPORATION
St. Charles, Missouri
F-07-8612-03 FM00233SI

Sample Location	Media	Approximate Value	Date Tested
Boring 1, 0-5 feet	Soil	25 ppm	01/30/87
Boring 1, 5-10 feet	Soil	<0.5 ppm	01/30/87
Boring 1, 10-15 feet	Soil	<0.5 ppm	02/03/87
Boring 1, 15-20 feet	Soil	<0.5 ppm	02/03/87
Boring 2, 0-2.5 feet	Soil	1430 ppm	02/04/87
Boring 2, 2.5-4.5 feet	Soil	35 ppm	02/04/87
Boring 2, 7.5-9.5 feet	Soil	223 ppm	02/04/87
Boring 2, 12.5-14.5 feet	Soil	10 ppm	02/04/87
Boring 2, 17.5-19.5 feet	Soil	12 ppm	02/04/87
Boring 2	Water	17 ppm	02/04/87
Boring 3, 0-2.5 feet	Soil	539 ppm	02/05/87
Boring 3, 2.5-4.5 feet	Soil	415 ppm	02/05/87
Boring 3, 7.5-9.5 feet	Soil	21 ppm	02/05/87
Boring 3, 12.5-14.5 feet	Soil	4.5 ppm	02/05/87
East drainage ditch	Soil/Sediment	38 ppm	02/05/87

Note: Analyses, for PCB's only, performed by E&E/FIT.

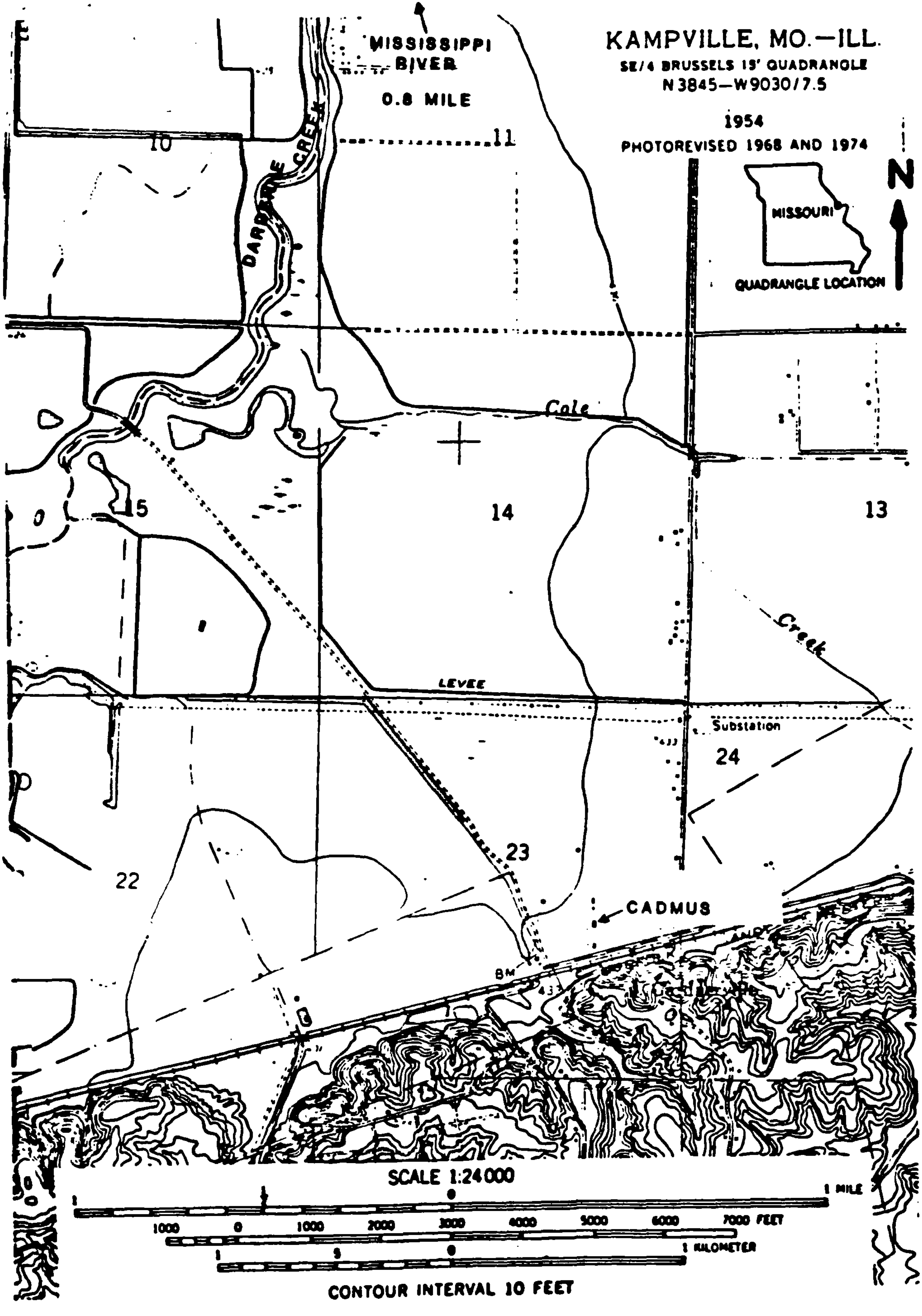
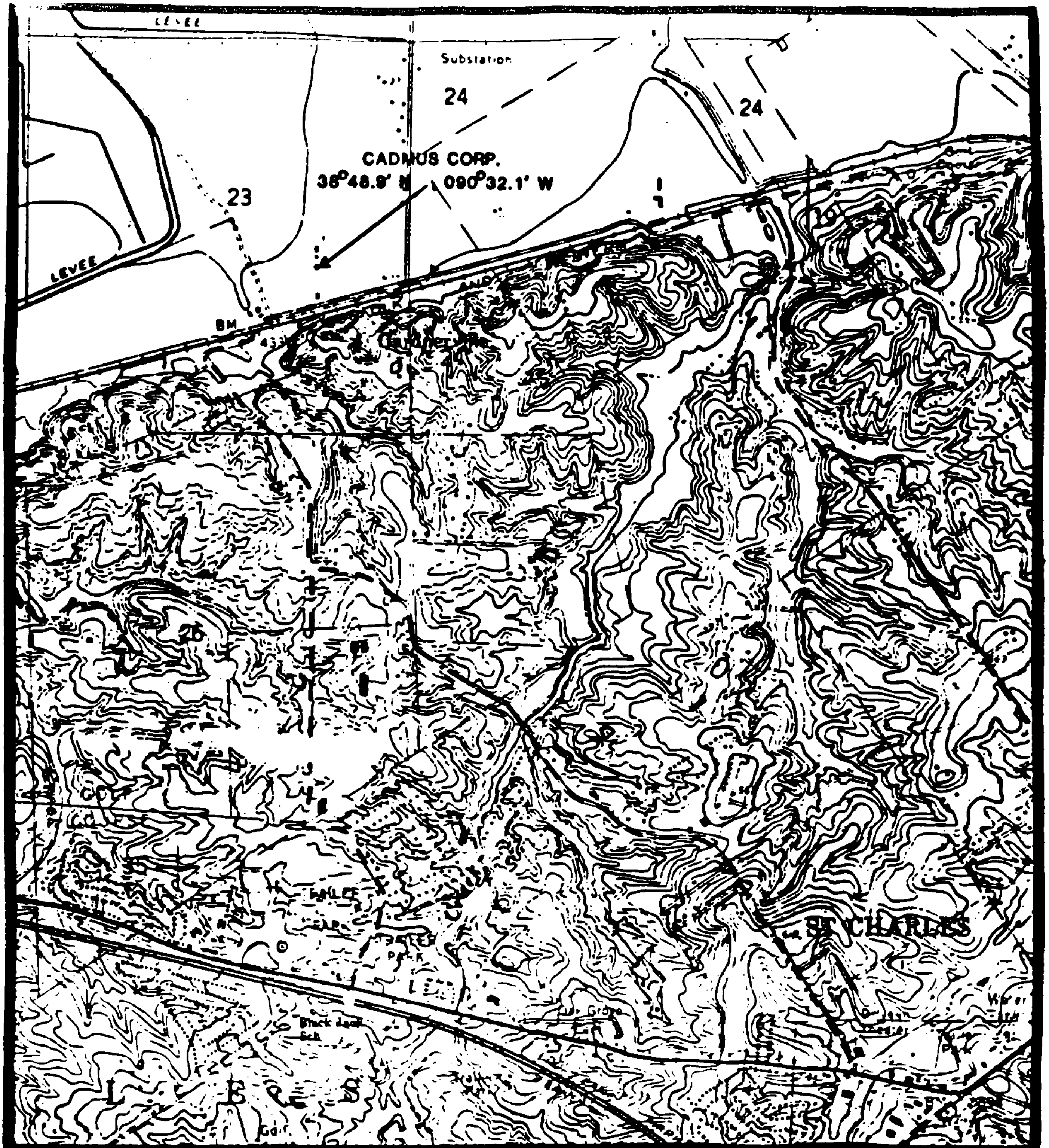

KAMPVILLE, MO.—ILL.
SE/4 BRUSSELS 15' QUADRANGLE
N3845—W9030/7.5
1954
PHOTOREVISED 1968 AND 1974
MISSOURI
QUADRANGLE LOCATION
N
MISSISSIPPI RIVER
0.8 MILE
DARDENNE CREEK
10
11
Cole
Creek
15
14
13
LEVEE
Substation
24
23
22
CADMUS
BM
SCALE 1:24000
1
½
0
1 MILE
1000
0
1000
2000
3000
4000
5000
6000
7000 FEET
1
.5
0
1 KILOMETER
CONTOUR INTERVAL 10 FEET

FIGURE 1



SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

KAMPVILLE, MO.—ILL.
SE/4 BRUSSELS 15' QUADRANGLE
N 3845—W9030/7.5

1954
PHOTOREVISED 1968
AMS 7861 I SE–SERIES V879

N

FIGURE 2

QUADRANGLE LOCATION

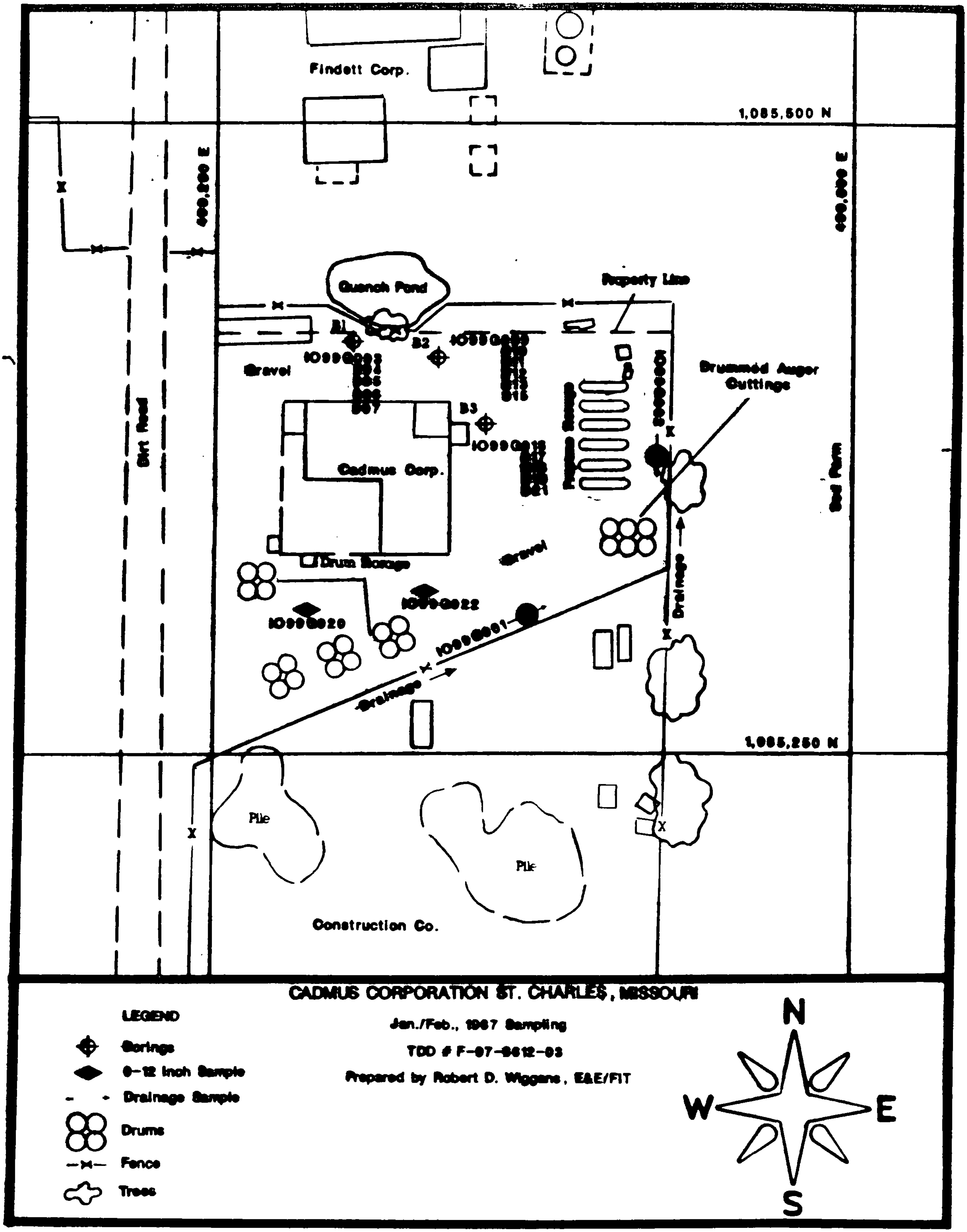

Findett Corp.
1,085,500 N
400,200 E
400,450 E
Quench Pond
Property Line
B1
B2
B3
IO99G002
IO99G009
IO99G018
Gravel
Dirt Road
Cadmus Corp.
Drum Storage
Drummed Auger Cuttings
Sod Farm
Gravel
IO99G020
IO99G022
IO99G001
Drainage
Drainage
1,085,250 N
Pile
Pile
Construction Co.
CADMUS CORPORATION ST. CHARLES, MISSOURI
Jan./Feb., 1987 Sampling
TDD # F-07-8612-03
Prepared by Robert D. Wiggens, E&E/FIT
LEGEND
Borings
0-12 Inch Sample
Drainage Sample
Drums
Fence
Trees
N
E
S
W

Figure 3

LAW OFFICES
W. LAYTON STEWART
SUITE 1140
314 NORTH BROADWAY
ST. LOUIS, MISSOURI 63102
(314) 241-8544

January 19, 1987

Mr. J. Scott Pemberton
Assistant Regional Counsel
U.S. Environmental Protection Agency
726 Minnesota Avenue
Kansas City, Kansas 66101

RE: Access to Cadmus Property

Dear Mr. Pemberton:

Consent is hereby given for your authorized representatives to enter and have access to the Cadmus Corporation real estate for the purpose of taking samples as set forth in the "Sampling Plan", page 3 of the Work Plan for Cadmus Corporation from Bob Wiggans, E&E/FIT, dated August 21, 1986, and from the locations described in the plat attached to said Work Plan as Figure 2, subject, however, to the following conditions:

(1) Cadmus to have the right to have a representative present at all times during the course of the work.

(2) All samples taken to be split with Cadmus, so that Cadmus has one of each sample.

(3) Work to begin each day not earlier than 12:00 Noon.

(4) Cadmus to be given 24 hours advance notice by phone to Mike Worster, 946-7710, of the arrival of your personnel.

(5) Upon completion of the work the property to be restored, as near as possible, to its original condition.

It is our understanding that a monitoring well on the Cadmus property is no longer scheduled as part of the work.

Very truly yours,

CADMUS CORPORATION

By W Layton Stewart
Secretary and General Counsel

WLS:dd
CC: Mr. Bob Wiggans
Ecology and Environment, Inc.
4350 Shawnee Mission Pkwy., Shawnee Mission, KS 66205

Mr. Michael Worster
Cadmus Corporation, P.O. Box 975
St. Charles, Missouri 63301

FILE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

MAY 11 1987

Date: 5/8/87

MEMORANDUM

SUBJECT: Data Transmittal for Activity #: IØ99G,
Site Description: Cadmus Corp

FROM: Robert D. Kleopfer, Ph.D. RDK
Acting Chief, Laboratory Branch, ENSV

TO: Charles P. Hensley
Acting Chief, Emergency Planning and Response Branch, ENSV

ATTN: ______________________

Attached is the data transmittal for the above referenced site.

This should be considered a ___ Partial ___ Corrected X Complete data transmittal (completes transmittal of ______________). If you have any questions or comments, please contact D. Simmons at 236-3881.

Attachments

cc: Data File

Site: Cadmus Corp
ID # MOD064658833
Break: 1.3
Other: EPA
5-8-87

EPA REGION VII
DATA QUALIFICATION CODES

U - Compound was not detected.

M - Compound was qualitatively identified; however, quantitative value is less than contract required detection limits (CLP data); or value is less than limit of quantitation (EPA data).

J - Compound was qualitatively identified; however, compound failed to meet all QA criteria and therefore is only an estimated value.

I - Analysis attempted, but no results can be reported.

O - Sample lost or not analyzed.

L - Value known to be higher than value reported.

FIELD SHEET

VIRONMENTAL PROTECTION AGENC REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP. AIR 00020	TEMP. WATER 00010	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)								

COLLECTION DATE YR 87 01 DAY 29 TIME 1500 SAMPLER NAME CODE ______ LAB NO I0996001

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR 87 MO 01 DAY 29 TIME 1500 LAB NO. I0996001

END DATE YR 87 MO 01 DAY 29 TIME 1500 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50057 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE Neal Hudson

WATER CHEMISTRY LAB NO I0996001

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml Vials	Lime	4° C			Volatiles
1-4oz Jar	Purple	4° C			B/N, A
1-4oz Jar	Aqua	4° C			Pesticides
1-4oz Jar	White	4° C			Metals 1-2

CONTACT ______ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: 5 aliquots 0-2"

sediment sample location S 1 - SOUTH DRAINAGE DITCH

VOA lot # I0098607

4oz lot # 7519752

7-EPA-9263 (6 75) GSA-KC-78-36

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY - REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 01 DAY 29 TIME 1600 SAMPLER NAME CODE ______ LAB NO I0996002

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 01 DAY 29 TIME 1600 LAB NO. I0996002

END DATE: YR 87 MO 01 DAY 29 TIME 1600 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER ~~-~~CHEMISTRY

LAB NO I0996002

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40 ml vials	Lime	4°C			Volatiles
1-4 oz Jar	Purple	4°C			B/N/A
1-4 oz Jar	Aqua ~~Aq~~	4°C			Pesticides
1-4 oz Jar	White	4°C			Metals

CONTACT ______ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: 5 aliquots 0-2"

Sediment sample location S2 - EAST DRAINAGE DITCH

VOA lot # I0098601

4oz Jar lot # 75197152, 75197132

7-EPA-9263 (6-75) GSA-KC-73-1

FIELD SHEET

VIRONMENTAL PROTECTION AGENCY – REGION VII
SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ____ SURVEY LEADER ROBERT D. WIGGANS STORET NO ____

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C AIR 00020	TEMP °C WATER 00010	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)								

COLLECTION DATE YR. 87 01 DAY 29 TIME 1515 SAMPLER NAME CODE ____ LAB NO I0996003

			00400					

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 01 DAY 29 TIME 1515 LAB NO. I0996003

END DATE: YR 87 MO 01 DAY 29 TIME 1515 EQUIPMENT CODE: ____

FLOW RATE ____ 50050 MGD ____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO I0996003

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°c			Volatiles
1-4oz Jar	Purple	4°c			B/N A
1-4oz Jar	Aqua	4°c			Pesticides
1-4oz Jar	White	4°c			Metals

CONTACT ____ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ____

Boring location B1 depth 0-5' - SAMPLE #1
VOA lot # I0098607
4oz Jar lot # 7519713 2

7-EPA-9263 (6 75) GSA-KC-78-38'

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO02335I

GRAB SAMPLE DATA

FLOW	TEMP °C AIR 00020	TEMP °C WATER 00010	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)								

COLLECTION DATE YR. 87 01 DAY 29 TIME 1620 RK SAMPLER NAME CODE ______ LAB NO I0996004

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

						/		

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 01 DAY 29 TIME 1620 RK LAB NO. I0996004

END DATE YR 87 MO 01 DAY 29 TIME 1620 RK EQUIPMENT CODE ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996004

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°C			Volatiles
1-4oz Jar	Purple	4°C			B/N A
1-4oz Jar	Aqua	4°C			Pesticides
1-4 oz Jar	White	4°C			Metals

CONTACT ______ SAMPLE ☒ YES SPLIT ☐ NO ______

REMARKS: ______

Boring location B1 depth 5-10' - SAMPLE #2

VOA lot # I0098601

4oz lot # 75197132

FIELD SHEET

/IRONMENTAL PROTECTION AGENC REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER Robert D. Wiggans STORET NO ______

DESCRIPTION Cadmus Corporation, St. Charles, Mo. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 01 DAY ~~29~~ 30 MK TIME ~~1720~~ 1345 MK SAMPLER NAME CODE ______ LAB NO I0996005

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 01 DAY ~~29~~ 30 MK TIME ~~1720~~ 1345 MK LAB NO. I0996005

END DATE: YR 87 MO 01 DAY ~~29~~ 30 MK TIME ~~1720~~ 1345 MK EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000 s OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996005

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°c			Volatiles
1-4oz Jar	Purple	4°c			B/N A
1-4oz Jar	Aqua	4°c			Pesticides
1-4oz Jar	White	4°c			Metals

CONTACT ______ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ______

Boring location B1 depth 10-15 - SAMPLE # 3

VOA lot # I0098601

4oz lot # 75197132

FIELD SHEET

IRONMENTAL PROTECTION AGENC REGION VII
SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON R , KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ____ SURVEY LEADER ROBERT D. WIGGANS STORET NO ____

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C AIR 00020	TEMP °C WATER 00010	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)								

COLLECTION DATE YR. 87 01 DAY 30 TIME 1425 SAMPLER NAME CODE ____ LAB NO I0996006

			00400					

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 01 DAY 30 TIME 1425 LAB NO. I0996006

END DATE: YR 87 MO 01 DAY 30 TIME 1425 EQUIPMENT CODE: ____

FLOW RATE ____ 50050 MGD ____ 50057 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO I0996006

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40 ml vials	Lime	4°c			Volatiles
1-4oz Jar	Purple	4°c			B/N, A
1-4oz Jar	Aqua	4°c			Pesticides
1-4 oz Jar	white	4°c			Metals

CONTACT ____ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ____

Boring location B1 Sample # 4 15-20
VOA lot # I0098607
4oz Jar lot # 75197112

7-EPA-9263 (6 75) GSA-KC-70-30'

FIELD SHEET

/IRONMENTAL PROTECTION AGENC REGION VII
SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER Robert D. Wiggans STORET NO ______

DESCRIPTION Cadmus Corporation, St. Charles, Mo. FMO 02335I

GRAB SAMPLE DATA

FLOW	TEMP °C AIR 00020	TEMP °C WATER 00010	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)								

COLLECTION DATE YR. 87 01 DAY 29 TIME 1630 SAMPLER NAME CODE ______ LAB NO I0996007

			00400	30	1230			

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 01 DAY 29 TIME 1630 LAB NO. I0996007

END DATE: YR 87 MO 01 DAY ~~29~~ 30 RDW TIME ~~1630~~ EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50057 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY LAB NO I0996007

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°c			Volatiles
1-80oz Jug	Purple	4°c			B/N A
1-80 oz Jug	Aqua	4°c			Pesticides
1-cubitainer	White	HNO_3			Total Metals
1-cubitainer	Grey	HNO_3			Dissolved Metals

CONTACT ______ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ______

Water sample from boring 1 W1

VOA lot # I0098601
80oz lot # A6336062

The VOA and partial pesticides were collected on 1/29/87. The remaining fractions were collected on 1/30/87 due to slow recharge.

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CARMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 01 DAY 30 TIME 1400 SAMPLER NAME CODE ______ LAB NO I0996008F

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 01 DAY 30 TIME 1400 LAB NO. I0996008F

END DATE: YR. 87 MO 01 DAY 30 TIME 1400 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996008F

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml Vials	Lime	4°C			Volatiles
1-80 oz Jug	Purple	4°C			B/N, A
1-80 oz Jug	Aqua	4°C			Pesticides
1-cubitainer	White	HNO_3			Total Metals
1-cubitainer	Grey	HNO_3			Dissolved Metals

CONTACT ______ SAMPLE SPLIT ☐ YES ☒ NO ______

REMARKS ______

Field Blank 80 oz lot # A6336062
VOA lot # I0098607

The VOA's were not opened but present on-site. Water for all other fractions was poured into the teflon bailer and then transfered to the appropriate sample containers.

FIELD SHEET

IRONMENTAL PROTECTION AGENCY REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER Robert D. Wiggans STORET NO ______

DESCRIPTION Cadmus Corporation, St. Charles, Mo. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C AIR 00020	TEMP °C WATER 00010	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)								

COLLECTION DATE YR. 87 02 DAY 3 TIME 1425 SAMPLER NAME CODE ______ LAB NO I0996009

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR 87 MO 02 DAY 3 TIME 1425 LAB NO. I0996009

END DATE: YR 87 MO 02 DAY 3 TIME 1425 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY LAB NO I0996009

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°C			Volatiles
1-4oz Jar	Purple	4°C			B/N A
1-4oz Jar	Aqua	4°C			Pesticides
1-4oz Jar	White	4°C			Metals

CONTACT ______ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ______

Boring location B2 Sample # 1

VOA lot # I0098601

4oz Jar lot # 75197112

7-EPA-9263 (6 75) GSA-KC-78-30

FIELD SHEET

.VIRONMENTAL PROTECTION AGENC. - REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO02335I

GRAB SAMPLE DATA

FLOW	TEMP. °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 02 DAY 3 TIME 1440 SAMPLER NAME CODE ______ LAB NO I0996010

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR 87 MO 02 DAY 3 TIME 1440 LAB NO. I0996010

END DATE: YR 87 MO 02 DAY 3 TIME 1440 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996010

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY		ANALYSES
			MOBILE	REGION	
2-40ml vials	Lime	4°c			Volatiles
1-4oz Jar	Purple	4°c			B/N A
1-4oz Jar	Aqua	4°c			Pesticides
1-4oz Jar	white	4°c			Metals

CONTACT ______

SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ______

Boring location B2 sample # 2

VOA lot # I0098601

4 oz Jar lot # 75197102

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO 0233 SI

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 02 DAY 3 TIME 1550 SAMPLER NAME CODE ______ LAB NO I0996011

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 02 DAY 3 TIME 1550 LAB NO. I0996011

END DATE: YR 87 MO 02 DAY 3 TIME 1550 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD

SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996011

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40 ml vials	Lime	4°c			Volatiles
1-4oz Jar	Purple	4°c			B/N A
1-4oz Jar	Aqua	4°c			Pesticides
1-4oz Jar	White	4°c			Metals

CONTACT ______

SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ______

Boring location B2 sample # 3

VOA lot # I00098601

4 oz Jar lot # 75197102

FIELD SHEET

IRONMENTAL PROTECTION AGENC REGION VII
SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP. °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 01 DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO I0996012

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 01 DAY 03 TIME ______ LAB NO. I0996012

END DATE: YR 87 MO 01 DAY 03 TIME ______ EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996017

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°C			Volatiles
1-4oz Jar	Purple	4°C			B/N A
1-4oz Jar	Aqua	4°C			Pesticides
1-4oz Jar	White	4°C			Metals

CONTACT ______ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS. ______

Boring location B2 sample # 4
VOA lot # I0098601
4oz Jar # 7519702

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII
SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO 0233 SI

GRAB SAMPLE DATA

FLOW	TEMP °C AIR	TEMP °C WATER	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	00020	00010						

COLLECTION DATE YR. 87 02 DAY 3 TIME 1510 SAMPLER NAME CODE ______ LAB NO I0996013

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO. 02 DAY 3 TIME 1510 LAB NO. I0996013

END DATE: YR 87 MO 02 DAY 3 TIME 1510 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996013

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°c			Volatiles
1-80 oz Jug	Purple	4°c			B/N A
1-80 oz Jug	Aqua	4°c			Pesticides
1-cubitainer	White	HNO_3			Total Metals
1-cubitainer	Grey	HNO_3			Dissolved Metals

CONTACT ______ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS:

Water sample W2 taken from boring B2
VOA lot # I0098601
80 oz lot # A6336062

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ____ SURVEY LEADER ROBERT D. WIGGANS STORET NO ____

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP. °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 87 02 DAY 3 TIME 1510 SAMPLER NAME CODE ____ LAB NO I0996013D

			00400					

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE: YR 87 MO 02 DAY 3 TIME 1510 LAB NO I0996013D

END DATE: YR 87 MO 02 DAY 3 TIME 1510 EQUIPMENT CODE ____

FLOW RATE ____ 50050 MGD ____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO I0996013D

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°c			Volatiles
1-80 oz Jug	Purple	4°c			B/N A
1-80 oz Jug	Aqua	4°c			Pesticides
1-cubitainer	White	HNO_3			Total Metals
1-cubitainer	Grey	HNO_3			Dissolved Metals

CONTACT ____ SAMPLE SPLIT ☐ YES ☒ NO

REMARKS: ____

Duplicate water sample from Boring # 2
40ml lot # B6344491
80oz lot # A6336062

7-EPA-9263 (6 75) GSA-KC-70-30

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ________ SURVEY LEADER ROBERT D. WIGGANS STORET NO ________

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO023351

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 02 DAY 5 TIME 1415 SAMPLER NAME CODE ________ LAB NO I0996014

			00400					

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 02 DAY 5 TIME 1415 LAB NO. I0996014

END DATE: YR 87 MO 02 DAY 5 TIME 1415 EQUIPMENT CODE: ________

FLOW RATE ________ 50050 MGD ________ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ________

WATER CHEMISTRY

LAB NO I0996014

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40 ml vials	Lime	4°C			Volatiles
1-80 oz Jug	Purple	4°C			B/N A
1-80 oz Jug	Aqua	4°C			Pesticides
1-cubitainer	White	HNO_3			Total Metals
1-cubitainer	Grey	HNO_3			Dissolved Metals

CONTACT ________ SAMPLE SPLIT ☐ YES ☒ NO

REMARKS: ________

Sample of the decon water used in the Steam cleaner

VOA lot # B6344571

80 oz lot #A6336062

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ________ SURVEY LEADER Robert D. Wiggans STORET NO ________

DESCRIPTION Cadmus Corporation, St. Charles, Mo. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C AIR	TEMP °C WATER	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	00020	00010						

COLLECTION DATE YR. 87 02 DAY 03 TIME 17:45 SAMPLER NAME CODE ________ LAB NO I0996015

			00400					

COLLECTION DATE YR ________ MO ________ DAY ________ TIME ________ SAMPLER NAME CODE ________ LAB NO ________

						/		

COLLECTION DATE YR ________ MO ________ DAY ________ TIME ________ SAMPLER NAME CODE ________ LAB NO ________

COLLECTION DATE YR ________ MO ________ DAY ________ TIME ________ SAMPLER NAME CODE ________ LAB NO ________

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 02 DAY 03 TIME 17:45 LAB NO. I0996015

END DATE: YR 87 MO 02 DAY 03 TIME 17:45 EQUIPMENT CODE ________

FLOW RATE ________ 50050 MGD ________ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ________

WATER CHEMISTRY

LAB NO I0996015

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40 ml Vials	Lime	4°C			Volatiles
1-4oz Jar	Purple	4°C			B/N A
1-4oz Jar	Agua	4°C			Pesticides
1-4oz Jar	White	4°C			metals

CONTACT ________ SAMPLE SPLIT ☐ YES ☐ NO

REMARKS: ________

Boring Location B2 depth sample #5 — 4oz Lot # 7319711Z — VOA Lot # BC344491

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ________ SURVEY LEADER *ROBERT D. WIGGANS* STORET NO ________

DESCRIPTION *CADMUS CORPORATION, ST. CHARLES, MO.* *FMO 0233SI*

GRAB SAMPLE DATA

FLOW	TEMP. °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 02 DAY 4 TIME 1740 SAMPLER NAME CODE ________ LAB NO I0996016

			00400					

COLLECTION DATE YR ________ MO ________ DAY ________ TIME ________ SAMPLER NAME CODE ________ LAB NO ________

COLLECTION DATE YR ________ MO ________ DAY ________ TIME ________ SAMPLER NAME CODE ________ LAB NO ________

COLLECTION DATE YR ________ MO ________ DAY ________ TIME ________ SAMPLER NAME CODE ________ LAB NO ________

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 02 DAY 4 TIME 1740 LAB NO. I0996016

END DATE: YR 87 MO 02 DAY 4 TIME 1740 EQUIPMENT CODE: ________

FLOW RATE ________ 50050 MGD ________ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ________

WATER CHEMISTRY LAB NO I0996016

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2 - 40 ml vials	Lime	4°C			Volatiles
1 - 4oz Jar	Purple	4°C			B/N A
1 - 4oz Jar	Aqua	4°C			Pesticides
1 - 4oz Jar	White	4°C			Metals

CONTACT ________ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ________

Boring # 3 Sample # 1

VOA lot # B6344491

4oz Jar lot # G6197162

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 02 DAY 4 TIME 1755 SAMPLER NAME CODE ______ LAB NO I0996017

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE YR. 87 MO 02 DAY 4 TIME 1755 LAB NO. I0996017

END DATE: YR 87 MO 02 DAY 4 TIME 1755 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996017

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	 REGION	ANALYSES
2-40ml vials	Lime	4°c			Volatiles
1-4oz Jar	Purple	4°c			B/N,A
1-4oz Jar	Aqua	4°c			Pesticides
1-4oz Jar	White	4°c			Metals

CONTACT ______ SAMPLE SPLIT ☒ YES ☐ NO ______

REMARKS: ______

Boring location 3 sample #2
40 ml lot # B6344491
4oz lot # 66197162, 75197092

7-EPA-9263 (6 75) GSA-KC-78-38

FIELD SHEET

IRONMENTAL PROTECTION AGENC   REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ____ SURVEY LEADER ROBERT D. WIGGANS STORET NO ____

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 02 DAY 4 TIME 1915 SAMPLER NAME CODE ____ LAB NO I0996018

			00400					

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 02 DAY 4 TIME 1915 LAB NO. I0996018

END DATE: YR 87 MO. 02 DAY 4 TIME 1915 EQUIPMENT CODE: ____

FLOW RATE ____ 50050 MGD ____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO I0996018

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°C			Volatiles
1-4oz Jar	Purple	4°C			B/N A
1-4oz Jar	Aqua	4°C			Pesticides
1-4oz Jar	White	4°C			Metals

CONTACT ____ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ____

Boring location 3 sample # 3
40 ml lot # B6344481
4 oz lot # 75197142

7-EPA-9263 (6 75)   GSA-KC-78-16

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ____ SURVEY LEADER ROBERT D. WIGGANS STORET NO ____

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO 0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C AIR 00020	TEMP °C WATER 00010	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)								

COLLECTION DATE YR. 87 02 DAY 4 TIME 2200 SAMPLER NAME CODE ____ LAB NO I0996019

			00400					

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 02 DAY 4 TIME 2200 LAB NO. I0996019

END DATE: YR 87 MO 02 DAY 4 TIME 22:00 EQUIPMENT CODE: ____

FLOW RATE ____ 50050 MGD ____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO I0996019

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°C			Volatiles
1-4oz Jar	Purple	4°C			B/N A
1-4oz Jar	Aqua	4°C			Pesticides
1-4oz Jar	white	4°C			Metals

CONTACT ____ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ____

Boring location 3 sample # 4
40ml lot # B6344481
4 oz Jar lot# 78197142

FIELD SHEET

IRONMENTAL PROTECTION AGENCY REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO023351

GRAB SAMPLE DATA

FLOW	TEMP °C AIR 00020	TEMP °C WATER 00010	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)								

COLLECTION DATE YR. 87 02 DAY 5 TIME 1445 SAMPLER NAME CODE ______ LAB NO I0996020

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 02 DAY 5 TIME 1445 LAB NO. I0996020

END DATE: YR 87 MO 02 DAY 5 TIME 1445 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996020

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°c			Volatiles
1-4oz Jar	Purple	4°c			B/N A
1-4oz Jar	Aqua	4oc			Pesticides
1-4oz Jar	white	4°c			Metals

CONTACT ______ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS ______

Surface soil sample collected from a depth of 0-12" along the south drive at the west end. Sample #1 west

VOA lot # B6344481

4oz lot # 66197182

7-EPA-9263 (6 75) GSA-KC-70-36

FIELD SHEET

/IRONMENTAL PROTECTION AGENC REGION VII
SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ________ SURVEY LEADER ROBERT D. WIGGANS STORET NO ________

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 02 DAY 5 TIME 1445 SAMPLER NAME CODE ________ LAB NO I0996020D

			00400					

COLLECTION DATE YR ________ MO ________ DAY ________ TIME ________ SAMPLER NAME CODE ________ LAB NO ________

COLLECTION DATE YR ________ MO ________ DAY ________ TIME ________ SAMPLER NAME CODE ________ LAB NO ________

COLLECTION DATE YR ________ MO ________ DAY ________ TIME ________ SAMPLER NAME CODE ________ LAB NO ________

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 02 DAY 5 TIME 1445 LAB NO. I0996020D

END DATE: YR 87 MO 02 DAY 5 TIME 1445 EQUIPMENT CODE ________

FLOW RATE ________ 50050 MGD ________ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ________

WATER CHEMISTRY LAB NO I0996020D

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°c			Volatiles
1-4oz Jar	Purple	4°c			B/N A
1-4oz Jar	Aqua	4°c			Pesticides
1-4oz Jar	white	4°c			Metals

CONTACT ________ SAMPLE SPLIT ☐ YES ☒ NO

REMARKS: ________

Duplicate from sample location #1 west.

VOA lot # B6344471

4oz lot # G6197182

7-EPA-9263 (6 75) GSA-KC-78-16

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER *ROBERT D. WIGGANS* STORET NO ______

DESCRIPTION *CADMUS CORPORATION, ST. CHARLES, MO.* *FMO02335I*

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 01 DAY 4 TIME 2200 SAMPLER NAME CODE ______ LAB NO I0996021

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR 87 MO ~~01~~ 02 FW DAY 4 TIME 2200 LAB NO. I0996021

END DATE: YR 87 MO ~~01~~ 02 FW DAY 4 TIME 2200 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY LAB NO I0996021

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40 ml vials	Lime	4°C			Volatiles
1-80 oz Jug	Purple	4°C			B/N A
1-80 oz Jug	Aqua	4°C			Pesticides
1-cubitainer	White	HNO_3			Total Metals
1-cubitainer	Grey	HNO_3			Dissolved Metals

CONTACT: ______ SAMPLE SPLIT ☒ YES ☐ NO

REMARKS: ______

Water sample from boring location 3 W3

40 ml lot # B6344481

80 oz lot # A6225082

7-EPA-9262 (6 75) GSA-KC-70-38'

FIELD SHEET

VIRONMENTAL PROTECTION AGENC. REGION VII •
SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 02 DAY 5 TIME 1600 SAMPLER NAME CODE ______ LAB NO I0996022

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. 87 MO 02 DAY 5 TIME 1600 LAB NO. I0996022

END DATE: YR 87 MO. 02 DAY 5 TIME 1600 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996022

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
2-40ml vials	Lime	4°c			Volatiles
1-4oz Jar	Purple	4°c			B/N A
1-4oz Jar	Aqua	4°c			Pesticides
1-4oz Jar	white	4°c			Metels

CONTACT: ______ SAMPLE SPLIT ☒ YES ☐ NO ______

REMARKS: ______

Surface sample collected at a depth of 0-12" along the southern road at the eastern end. Sample # 2 East
VOA lot # B6344481
4oz lot # G6197202

FIELD SHEET

VIRONMENTAL PROTECTION AGENCY • REGION VII •
SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON RO D, KANSAS CITY, KANSAS 6 115

STATION IDENTIFICATION

SURVEY NO ______ SURVEY LEADER ROBERT D. WIGGANS STORET NO ______

DESCRIPTION CADMUS CORPORATION, ST. CHARLES, MO. FMO0233SI

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR. 87 02 DAY 5 TIME 1600 SAMPLER NAME CODE ______ LAB NO I0996023

			00400					

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COLLECTION DATE YR ______ MO ______ DAY ______ TIME ______ SAMPLER NAME CODE ______ LAB NO ______

COMPOSITE SAMPLE DATA

BEGIN DATE: YR 87 MO 02 DAY 5 TIME 1600 LAB NO. I0996023

END DATE: YR 87 MO 02 DAY 5 TIME 1600 EQUIPMENT CODE: ______

FLOW RATE ______ 50050 MGD ______ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ______

WATER CHEMISTRY

LAB NO I0996023

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY		ANALYSES
			MOBILE	REGION	
2-40ml vial	Lime	4°C			Volatiles
1-4oz Jar	Purple	4°C			B/NA
1-4oz Jar	Aqua	4°C			Pesticides
1-4oz Jar	White	4°C			Metals

CONTACT: ______ SAMPLE SPLIT ☐ YES ☒ NO

REMARKS: ______

Background sample collected near railroad crossing west of the site.
VOA lot # B6344471
4oz lot # 6619720Z

ANALYSIS TYPE: TOTAL METALS (CONTRACTOR)

TITLE: CADMUS
LAB: PBS&J
SAMPLE PREP:_______ ANALYST/ENTRY: E90
MATRIX: SEDIMENT
METHOD: 9001M07
REVIEWER:
UNITS: MG/KG
CASE: 6807
DATE: 04/02/87

SAMPLE NUMBERS

COMPOUND	I099G001		I099G002		I099G003		I099G004	
ALUMINUM	8700.		8300.		20000.		19000.	
ANTIMONY	30.0	U	30.0	U	30.0	U	30.0	U
ARSENIC	6.50		7.90		3.30	M	2.10	M
BARIUM	78.0	M	97.0	M	150		99.0	M
BERYLLIUM	0.3	M	0.4	M	1.00	M	0.7	M
CADMIUM	1.30	M	2.00	M	2.50		2.00	M
CALCIUM	24000.		37000.		10000.		12000.	
CHROMIUM	14.0		17.0		23.0		20.0	
COBALT	5.70	M	7.50	M	6.90	M	4.70	M
COPPER	770		5700.		71.0		19.0	
IRON	14000.	J	16000.	J	25000.	J	19000.	J
LEAD		I	18.0	J	23.0	J	19.0	M
MAGNESIUM	19000.		17000.		6800.		6900.	
MANGANESE	340	J	500	J	350	J	300	J
MERCURY	0.1	U	0.2	U	0.1	U	0.1	U
NICKEL	15.0	M	27.0		22.0		17.0	M
POTASSIUM	1200.	M	1300.	M	1600.	M	1500.	M
SELENIUM	2.50	U	3.20		2.50	U	2.50	U
SILVER	5.00	U	5.00	U	5.00	U	5.00	U
SODIUM	2500.	U	2500.	U	2500.	U	2500.	U
THALLIUM	5.00	U	5.00	U	5.00	U	5.00	U
TIN	20.0	U	20.0	U	20.0	U	20.0	U
VANADIUM	33.0		32.0		41.0		39.0	
ZINC	110		100		84.0		10.0	U
CYANIDE	N/A	I	N/A	I	N/A	I	N/A	I

ANALYSIS TYPE: TOTAL METALS (CONTRACTOR)

TITLE: CADMUS
LAB: PBS&J
SAMPLE PREP:_______ ANALYST/ENTRY: E90

MATRIX: SEDIMENT
METHOD: 9001M07
REVIEWER:

UNITS: MG/KG
CASE: 6807
DATE: 04/02/87

SAMPLE NUMBERS

COMPOUND	I099G005		I099G006		I099G009		I099G010	
ALUMINUM	20000.		15000.		13000.		14000.	
ANTIMONY	30.0	U	30.0	U	30.0	U	21.0	J
ARSENIC	140		2.60	U	2.50	M	5.00	U
BARIUM	390		140		150		190	
BERYLLIUM	1.10	M	0.6	M	0.8	M	11.0	
CADMIUM	2.80		1.80	M	2.00	M	2.70	
CALCIUM	13000.		13000.		18000.		9200.	
CHROMIUM	22.0		20.0		83.0		23.0	
COBALT	14.0	M	8.30	M	7.30	M	7.40	M
COPPER	47.0		18.0		3200.		470	
IRON	29000.	J	24000.	J	21000.	J	28000.	J
LEAD	8.70	J	18.0	J	9.10	J	15.0	J
MAGNESIUM	6300.		7900.		9200.		7000.	
MANGANESE	1700.	J	300	J	460	J	360	J
MERCURY	0.1	U	0.1	U	0.16		0.17	
NICKEL	28.0		22.0		57.0		24.0	
POTASSIUM	1300.	M	1100.		1800.	M	2100.	M
SELENIUM	1.50	M	9.10		8.80		3.20	
SILVER	5.00	U	5.00	U	5.00	U	5.00	U
SODIUM	370	M	2500.	U	2500.	U	2500.	U
THALLIUM	5.00	U	5.00	U	5.00	U	5.00	U
TIN	20.0	U	20.0	U	20.0	U	20.0	U
VANADIUM	43.0		36.0		36.0		42.0	
ZINC	85.0		68.0		93.0		88.0	
CYANIDE	N/A	I	N/A	I	N/A	I	N/A	I

ANALYSIS TYPE: TOTAL METALS (CONTRACTOR)

TITLE: CADMUS
LAB: PBS&J
SAMPLE PREP:_______ ANALYST/ENTRY: E92

MATRIX: WATER
METHOD: 9001M07
REVIEWER__________

UNITS: UG/L
CASE: 6807
DATE: 04/02/87

SAMPLE NUMBERS

COMPOUND	I099G007		I099G008F		I099G013		I099G013D	
ALUMINUM	260000.		200	U	670000.		690000.	
ANTIMONY	46.0	J	60.0	U	60.0	U	60.0	U
ARSENIC	10.0	U	10.0	U	27.0	U	19.0	U
BARIUM	1400.		200	U	5800.		5300.	
BERYLLIUM	11.0		5.00	U	29.0		27.0	
CADMIUM	29.0		5.00	U	93.0		88.0	
CALCIUM	460000.		910	M	1200000.		1000000.	
CHROMIUM	280		10.0	U	890		1100.	
COBALT	61.0		50.0	U	270		240	
COPPER	910	J	25.0	U	24000.	J	220000.	J
IRON	280000.		100	U	73000.		760000.	
LEAD	150	J	5.00	U	510	J	210	J
MAGNESIUM	190000.		5000.	U	400000.		300000.	
MANGANESE	5600.		15.0	U	22000.		20000.	
MERCURY	1.00	U	0.33		1.50	U	1.20	U
NICKEL	270		40.0	U	1100.		1300.	
POTASSIUM	17000.		5000.	U	59000.		60000.	
SELENIUM		I		I		I		I
SILVER	10.0	U	10.0	U	10.0	U	10.0	U
SODIUM	34000.		5000.	U	35000.		39000.	
THALLIUM	10.0	U	10.0	U	10.0	U	10.0	U
TIN	40.0	U	40.0	U	40.0	U	40.0	U
VANADIUM	430		50.0	U	1100.		1100.	
ZINC	940		20.0	U	3300.		3000.	
CYANIDE	N/A	I	N/A	I	N/A	I	N/A	I

ANALYSIS TYPE: TOTAL METALS (CONTRACTOR)

TITLE: CADMUS
LAB: PBS&J
SAMPLE PREP:_______ ANALYST/ENTRY: E90

MATRIX: SEDIMENT
METHOD: 9001M07
REVIEWER: ______

UNITS: MG/KG
CASE: 6807
DATE: 04/02/87

SAMPLE NUMBERS

COMPOUND	I099G011		I099G012		I099G015		I099G016	
ALUMINUM	13000.		12000.		24000.		8900.	
ANTIMONY	30.0	U	30.0	U	30.0	U	30.0	U
ARSENIC	5.00	U	3.80	M	9.80		2.70	M
BARIUM	190		190		220		94.0	M
BERYLLIUM	0.9	M	0.7	M	1.00	M	0.4	M
CADMIUM	2.90		10.0		2.40	M	1.80	M
CALCIUM	11000.		13000.		28000.		13000.	
CHROMIUM	24.0		18.0		31.0		14.0	
COBALT	8.60	M	8.80	M	13.0	M	7.40	M
COPPER	1600.		46.0		38.0		78.0	
IRON	32000.	J	22000.	J	32000.	J	9300.	J
LEAD	10.0	J	9.00	J	9.60	J	9.90	J
MAGNESIUM	6600.		5900.		11000.		7700.	
MANGANESE	760	J	320	J	570	J	540	J
MERCURY	0.26		0.1	U	0.17		0.1	U
NICKEL	29.0		23.0		30.0		17.0	M
POTASSIUM	1400.	M	1100.	M	1900.	M	1100.	M
SELENIUM		I	1.90	M		I	2.50	U
SILVER	5.00	U	5.00	U	5.00	U	5.00	U
SODIUM	2500.	U	2500.	U	2500.	U	2500.	U
THALLIUM	5.00	U	5.00	U	5.00	U	5.00	U
TIN	20.0	U	20.0	U	20.0	U	20.0	U
VANADIUM	35.0		29.0		51.0		33.0	
ZINC	110		71.0		86.0		51.0	
CYANIDE	N/A	I	N/A	I	N/A	I	N/A	I

ANALYSIS TYPE: TOTAL METALS (CONTRACTOR)

TITLE: CADMUS
LAB: PBS&J
SAMPLE PREP:_______ ANALYST/ENTRY: E92

MATRIX: WATER
METHOD: 9001M07
REVIEWER:________

UNITS: UG/L
CASE: 6807
DATE: 04/02/87

SAMPLE NUMBERS

COMPOUND	I099G014		I099G021	
ALUMINUM	500	U	1000000.	
ANTIMONY	46.0	M	60.0	U
ARSENIC	10.0	U	31.0	U
BARIUM	200	U	4700.	
BERYLLIUM	5.00	U	38.0	
CADMIUM	5.00	U	110	
CALCIUM	23000.		880000.	
CHROMIUM	10.0	U	980	
COBALT	50.0	U	170	
COPPER	42.0	U	12000.	J
IRON	860	U	79000.	
LEAD	5.00	U	460	J
MAGNESIUM	19000.		390000.	
MANGANESE	17.0		14000.	
MERCURY	0.7	U	1.70	
NICKEL	40.0	U	850	
POTASSIUM	5000.	U	61000.	
SELENIUM		I		I
SILVER	10.0	U	10.0	U
SODIUM	8400.		34000.	
THALLIUM	10.0	U	10.0	U
TIN	40.0	U	40.0	U
VANADIUM	50.0	U	1200.	
ZINC	30.0		3200.	
CYANIDE	N/A	I	N/A	I

ANALYSIS TYPE: TOTAL METALS (CONTRACTOR)

TITLE: CADMUS
AB: PBS&J
SAMPLE PREP:_______ ANALYST/ENTRY: E90

MATRIX: SEDIMENT
METHOD: 9001M07
REVIEWER:

UNITS: MG/KG
CASE: 6807
DATE: 04/02/87

SAMPLE NUMBERS

COMPOUND	I099G017		I099G018		I099G019		I099G020	
ALUMINUM	24000.		25000.		19000.		1200.	
ANTIMONY	30.0	U	30.0	U	30.0	U	30.0	U
ARSENIC	6.20		5.40	J	4.50	M	5.00	U
BARIUM	190		180		140		14.0	M
BERYLLIUM	1.10	M	1.10	M	0.6	M	2.50	U
CADMIUM	2.20	M	2.70		2.30	M	1.60	M
CALCIUM	10000.		13000.		47000.		260000.	
CHROMIUM	22.0		22.0		16.0		17.0	
COBALT	7.50	M	7.40	M	7.40	M	2.20	M
COPPER	46.0		32.0		17.0		10000.	
IRON	270000.	J	23000.	J	21000.	J	9900.	J
LEAD	15.0	J	14.0	J	11.0	J	6.90	J
MAGNESIUM	7000.		6600.		7200.		37000.	
MANGANESE	340	J	380	J	420	J	250	J
MERCURY	0.1	U	0.1	U	0.2		0.1	U
NICKEL	22.0		22.0		18.0	M	26.0	
POTASSIUM	1700.	M	1600.	M	950	M	2500.	U
SELENIUM	2.50	U	2.50	U	2.50	U	2.50	U
SILVER	5.00	U	5.00	U	5.00	U	5.00	U
SODIUM	2500.	U	2500.	U	2500.	U	400	M
THALLIUM	5.00	U	5.00	U	5.00	U	5.00	U
TIN	20.0	U	20.0	U	20.0	U	20.0	U
VANADIUM	43.0		46.0		34.0		8.00	M
ZINC	89.0		88.0		58.0		140	
CYANIDE	N/A	I	N/A	I	N/A	I	N/A	I

ANALYSIS TYPE: TOTAL METALS (CONTRACTOR)

TITLE: CADMUS MATRIX: SEDIMENT UNITS: MG/KG
LAB: PBS&J METHOD: 9001M07 CASE: 6807
SAMPLE PREP:_______ ANALYST/ENTRY: E91 REVIEWER: ________ DATE: 04/02/87

SAMPLE NUMBERS

COMPOUND	I099G020D		I099G022		I099G023	
ALUMINUM	900		5400.		3000.	
ANTIMONY	30.0	U	30.0	U	30.0	U
ARSENIC	5.00	U	2.60	M	5.00	U
BARIUM	9.20	M	63.0	M	34.0	M
BERYLLIUM	2.50	U	0.2	M	2.50	U
CADMIUM	1.10	M	1.20	M	0.9	M
CALCIUM	280000.		130000.		230000.	
CHROMIUM	15.0		13.0		10.0	
COBALT	3.10	M	4.20	M	25.0	U
COPPER	8600.		5300.		65.0	
IRON	8900.	J	13000.	J	8300.	J
LEAD	6.30	J	16.0	J	120	J
MAGNESIUM	35000.		17000.		21000.	
MANGANESE	210	J	90.0	J	210	J
MERCURY	0.13		0.1	U	0.1	U
NICKEL	21.0		19.0	M	7.40	M
POTASSIUM	2500.	U	710	M	590	M
SELENIUM	2.50	U		I	2.50	U
SILVER	5.00	U	5.00	U	5.00	U
SODIUM	2500.	U	2500.	U	2500.	U
THALLIUM	5.00	U	5.00	U	5.00	U
TIN	20.0	U	20.0	U	20.0	U
VANADIUM	6.80	M	18.0	M	13.0	M
ZINC	100		82.0		52.0	
CYANIDE	N/A	I	N/A	I	N/A	I

ANALYSIS TYPE: DISSOLVED METALS (CONTRACTOR)

TITLE: CADMUS
LAB: PBS&J
SAMPLE PREP:_______ ANALYST/ENTRY: E93

MATRIX: WATER
METHOD: 9001M07
REVIEWER: ________

UNITS: UG/L
CASE: 6807
DATE: 04/02/87

SAMPLE NUMBERS

COMPOUND	I099G007		I099G008F		I099G013		I099G013D	
ALUMINUM	410	U	200	U	200	U	730	U
ANTIMONY	60.0	U	60.0	U	60.0	U	49.0	M
ARSENIC	10.0	U	10.0	U	10.0	U	10.0	U
BARIUM	80.0	M	200	U	160	M	220	
BERYLLIUM	5.00	U	5.00	U	5.00	U	5.00	U
CADMIUM	5.00	U	5.00	U	5.00	U	5.00	U
CALCIUM	170000.		810	M	68000.		91000.	
CHROMIUM	10.0	U	10.0	U	15.0		10.0	U
COBALT	50.0	U	50.0	U	50.0	U	50.0	U
COPPER	25.0	U	25.0	U	120	U	200	U
IRON	13000.		100	U	260	U	910	U
LEAD	20.0	J	5.00	U	15.0	J	14.0	J
MAGNESIUM	85000.		5000.	U	30000.		41000.	
MANGANESE	1300.		15.0	U	1900.		2900.	
MERCURY	1.90	U	0.52		0.89	U	0.83	U
NICKEL	40.0	U	40.0	U	40.0	U	20.0	M
POTASSIUM	5000.	U	5000.	U	4700.	M	4800.	M
SELENIUM		I	5.70	J	6.10	J		I
SILVER	10.0	U	10.0	U	10.0	U	10.0	U
SODIUM	31000.		5000.	U	34000.		34000.	
THALLIUM	10.0	U	10.0	U	10.0	U	10.0	U
TIN	40.0	U	40.0	U	40.0	U	40.0	U
VANADIUM	50.0	U	50.0	U	50.0	U	50.0	U
ZINC	20.0	U	20.0	U	17.0	M	19.0	M
CYANIDE	N/A	I	N/A	I	N/A	I	N/A	I

ANALYSIS TYPE: DISSOLVED METALS (CONTRACTOR)

TITLE: CADMUS
LAB: PBS&J
SAMPLE PREP:_______ ANALYST/ENTRY: E93

MATRIX: WATER
METHOD: 9001M07
REVIEWER:

UNITS: UG/L
CASE: 6807
DATE: 04/02/87

SAMPLE NUMBERS

COMPOUND	I099G014		I099G021	
ALUMINUM	80.0	U	1900.	
ANTIMONY	60.0	U	60.0	U
ARSENIC	10.0	U	10.0	U
BARIUM	200	U	89.0	M
BERYLLIUM	5.00	U	5.00	U
CADMIUM	5.00	U	5.00	U
CALCIUM	5000.	U	230000.	
CHROMIUM	10.0	U	12.0	
COBALT	50.0	U	50.0	U
COPPER	28.0	U	30.0	U
IRON	100	U	1300.	U
LEAD	5.00	U	22.0	J
MAGNESIUM	18000.		91000.	
MANGANESE	15.0	U	1100.	
MERCURY	0.58	U	1.00	U
NICKEL	40.0	U	40.0	U
POTASSIUM	5000.	U	5000.	U
SELENIUM		I		I
SILVER	10.0	U	10.0	U
SODIUM	8000.		29000.	
THALLIUM	10.0	U	10.0	U
TIN	40.0	U	40.0	U
VANADIUM	50.0	U	50.0	U
ZINC	20.0	U	20.0	U
CYANIDE	N/A	I	N/A	I

NALYSIS TYPE: VOLATILE AN SES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E28

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: _TSV___4

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G001		I099G002		I099G003		I099G004	
CHLOROMETHANE	14.0	U	15.0	U	14.0	U	15.0	U
BROMOMETHANE	14.0	U	15.0	U	14.0	U	15.0	U
VINYL CHLORIDE	14.0	U	46.0		14.0	U	24.0	
CHLOROETHANE	14.0	U	15.0	U	14.0	U	15.0	U
METHYLENE CHLORIDE	17.0	U	77.0		22.0	U	10.0	U
ACETONE	17.0	U	180		30.0	U	11.0	U
CARBON DISULFIDE	7.00	U	7.60	U	6.80	U	7.30	U
1,1 DICHLOROETHENE	7.00	U	7.60	U	6.80	U	4.00	M
1,1 DICHLOROETHANE	7.00	U	7.60	U	6.80	U	11.0	
TRANS-1,2,-DICHLOROETHENE	5.00	M	49.0		7.00	J	330	
CHLOROFORM	7.00	U	18.0		6.80	U	7.30	U
1,2,DICHLOROETHANE	7.00	U	7.60	U	6.80	U	7.30	U
2-BUTANONE		I	10.0	M		I		I
1,1,1 TRICHLOROETHANE	7.00	U	7.60	U	6.80	U	2.00	M
CARBON TETRACHLORIDE	7.00	U	7.60	U	6.80	U	7.30	U
VINYL ACETATE		I		I		I		I
BROMODICHLOROMETHANE		I		I		I		I
1,1,2,2,-TETRACHLOROETHANE	7.00	U	7.60	U	6.80	U	7.30	U
1,2-DICHLOROPROPANE	7.00	U	7.60	U	6.80	U	7.30	U
TRANS-1,3-DICHLOROPROPENE	7.00	U	7.60	U	6.80	U	7.30	U
TRICHLOROETHENE	7.00	U	52.0		6.80	U	8.00	
DIBROMOCHLOROMETHANE	7.00	U	7.60	U	6.80	U	7.30	U
1,1,2-TRICHLOROETHANE	7.00	U	31.0		6.80	U	7.30	U
BENZENE	7.00	U	7.60	U	6.80	U	2.00	M
CIS-1,3-DICHLOROPROPENE	7.00	U	7.60	U	6.80	U	7.30	U
2-CHLOROETHYL VINYL ETHER		I		I		I		I
BROMOFORM	7.00	U	7.60	U	6.80	U	7.30	U
2-HEXANONE		I		I		I		I
4-METHYL-2-PENTANONE		I		I		I		I
TETRACHLOROETHENE	7.00	U	6.00	M	6.80	U	7.30	U
TOLUENE	7.00	U	7.60	U	6.80	U	7.30	U
CHLOROBENZENE	7.00	U	7.60	U	6.80	U	21.0	
ETHYL BENZENE	7.00	U	7.60	U	6.80	U	7.30	U
STYRENE	7.00	U	7.60	U	6.80	U	7.30	U
TOTAL XYLENES	6.00	M	7.60	U	6.80	U	7.30	U

ANALYSIS TYPE: SEMIVOLATILES (PAGE 1)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E30
MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: __TSV____
UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G001		I099G002		I099G003		I099G004	
PHENOL	21000.	U	21000.	U	21000.	U	730	U
BIS(2-CHLOROETHYL) ETHER	21000.	U	21000.	U	21000.	U	730	U
2-CHLOROPHENOL	21000.	U	21000.	U	21000.	U	730	U
1,3 DICHLOROBENZENE	21000.	U	21000.	U	21000.	U	730	U
1,4 DICHLOROBENZENE	21000.	U	21000.	U	21000.	U	730	U
BENZYL ALCOHOL	21000.	U	21000.	U	21000.	U	730	U
1,2 DICHLOROBENZENE	21000.	U	21000.	U	21000.	U	730	U
2-METHYLPHENOL	21000.	U	21000.	U	21000.	U	730	U
BIS(2-CHLOROISOPROPYL)ETHER	21000.	U	21000.	U	21000.	U	730	U
4-METHYLPHENOL	21000.	U	21000.	U	21000.	U	730	U
N-NITROSO-DIPROPYLAMINE	21000.	U	21000.	U	21000.	U	730	U
HEXACHLOROETHANE	21000.	U	21000.	U	21000.	U	730	U
NITROBENZENE	21000.	U	21000.	U	21000.	U	730	U
ISOPHORONE	21000.	U	21000.	U	21000.	U	730	U
2-NITROPHENOL	21000.	U	21000.	U	21000.	U	730	U
2,4-DIMETHYLPHENOL	21000.	U	21000.	U	21000.	U	730	U
BENZOIC ACID	100000.	U	100000.	U	100000.	U	3500.	U
BIS(2-CHLOROETHOXY) METHANE	21000.	U	21000.	U	21000.	U	730	U
2,4 DICHLOROPHENOL	21000.	U	21000.	U	21000.	U	730	U
1,2,4-TRICHLOROBENZENE	21000.	U	21000.	U	21000.	U	730	U
NAPHTHALENE	21000.	U	21000.	U	21000.	U	730	U
4-CHLOROANILINE	21000.	U	21000.	U	21000.	U	730	U
HEXACHLOROBUTADIENE	21000.	U	21000.	U	21000.	U	730	U
4-CHLORO-3-METHYLPHENOL	21000.	U	21000.	U	21000.	U	730	U
2-METHYLNAPHTHALENE	21000.	U	21000.	U	21000.	U	730	U
HEXACHLOROCYCLOPENTADIENE	21000.	U	21000.	U	21000.	U	730	U
2,4,6-TRICHLOROPHENOL	21000.	U	21000.	U	21000.	U	730	U
2,4,5-TRICHLOROPHENOL	100000.	U	100000.	U	100000.	U	3500.	U
2-CHLORONAPHTHALENE	21000.	U	21000.	U	21000.	U	730	U
2-NITROANILINE	100000.	U	100000.	U	100000.	U	3500.	U
DIMETHYLPHTHALATE	21000.	U	21000.	U	21000.	U	730	U
ACENAPHTHYLENE	21000.	U	21000.	U	21000.	U	730	U
3-NITROANILINE	100000.	U	100000.	U	100000.	U	3500.	U
ACENAPHTHENE	21000.	U	21000.	U	21000.	U	730	U
2,4-DINITROPHENOL	100000.	U	100000.	U	100000.	U	3500.	U
4-NITROPHENOL	100000.	U	100000.	U	100000.	U	3500.	U
DIBENZOFURAN	21000.	U	21000.	U	21000.	U	730	U
2,4-DINITROTOLUENE	21000.	U	21000.	U	21000.	U	730	U

LYSIS TYPE: SEMIVOLATILE (PAGE 2)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E32

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: __TSV___ 4

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

	SAMPLE NUMBERS							
COMPOUND	I099G001		I099G002		I099G003		I099G004	
2,6-DINITROTOLUENE	21000.	U	21000.	U	21000.	U	73000.	U
DIETHYLPHTHALATE	21000.	U	21000.	U	21000.	U	73000.	U
4-CHLOROPHENYL PHENYL ETHER	21000.	U	21000.	U	21000.	U	73000.	U
FLUORENE	21000.	U	21000.	U	21000.	U	73000.	U
4-NITROANILINE	100000.	U	100000.	U	100000.	U	350000.	U
4,6-DINITRO-2-METHYLPHENOL	100000.	U	100000.	U	100000.	U	350000.	U
N-NITROSODIPHENYLAMINE	21000.	U	21000.	U	21000.	U	73000.	U
4-BROMOPHENYL PHENYL ETHER	21000.	U	21000.	U	21000.	U	73000.	U
HEXACHLOROBENZENE	21000.	U	21000.	U	21000.	U	73000.	U
PENTACHLOROPHENOL	100000.	U	100000.	U	100000.	U	350000.	U
PHENANTHRENE	21000.	U	21000.	U	21000.	U	73000.	U
ANTHRACENE	21000.	U	21000.	U	21000.	U	73000.	U
DI-N-BUTYLPHTHALATE	21000.	U	21000.	U	21000.	U	73000.	U
FLUORANTHENE	21000.	U	21000.	U	21000.	U	73000.	U
PYRENE	21000.	U	21000.	U	21000.	U	73000.	U
BUTYL BENZYL PHTHALATE	21000.	U	21000.	U	21000.	U	73000.	U
3,3' DICHLOROBENZIDINE	43000.	U	43000.	U	42000.	U	150000.	U
BENZO(A)ANTHRACENE	21000.	U	21000.	U	21000.	U	73000.	U
BIS(2-ETHYLHEXYL)PHTHALATE	21000.	U	21000.	U	21000.	U	550	M
CHRYSENE	21000.	U	21000.	U	21000.	U	73000.	U
DI-N-OCTYL PHTHALATE	21000.	U	21000.	U	21000.	U	73000.	U
BENZO(B)FLUORANTHENE	21000.	U	21000.	U	21000.	U	73000.	U
BENZO(K)FLUORANTHENE	21000.	U	21000.	U	21000.	U	73000.	U
BENZO(A)PYRENE	21000.	U	21000.	U	21000.	U	73000.	U
INDENO(1,2,3-CD)PYRENE	21000.	U	21000.	U	21000.	U	73000.	U
DIBENZO(A,H)ANTHRACENE	21000.	U	21000.	U	21000.	U	73000.	U
BENZO(G,H,I)PERYLENE	21000.	U	21000.	U	21000.	U	73000.	U

ANALYSIS TYPE: PESTICIDES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E34

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: TSV

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G001		I099G002		I099G003		I099G004	
ALPHA-BHC	340	U	3600.	U	3300.	U	12.0	U
BETA-BHC	340	U	3600.	U	3300.	U	12.0	U
DELTA-BHC	340	U	3600.	U	3300.	U	12.0	U
GAMMA-BHC	340	U	3600.	U	3300.	U	12.0	U
HEPTACHLOR	340	U	3600.	U	3300.	U	12.0	U
ALDRIN	340	U	3600.	U	3300.	U	12.0	U
HEPTACHLOR EPOXIDE	340	U	3600.	U	3300.	U	12.0	U
ENDOSULFAN I	340	U	3600.	U	3300.	U	12.0	U
DIELDRIN	670	U	7300.	U	6600.	U	24.0	U
4,4'-DDE	670	U	7300.	U	6600.	U	24.0	U
ENDRIN	670	U	7300.	U	6600.	U	24.0	U
ENDOSULFAN II	670	U	7300.	U	6600.	U	24.0	U
4,4'-DDD	670	U	7300.	U	6600.	U	24.0	U
ENDRIN ALDEHYDE	670	U	7300.	U	6600.	U	24.0	U
ENDOSULFAN SULFATE	670	U	7300.	U	6600.	U	24.0	U
4,4'-DDT	670	U	7300.	U	6600.	U	24.0	U
ENDRIN KETONE	670	U	7300.	U	6600.	U	24.0	U
METHOXYCHLOR	3400.	U	36000.	U	33000.	U	120	U
CHLORDANE	3400.	U	36000.	U	33000.	U	120	U
TOXAPHENE	6700.	U	73000.	U	66000.	U	240	U
AROCLOR-1016	3400.	U	36000.	U	33000.	U	120	U
AROCLOR-1221	3400.	U	36000.	U	33000.	U	120	U
AROCLOR-1232	3400.	U	36000.	U	33000.	U	120	U
AROCLOR-1242	3400.	U	36000.	U	33000.	U	120	U
AROCLOR-1248	1900.	M	650000.		390000.		140	
AROCLOR-1254	6700.	U	73000.	U	66000.	U	240	U
AROCLOR-1260	6700.	U	73000.	U	66000.	U	240	U

ALYSIS TYPE: VOLATILE AN ES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E28

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: JSV 4

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G005		I099G006		I099G009		I099G010	
CHLOROMETHANE	440	U	57.0	U	14.0	U	15.0	U
BROMOMETHANE	440	U	57.0	U	14.0	U	15.0	U
VINYL CHLORIDE	42.0	M	33.0	M	16.0		7.00	M
CHLOROETHANE	440	U	57.0	U	12.0	M	15.0	U
METHYLENE CHLORIDE	1100.	U	56.0	U	22.0	U	18.0	U
ACETONE	480	U	89.0	U	61.0		180	
CARBON DISULFIDE	220	U	29.0	U	7.00	U	7.50	U
1,1 DICHLOROETHENE	13.0	M	29.0	U	6.00	M	7.50	U
1,1 DICHLOROETHANE	28.0	M	12.0	M	250		6.00	M
TRANS-1,2,-DICHLOROETHENE	1100.		520		19.0		14.0	
CHLOROFORM	220	U	29.0	U	7.00	U	7.50	U
1,2,DICHLOROETHANE	220	U	29.0	U	7.00	U	7.50	U
2-BUTANONE	1900.	J	52.0	M	26.0	J		I
1,1,1 TRICHLOROETHANE	220	U	29.0	U	40.0		7.50	U
CARBON TETRACHLORIDE	220	U	29.0	U	7.00	U	7.50	U
VINYL ACETATE		I		I		I		I
BROMODICHLOROMETHANE		I		I		I		I
1,1,2,2,-TETRACHLOROETHANE	220	U	29.0	U	7.00	U	7.50	U
1,2-DICHLOROPROPANE	220	U	29.0	U	7.00	U	7.50	U
TRANS-1,3-DICHLOROPROPENE	220	U	29.0	U	7.00	U	7.50	U
TRICHLOROETHENE	220	U	29.0	U	31.0		21.0	
DIBROMOCHLOROMETHANE	220	U	29.0	U	7.00	U	7.50	U
1,1,2-TRICHLOROETHANE	220	U	29.0	U	6.00	M	7.50	U
BENZENE	220	U	29.0	U	24.0		7.50	U
CIS-1,3-DICHLOROPROPENE	220	U	29.0	U	7.00	U	7.50	U
2-CHLOROETHYL VINYL ETHER		I		I		I		I
BROMOFORM	220	U	29.0	U	7.00	U	7.50	U
2-HEXANONE		I		I		I		I
4-METHYL-2-PENTANONE		I		I		I		I
TETRACHLOROETHENE	220	U	29.0	U	7.00	U	2.00	M
TOLUENE	220	U	29.0	U	77.0		4.00	M
CHLOROBENZENE	220	U	94.0		110		19.0	
ETHYL BENZENE	220	U	29.0	U	7.00	U	7.50	U
STYRENE	220	U	29.0	U	7.00	U	7.50	U
TOTAL XYLENES	220	U	29.0	U	7.00	U	7.50	U

ALYSIS TYPE: SEMIVOLATIL (PAGE 1)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E30

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: __TSV____

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

COMPOUND	SAMPLE NUMBERS							
	I099G005		I099G006		I099G009		I099G010	
PHENOL	21000.	U	19000.	U	21000.	U	23000.	U
BIS(2-CHLOROETHYL) ETHER	21000.	U	19000.	U	21000.	U	23000.	U
2-CHLOROPHENOL	21000.	U	19000.	U	21000.	U	23000.	U
1,3 DICHLOROBENZENE	21000.	U	19000.	U	21000.	U	23000.	U
1,4 DICHLOROBENZENE	21000.	U	19000.	U	21000.	U	23000.	U
BENZYL ALCOHOL	21000.	U	19000.	U	21000.	U	23000.	U
1,2 DICHLOROBENZENE	21000.	U	19000.	U	21000.	U	23000.	U
2-METHYLPHENOL	21000.	U	19000.	U	21000.	U	23000.	U
BIS(2-CHLOROISOPROPYL)ETHER	21000.	U	19000.	U	21000.	U	23000.	U
4-METHYLPHENOL	21000.	U	19000.	U	21000.	U	23000.	U
N-NITROSO-DIPROPYLAMINE	21000.	U	19000.	U	21000.	U	23000.	U
HEXACHLOROETHANE	21000.	U	19000.	U	21000.	U	23000.	U
NITROBENZENE	21000.	U	19000.	U	21000.	U	23000.	U
ISOPHORONE	21000.	U	19000.	U	21000.	U	23000.	U
2-NITROPHENOL	21000.	U	19000.	U	21000.	U	23000.	U
2,4-DIMETHYLPHENOL	21000.	U	19000.	U	21000.	U	23000.	U
BENZOIC ACID	100000.	U	90000.	U	100000.	U	110000.	U
BIS(2-CHLOROETHOXY) METHANE	21000.	U	19000.	U	21000.	U	23000.	U
2,4 DICHLOROPHENOL	21000.	U	19000.	U	21000.	U	23000.	U
1,2,4-TRICHLOROBENZENE	21000.	U	19000.	U	21000.	U	23000.	U
NAPHTHALENE	21000.	U	19000.	U	21000.	U	23000.	U
4-CHLOROANILINE	21000.	U	19000.	U	21000.	U	23000.	U
HEXACHLOROBUTADIENE	21000.	U	19000.	U	21000.	U	23000.	U
4-CHLORO-3-METHYLPHENOL	21000.	U	19000.	U	21000.	U	23000.	U
2-METHYLNAPHTHALENE	21000.	U	19000.	U	21000.	U	23000.	U
HEXACHLOROCYCLOPENTADIENE	21000.	U	19000.	U	21000.	U	23000.	U
2,4,6-TRICHLOROPHENOL	21000.	U	19000.	U	21000.	U	23000.	U
2,4,5-TRICHLOROPHENOL	100000.	U	90000.	U	100000.	U	110000.	U
2-CHLORONAPHTHALENE	21000.	U	19000.	U	21000.	U	23000.	U
2-NITROANILINE	100000.	U	90000.	U	100000.	U	110000.	U
DIMETHYLPHTHALATE	21000.	U	19000.	U	21000.	U	23000.	U
ACENAPHTHYLENE	21000.	U	19000.	U	21000.	U	23000.	U
3-NITROANILINE	100000.	U	90000.	U	100000.	U	110000.	U
ACENAPHTHENE	21000.	U	19000.	U	21000.	U	23000.	U
2,4-DINITROPHENOL	100000.	U	90000.	U	100000.	U	110000.	U
4-NITROPHENOL	100000.	U	90000.	U	100000.	U	110000.	U
DIBENZOFURAN	21000.	U	19000.	U	5200.	M	23000.	U
2,4-DINITROTOLUENE	21000.	U	19000.	U	21000.	U	23000.	U

ALYSIS TYPE: SEMIVOLATIL (PAGE 2)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E32

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: __TSV____

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G005		I099G006		I099G009		I099G010	
2,6-DINITROTOLUENE	21000.	U	19000.	U	21000.	U	23000.	U
DIETHYLPHTHALATE	21000.	U	19000.	U	21000.	U	23000.	U
4-CHLOROPHENYL PHENYL ETHER	21000.	U	19000.	U	21000.	U	23000.	U
FLUORENE	21000.	U	19000.	U	21000.	U	23000.	U
4-NITROANILINE	100000.	U	90000.	U	100000.	U	110000.	U
4,6-DINITRO-2-METHYLPHENOL	100000.	U	90000.	U	100000.	U	110000.	U
N-NITROSODIPHENYLAMINE	21000.	U	19000.	U	21000.	U	23000.	U
4-BROMOPHENYL PHENYL ETHER	21000.	U	19000.	U	21000.	U	23000.	U
HEXACHLOROBENZENE	21000.	U	19000.	U	21000.	U	23000.	U
PENTACHLOROPHENOL	100000.	U	90000.	U	100000.	U	110000.	U
PHENANTHRENE	21000.	U	19000.	U	21000.	U	23000.	U
ANTHRACENE	21000.	U	19000.	U	21000.	U	23000.	U
DI-N-BUTYLPHTHALATE	21000.	U	19000.	U	21000.	U	23000.	U
FLUORANTHENE	21000.	U	19000.	U	21000.	U	23000.	U
PYRENE	21000.	U	19000.	U	21000.	U	23000.	U
BUTYL BENZYL PHTHALATE	21000.	U	19000.	U	21000.	U	23000.	U
3,3' DICHLOROBENZIDINE	43000.	U	37000.	U	43000.	U	46000.	U
BENZO(A)ANTHRACENE	21000.	U	19000.	U	21000.	U	23000.	U
BIS(2-ETHYLHEXYL)PHTHALATE	21000.	U	19000.	U	21000.	U	23000.	U
CHRYSENE	21000.	U	19000.	U	21000.	U	23000.	U
DI-N-OCTYL PHTHALATE	21000.	U	19000.	U	21000.	U	23000.	U
BENZO(B)FLUORANTHENE	21000.	U	19000.	U	21000.	U	23000.	U
BENZO(K)FLUORANTHENE	21000.	U	19000.	U	21000.	U	23000.	U
BENZO(A)PYRENE	21000.	U	19000.	U	21000.	U	23000.	U
INDENO(1,2,3-CD)PYRENE	21000.	U	19000.	U	21000.	U	23000.	U
DIBENZO(A,H)ANTHRACENE	21000.	U	19000.	U	21000.	U	23000.	U
BENZO(G,H,I)PERYLENE	21000.	U	19000.	U	21000.	U	23000.	U

..ALYSIS TYPE: PESTICIDES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E34

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: ___TSV 4

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G005		I099G006		I099G009		I099G010	
ALPHA-BHC	340	U	320	U	34000.	U	3600.	U
BETA-BHC	340	U	320	U	34000.	U	3600.	U
DELTA-BHC	340	U	320	U	34000.	U	3600.	U
GAMMA-BHC	340	U	320	U	34000.	U	3600.	U
HEPTACHLOR	340	U	320	U	34000.	U	3600.	U
ALDRIN	340	U	320	U	34000.	U	3600.	U
HEPTACHLOR EPOXIDE	340	U	320	U	34000.	U	3600.	U
ENDOSULFAN I	340	U	320	U	34000.	U	3600.	U
DIELDRIN	670	U	630	U	67000.	U	7200.	U
4,4'-DDE	670	U	630	U	67000.	U	7200.	U
ENDRIN	670	U	630	U	67000.	U	7200.	U
ENDOSULFAN II	670	U	630	U	67000.	U	7200.	U
4,4'-DDD	670	U	630	U	67000.	U	7200.	U
ENDRIN ALDEHYDE	670	U	630	U	67000.	U	7200.	U
ENDOSULFAN SULFATE	670	U	630	U	67000.	U	7200.	U
4,4'-DDT	670	U	630	U	67000.	U	7200.	U
ENDRIN KETONE	670	U	630	U	67000.	U	7200.	U
METHOXYCHLOR	3400.	U	3200.	U	340000.	U	36000.	U
CHLORDANE	3400.	U	3200.	U	340000.	U	36000.	U
TOXAPHENE	6700.	U	6300.	U	670000.	U	72000.	U
AROCLOR-1016	3400.	U	3200.	U	340000.	U	36000.	U
AROCLOR-1221	3400.	U	3200.	U	340000.	U	36000.	U
AROCLOR-1232	3400.	U	3200.	U	340000.	U	36000.	U
AROCLOR-1242	3400.	U	3200.	U	340000.	U	36000.	U
AROCLOR-1248	6400.		3200.	U	12,000,000 TSV		630000.	
AROCLOR-1254	6700.	U	6300.	U	670000.	U	72000.	U
AROCLOR-1260	6700.	U	6300.	U	670000.	U	72000.	U

ALYSIS TYPE: VOLATILE AN ES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E28

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: TSV

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G011		I099G012		I099G015		I099G016	
CHLOROMETHANE	74.0	U	67.0	U	560	U	510	U
BROMOMETHANE	74.0	U	67.0	U	560	U	510	U
VINYL CHLORIDE	220		270		560	U	450	M
CHLOROETHANE	74.0	U	67.0	U	560	U	510	U
METHYLENE CHLORIDE	200	U	130	U	280	U	260	U
ACETONE	200	U	67.0	U	560	U	840	
CARBON DISULFIDE	37.0	U	33.0	U	280	U	260	U
1,1 DICHLOROETHENE	37.0	U	4.00	M	280	U	260	U
1,1 DICHLOROETHANE	28.0	M	13.0	M	280	U	260	
TRANS-1,2,-DICHLOROETHENE	750		1600.		1600.		1900.	
CHLOROFORM	37.0	U	33.0	U	280	U	260	U
1,2,DICHLOROETHANE	37.0	U	33.0	U	280	U	260	U
2-BUTANONE	74.0	U		I		I	3700.	J
1,1,1 TRICHLOROETHANE	37.0	U	33.0	U	280	U	260	U
CARBON TETRACHLORIDE	37.0	U	33.0	U	280	U	260	U
VINYL ACETATE		I		I		I		I
BROMODICHLOROMETHANE		I		I		I		I
1,1,2,2,-TETRACHLOROETHANE	37.0	U	33.0	U	280	U	200	M
1,2-DICHLOROPROPANE	37.0	U	33.0	U	280	U	260	U
TRANS-1,3-DICHLOROPROPENE	37.0	U	33.0	U	280	U	260	U
TRICHLOROETHENE	37.0	U	81.0		280	U	260	U
DIBROMOCHLOROMETHANE	37.0	U	33.0	U	280	U	260	U
1,1,2-TRICHLOROETHANE	37.0	U	33.0	U	280	U	260	U
BENZENE	3.00	M	3.00	M	280	U	260	U
CIS-1,3-DICHLOROPROPENE	37.0	U	33.0	U	280	U	260	U
2-CHLOROETHYL VINYL ETHER		I		I		I		I
BROMOFORM	37.0	U	33.0	U	280	U	260	U
2-HEXANONE		I		I		I		I
4-METHYL-2-PENTANONE		I		I		I		I
TETRACHLOROETHENE	37.0	U	33.0	U	280	U	260	U
TOLUENE	6.00	M	33.0	U	280	U	260	U
CHLOROBENZENE	61.0		66.0		280	U	260	U
ETHYL BENZENE	37.0	U	33.0	U	280	U	260	U
STYRENE	37.0	U	33.0	U	280	U	260	U
TOTAL XYLENES	37.0	U	33.0	U	280	U	260	U

ALYSIS TYPE: SEMIVOLATIL. .PAGE 1)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E30

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: TSV

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G011		I099G012		I099G015		I099G016	
PHENOL	23000.	U	730	U	100	M	19000.	U
BIS(2-CHLOROETHYL) ETHER	23000.	U	730	U	690	U	19000.	U
2-CHLOROPHENOL	23000.	U	730	U	690	U	19000.	U
1,3 DICHLOROBENZENE	23000.	U	730	U	690	U	19000.	U
1,4 DICHLOROBENZENE	23000.	U	730	U	690	U	19000.	U
BENZYL ALCOHOL	23000.	U	730	U	690	U	19000.	U
1,2 DICHLOROBENZENE	23000.	U	730	U	690	U	19000.	U
2-METHYLPHENOL	23000.	U	730	U	690	U	19000.	U
BIS(2-CHLOROISOPROPYL)ETHER	23000.	U	730	U	690	U	19000.	U
4-METHYLPHENOL	23000.	U	730	U	690	U	19000.	U
N-NITROSO-DIPROPYLAMINE	23000.	U	730	U	690	U	19000.	U
HEXACHLOROETHANE	23000.	U	730	U	690	U	19000.	U
NITROBENZENE	23000.	U	730	U	690	U	19000.	U
ISOPHORONE	23000.	U	730	U	690	U	19000.	U
2-NITROPHENOL	23000.	U	730	U	690	U	19000.	U
2,4-DIMETHYLPHENOL	23000.	U	730	U	690	U	19000.	U
BENZOIC ACID	110000.	U	3500.	U	3400.	U	91000.	U
BIS(2-CHLOROETHOXY) METHANE	23000.	U	730	U	690	U	19000.	U
2,4 DICHLOROPHENOL	23000.	U	730	U	690	U	19000.	U
1,2,4-TRICHLOROBENZENE	23000.	U	730	U	690	U	19000.	U
NAPHTHALENE	23000.	U	730	U	690	U	19000.	U
4-CHLOROANILINE	23000.	U	730	U	690	U	19000.	U
HEXACHLOROBUTADIENE	23000.	U	730	U	690	U	19000.	U
4-CHLORO-3-METHYLPHENOL	23000.	U	730	U	690	U	19000.	U
2-METHYLNAPHTHALENE	23000.	U	730	U	690	U	19000.	U
HEXACHLOROCYCLOPENTADIENE	23000.	U	730	U	690	U	19000.	U
2,4,6-TRICHLOROPHENOL	23000.	U	730	U	690	U	19000.	U
2,4,5-TRICHLOROPHENOL	110000.	U	3500.	U	3400.	U	91000.	U
2-CHLORONAPHTHALENE	23000.	U	730	U	690	U	19000.	U
2-NITROANILINE	110000.	U	3500.	U	3400.	U	91000.	U
DIMETHYLPHTHALATE	23000.	U	730	U	690	U	19000.	U
ACENAPHTHYLENE	23000.	U	730	U	690	U	19000.	U
3-NITROANILINE	110000.	U	3500.	U	3400.	U	91000.	U
ACENAPHTHENE	23000.	U	730	U	690	U	19000.	U
2,4-DINITROPHENOL	110000.	U	3500.	U	3400.	U	91000.	U
4-NITROPHENOL	110000.	U	3500.	U	3400.	U	91000.	U
DIBENZOFURAN	23000.	U	730	U	690	U	19000.	U
2,4-DINITROTOLUENE	23000.	U	730	U	690	U	19000.	U

ALYSIS TYPE: SEMIVOLATIL (PAGE 2)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E32

MATRIX: SEDIMENT
METHOD: 9302M01✓
REVIEWER: TSV

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G011		I099G012		I099G015		I099G016	
2,6-DINITROTOLUENE	23000.	U	730	U	690	U	19000.	U
DIETHYLPHTHALATE	23000.	U	730	U	690	U	19000.	U
4-CHLOROPHENYL PHENYL ETHER	23000.	U	730	U	690	U	19000.	U
FLUORENE	23000.	U	730	U	690	U	19000.	U
4-NITROANILINE	110000.	U	3500.	U	3400.	U	91000.	U
4,6-DINITRO-2-METHYLPHENOL	110000.	U	3500.	U	3400.	U	91000.	U
N-NITROSODIPHENYLAMINE	23000.	U	730	U	690	U	19000.	U
4-BROMOPHENYL PHENYL ETHER	23000.	U	730	U	690	U	19000.	U
HEXACHLOROBENZENE	23000.	U	730	U	690	U	19000.	U
PENTACHLOROPHENOL	110000.	U	3500.	U	3400.	U	91000.	U
PHENANTHRENE	23000.	U	730	U	690	U	19000.	U
ANTHRACENE	23000.	U	730	U	690	U	19000.	U
DI-N-BUTYLPHTHALATE	23000.	U	730	U	690	U	19000.	U
FLUORANTHENE	23000.	U	730	U	690	U	19000.	U
PYRENE	23000.	U	730	U	690	U	19000.	U
BUTYL BENZYL PHTHALATE	23000.	U	730	U	690	U	19000.	U
3,3' DICHLOROBENZIDINE	45000.	U	1500.	U	1400.	U	37000.	U
BENZO(A)ANTHRACENE	23000.	U	730	U	690	U	19000.	U
BIS(2-ETHYLHEXYL)PHTHALATE	5400.	M	220	M	1100.	M	1400.	M
CHRYSENE	23000.	U	730	U	690	U	19000.	U
DI-N-OCTYL PHTHALATE	23000.	U	730	U	690	U	6900.	M
BENZO(B)FLUORANTHENE	23000.	U	730	U	690	U	19000.	U
BENZO(K)FLUORANTHENE	23000.	U	730	U	690	U	19000.	U
BENZO(A)PYRENE	23000.	U	730	U	690	U	19000.	U
INDENO(1,2,3-CD)PYRENE	23000.	U	730	U	690	U	19000.	U
DIBENZO(A,H)ANTHRACENE	23000.	U	730	U	690	U	19000.	U
BENZO(G,H,I)PERYLENE	23000.	U	730	U	690	U	19000.	U

ANALYSIS TYPE: PESTICIDES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E34

MATRIX: SEDIMENT
METHOD: 9302M01 4
REVIEWER: __TSV____

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

COMPOUND	SAMPLE NUMBERS							
	I099G011		I099G012		I099G015		I099G016	
ALPHA-BHC	3600.	U	560	U	56.0	U	30000.	U
BETA-BHC	3600.	U	560	U	56.0	U	30000.	U
DELTA-BHC	3600.	U	560	U	56.0	U	30000.	U
GAMMA-BHC	3600.	U	560	U	56.0	U	30000.	U
HEPTACHLOR	3600.	U	560	U	56.0	U	30000.	U
ALDRIN	3600.	U	560	U	56.0	U	30000.	U
HEPTACHLOR EPOXIDE	3600.	U	560	U	56.0	U	30000.	U
ENDOSULFAN I	3600.	U	560	U	56.0	U	30000.	U
DIELDRIN	7100.	U	1100.	U	110	U	61000.	U
4,4'-DDE	7100.	U	1100.	U	110	U	61000.	U
ENDRIN	7100.	U	1100.	U	110	U	61000.	U
ENDOSULFAN II	7100.	U	1100.	U	110	U	61000.	U
4,4'-DDD	7100.	U	1100.	U	110	U	61000.	U
ENDRIN ALDEHYDE	7100.	U	1100.	U	110	U	61000.	U
ENDOSULFAN SULFATE	7100.	U	1100.	U	110	U	61000.	U
4,4'-DDT	7100.	U	1100.	U	110	U	61000.	U
ENDRIN KETONE	7100.	U	1100.	U	110	U	61000.	U
METHOXYCHLOR	36000.	U	5600.	U	560	U	300000.	U
CHLORDANE	36000.	U	5600.	U	560	U	300000.	U
TOXAPHENE	71000.	U	11000.	U	1100.	U	610000.	U
AROCLOR-1016	36000.	U	5600.	U	560	U	300000.	U
AROCLOR-1221	36000.	U	5600.	U	560	U	300000.	U
AROCLOR-1232	36000.	U	5600.	U	560	U	300000.	U
AROCLOR-1242	36000.	U	5600.	U	560	U	300000.	U
AROCLOR-1248	150000.		32000.		3200.		4,900,000	7
AROCLOR-1254	71000.	U	11000.	U	1100.	U	610000.	U
AROCLOR-1260	71000.	U	11000.	U	1100.	U	610000.	U

ALYSIS TYPE: VOLATILE AN ES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E28

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: __TSV___4_

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G017		I099G018		I099G019		I099G020	
CHLOROMETHANE	560	U	65.0	U	14.0	U	11.0	U
BROMOMETHANE	560	U	65.0	U	14.0	U	11.0	U
VINYL CHLORIDE	280	M	35.0	M	4.00	M	11.0	U
CHLOROETHANE	560	U	65.0	U	14.0	U	11.0	U
METHYLENE CHLORIDE	1500.	U	87.0	U	39.0	U	15.0	U
ACETONE	560	U	65.0	U	14.0	U	11.0	U
CARBON DISULFIDE	280	U	32.0	U	6.90	U	5.50	U
1,1 DICHLOROETHENE	280	U	8.00	M	6.90	U	5.50	U
1,1 DICHLOROETHANE	280		16.0	M	2.00	M	5.50	U
TRANS-1,2,-DICHLOROETHENE	3000.		480		120		5.50	U
CHLOROFORM	280	U	11.0	M	4.00	M	5.50	U
1,2,DICHLOROETHANE	280	U	61.0	J	33.0	J	5.50	U
2-BUTANONE	3000.	J	65.0	U		I		I
1,1,1 TRICHLOROETHANE	93.0	M	32.0	U	6.90	U	5.50	U
CARBON TETRACHLORIDE	280	U	32.0	U	6.90	U	5.50	U
VINYL ACETATE		I		I		I		I
BROMODICHLOROMETHANE		I		I		I		I
1,1,2,2,-TETRACHLOROETHANE	280	U	32.0	U	6.90	U	5.50	U
1,2-DICHLOROPROPANE	280	U	32.0	U	6.90	U	5.50	U
TRANS-1,3-DICHLOROPROPENE	280	U	32.0	U	6.90	U	5.50	U
TRICHLOROETHENE	280	U	320		76.0		5.50	U
DIBROMOCHLOROMETHANE	280	U	32.0	U	6.90	U	5.50	U
1,1,2-TRICHLOROETHANE	280	U	42.0	U	28.0	U	5.50	U
BENZENE	280	U	32.0	U	6.90	U	5.50	U
CIS-1,3-DICHLOROPROPENE	280	U	32.0	U	6.90	U	5.50	U
2-CHLOROETHYL VINYL ETHER		I		I		I		I
BROMOFORM	280	U	32.0	U	6.90	U	5.50	U
2-HEXANONE		I		I		I		I
4-METHYL-2-PENTANONE		I		I		I		I
TETRACHLOROETHENE	280	U	32.0	U	6.00	M	5.50	U
TOLUENE	280	U	32.0	U	6.90	U	5.50	U
CHLOROBENZENE	280	U	32.0	U	6.90	U	5.50	U
ETHYL BENZENE	280	U	32.0	U	6.90	U	5.50	U
STYRENE	280	U	32.0	U	6.90	U	5.50	U
TOTAL XYLENES	280	U	32.0	U	6.90	U	5.50	U

ALYSIS TYPE: SEMIVOLATILE (PAGE 1)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E30

MATRIX: SEDIMENT
METHOD: 9302M01 ✓ 4
REVIEWER: TSV

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G017		I099G018		I099G019		I099G020	
PHENOL	20000.	U	18000.	U	180	M	550	U
BIS(2-CHLOROETHYL) ETHER	20000.	U	18000.	U	690	U	550	U
2-CHLOROPHENOL	20000.	U	18000.	U	690	U	550	U
1,3 DICHLOROBENZENE	20000.	U	18000.	U	690	U	550	U
1,4 DICHLOROBENZENE	20000.	U	18000.	U	690	U	550	U
BENZYL ALCOHOL	20000.	U	18000.	U	690	U	550	U
1,2 DICHLOROBENZENE	20000.	U	18000.	U	690	U	550	U
2-METHYLPHENOL	20000.	U	18000.	U	690	U	550	U
BIS(2-CHLOROISOPROPYL)ETHER	20000.	U	18000.	U	690	U	550	U
4-METHYLPHENOL	20000.	U	18000.	U	690	U	550	U
N-NITROSO-DIPROPYLAMINE	20000.	U	18000.	U	690	U	550	U
HEXACHLOROETHANE	20000.	U	18000.	U	690	U	550	U
NITROBENZENE	20000.	U	18000.	U	690	U	550	U
ISOPHORONE	20000.	U	18000.	U	690	U	550	U
2-NITROPHENOL	20000.	U	18000.	U	690	U	550	U
2,4-DIMETHYLPHENOL	20000.	U	18000.	U	690	U	550	U
BENZOIC ACID	96000.	U	88000.	U	3300.	U	2700.	U
BIS(2-CHLOROETHOXY) METHANE	20000.	U	18000.	U	690	U	550	U
2,4 DICHLOROPHENOL	20000.	U	18000.	U	690	U	550	U
1,2,4-TRICHLOROBENZENE	20000.	U	18000.	U	690	U	550	U
NAPHTHALENE	20000.	U	18000.	U	690	U	550	U
4-CHLOROANILINE	20000.	U	18000.	U	690	U	550	U
HEXACHLOROBUTADIENE	20000.	U	18000.	U	690	U	550	U
4-CHLORO-3-METHYLPHENOL	20000.	U	18000.	U	690	U	550	U
2-METHYLNAPHTHALENE	20000.	U	18000.	U	690	U	550	U
HEXACHLOROCYCLOPENTADIENE	20000.	U	18000.	U	690	U	550	U
2,4,6-TRICHLOROPHENOL	20000.	U	18000.	U	690	U	550	U
2,4,5-TRICHLOROPHENOL	96000.	U	88000.	U	3300.	U	2700.	U
2-CHLORONAPHTHALENE	20000.	U	18000.	U	690	U	550	U
2-NITROANILINE	96000.	U	88000.	U	3300.	U	2700.	U
DIMETHYLPHTHALATE	20000.	U	18000.	U	690	U	550	U
ACENAPHTHYLENE	20000.	U	18000.	U	690	U	550	U
3-NITROANILINE	96000.	U	88000.	U	3300.	U	2700.	U
ACENAPHTHENE	20000.	U	18000.	U	690	U	550	U
2,4-DINITROPHENOL	96000.	U	88000.	U	3300.	U	2700.	U
4-NITROPHENOL	96000.	U	88000.	U	3300.	U	2700.	U
DIBENZOFURAN	20000.	U	18000.	U	690	U	550	U
2,4-DINITROTOLUENE	20000.	U	18000.	U	690	U	550	U

ALYSIS TYPE: SEMIVOLATIL. (PAGE 2)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E32
MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: TSV 4
UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G017		I099G018		I099G019		I099G020	
2,6-DINITROTOLUENE	20000.	U	18000.	U	690	U	550	U
DIETHYLPHTHALATE	20000.	U	18000.	U	690	U	550	U
4-CHLOROPHENYL PHENYL ETHER	20000.	U	18000.	U	690	U	550	U
FLUORENE	20000.	U	18000.	U	690	U	550	U
4-NITROANILINE	96000.	U	88000.	U	3300.	U	2700.	U
4,6-DINITRO-2-METHYLPHENOL	96000.	U	88000.	U	3300.	U	2700.	U
N-NITROSODIPHENYLAMINE	20000.	U	18000.	U	690	U	550	U
4-BROMOPHENYL PHENYL ETHER	20000.	U	18000.	U	690	U	550	U
HEXACHLOROBENZENE	20000.	U	18000.	U	690	U	550	U
PENTACHLOROPHENOL	96000.	U	88000.	U	3300.	U	2700.	U
PHENANTHRENE	20000.	U	18000.	U	690	U	550	U
ANTHRACENE	20000.	U	18000.	U	690	U	550	U
DI-N-BUTYLPHTHALATE	20000.	U	18000.	U	690	U	550	U
FLUORANTHENE	20000.	U	18000.	U	690	U	550	U
PYRENE	20000.	U	18000.	U	690	U	550	U
BUTYL BENZYL PHTHALATE	20000.	U	18000.	U	690	U	550	U
3,3' DICHLOROBENZIDINE	40000.	U	36000.	U	1400.	U	1100.	U
BENZO(A)ANTHRACENE	20000.	U	18000.	U	690	U	550	U
BIS(2-ETHYLHEXYL)PHTHALATE	20000.	U	18000.	U	390	M	2100.	J
CHRYSENE	20000.	U	18000.	U	690	U	550	U
DI-N-OCTYL PHTHALATE	20000.	U	18000.	U	690	U	550	U
BENZO(B)FLUORANTHENE	20000.	U	18000.	U	690	U	550	U
BENZO(K)FLUORANTHENE	20000.	U	18000.	U	690	U	550	U
BENZO(A)PYRENE	20000.	U	18000.	U	690	U	550	U
INDENO(1,2,3-CD)PYRENE	20000.	U	18000.	U	690	U	550	U
DIBENZO(A,H)ANTHRACENE	20000.	U	18000.	U	690	U	550	U
BENZO(G,H,I)PERYLENE	20000.	U	18000.	U	690	U	550	U

ANALYSIS TYPE: PESTICIDES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E34

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: JS✓ 4

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G017		I099G018		I099G019		I099G020	
ALPHA-BHC	17000.	U	15000.	U	560	U	45.0	U
BETA-BHC	17000.	U	15000.	U	560	U	45.0	U
DELTA-BHC	17000.	U	15000.	U	560	U	45.0	U
GAMMA-BHC	17000.	U	15000.	U	560	U	45.0	U
HEPTACHLOR	17000.	U	15000.	U	560	U	45.0	U
ALDRIN	17000.	U	15000.	U	560	U	45.0	U
HEPTACHLOR EPOXIDE	17000.	U	15000.	U	560	U	45.0	U
ENDOSULFAN I	17000.	U	15000.	U	560	U	45.0	U
DIELDRIN	34000.	U	31000.	U	1100.	U	90.0	U
4,4'-DDE	34000.	U	31000.	U	1100.	U	90.0	U
ENDRIN	34000.	U	31000.	U	1100.	U	90.0	U
ENDOSULFAN II	34000.	U	31000.	U	1100.	U	90.0	U
4,4'-DDD	34000.	U	31000.	U	1100.	U	90.0	U
ENDRIN ALDEHYDE	34000.	U	31000.	U	1100.	U	90.0	U
ENDOSULFAN SULFATE	34000.	U	31000.	U	1100.	U	90.0	U
4,4'-DDT	34000.	U	31000.	U	1100.	U	90.0	U
ENDRIN KETONE	34000.	U	31000.	U	1100.	U	90.0	U
METHOXYCHLOR	170000.	U	150000.	U	5600.	U	450	U
CHLORDANE	170000.	U	150000.	U	5600.	U	450	U
TOXAPHENE	340000.	U	310000.	U	11000.	U	900	U
AROCLOR-1016	170000.	U	150000.	U	5600.	U	450	U
AROCLOR-1221	170000.	U	150000.	U	5600.	U	450	U
AROCLOR-1232	170000.	U	150000.	U	5600.	U	450	U
AROCLOR-1242	170000.	U	150000.	U	5600.	U	450	U
AROCLOR-1248	920000.		1100000.		43000.		2600.	
AROCLOR-1254	340000.	U	310000.	U	11000.	U	900	U
AROCLOR-1260	340000.	U	310000.	U	11000.	U	900	U

ANALYSIS TYPE: VOLATILE ANALYSES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E29
MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: ___TSV__
UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G020D		I099G022		I099G023	
CHLOROMETHANE	11.0	U	12.0	U	11.0	U
BROMOMETHANE	11.0	U	12.0	U	11.0	U
VINYL CHLORIDE	11.0	U	12.0	U	11.0	U
CHLOROETHANE	11.0	U	12.0	U	11.0	U
METHYLENE CHLORIDE	5.50	U	29.0	U	5.60	U
ACETONE	11.0	U	40.0	U	11.0	U
CARBON DISULFIDE	5.50	U	5.80	U	5.60	U
1,1 DICHLOROETHENE	5.50	U	5.80	U	5.60	U
1,1 DICHLOROETHANE	5.50	U	5.80	U	5.60	U
TRANS-1,2,-DICHLOROETHENE	5.50	U	5.80	U	5.60	U
CHLOROFORM	5.50	U	5.80	U	5.60	U
1,2,DICHLOROETHANE	5.50	U	6.00		5.60	U
2-BUTANONE		I	13.0	J		I
1,1,1 TRICHLOROETHANE	5.50	U	5.80	U	5.60	U
CARBON TETRACHLORIDE	5.50	U	5.80	U	5.60	U
VINYL ACETATE		I		I		I
BROMODICHLOROMETHANE		I		I		I
1,1,2,2,-TETRACHLOROETHANE	5.50	U	5.80	U	5.60	U
1,2-DICHLOROPROPANE	5.50	U	5.80	U	5.60	U
TRANS-1,3-DICHLOROPROPENE	5.50	U	5.80	U	5.60	U
TRICHLOROETHENE	5.50	U	5.80	U	5.60	U
DIBROMOCHLOROMETHANE	5.50	U	5.80	U	5.60	U
1,1,2-TRICHLOROETHANE	5.50	U	5.80	U	5.60	U
BENZENE	5.50	U	5.80	U	5.60	U
CIS-1,3-DICHLOROPROPENE	5.50	U	5.80	U	5.60	U
2-CHLOROETHYL VINYL ETHER		I		I		I
BROMOFORM	5.50	U	5.80	U	5.60	U
2-HEXANONE		I		I		I
4-METHYL-2-PENTANONE		I		I		I
TETRACHLOROETHENE	5.50	U	5.80	U	5.60	U
TOLUENE	5.50	U	5.80	U	5.60	U
CHLOROBENZENE	5.50	U	5.80	U	5.60	U
ETHYL BENZENE	5.50	U	5.80	U	5.60	U
STYRENE	5.50	U	5.80	U	5.60	U
TOTAL XYLENES	5.50	U	5.80	U	5.60	U

ANALYSIS TYPE: SEMIVOLATILES (PAGE 1)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E31

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: _JSV____4_

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G020D		I099G022		I099G023	
PHENOL	17000.	U	580	U	560	U
BIS(2-CHLOROETHYL) ETHER	17000.	U	580	U	560	U
2-CHLOROPHENOL	17000.	U	580	U	560	U
1,3 DICHLOROBENZENE	17000.	U	580	U	560	U
1,4 DICHLOROBENZENE	17000.	U	580	U	560	U
BENZYL ALCOHOL	17000.	U	580	U	560	U
1,2 DICHLOROBENZENE	17000.	U	580	U	560	U
2-METHYLPHENOL	17000.	U	580	U	560	U
BIS(2-CHLOROISOPROPYL)ETHER	17000.	U	580	U	560	U
4-METHYLPHENOL	17000.	U	580	U	560	U
N-NITROSO-DIPROPYLAMINE	17000.	U	580	U	560	U
HEXACHLOROETHANE	17000.	U	580	U	560	U
NITROBENZENE	17000.	U	580	U	560	U
ISOPHORONE	17000.	U	580	U	560	U
2-NITROPHENOL	17000.	U	580	U	560	U
2,4-DIMETHYLPHENOL	17000.	U	580	U	560	U
BENZOIC ACID	82000.	U	2800.	U	2700.	U
BIS(2-CHLOROETHOXY) METHANE	17000.	U	580	U	560	U
2,4 DICHLOROPHENOL	17000.	U	580	U	560	U
1,2,4-TRICHLOROBENZENE	17000.	U	580	U	560	U
NAPHTHALENE	17000.	U	580	U	560	U
4-CHLOROANILINE	17000.	U	580	U	560	U
HEXACHLOROBUTADIENE	17000.	U	580	U	560	U
4-CHLORO-3-METHYLPHENOL	17000.	U	580	U	560	U
2-METHYLNAPHTHALENE	17000.	U	580	U	560	U
HEXACHLOROCYCLOPENTADIENE	17000.	U	580	U	560	U
2,4,6-TRICHLOROPHENOL	17000.	U	580	U	560	U
2,4,5-TRICHLOROPHENOL	82000.	U	2800.	U	2700.	U
2-CHLORONAPHTHALENE	17000.	U	580	U	560	U
2-NITROANILINE	82000.	U	2800.	U	2700.	U
DIMETHYLPHTHALATE	17000.	U	580	U	560	U
ACENAPHTHYLENE	17000.	U	580	U	560	U
3-NITROANILINE	82000.	U	2800.	U	2700.	U
ACENAPHTHENE	17000.	U	580	U	560	U
2,4-DINITROPHENOL	82000.	U	2800.	U	2700.	U
4-NITROPHENOL	82000.	U	2800.	U	2700.	U
DIBENZOFURAN	17000.	U	580	U	560	U
2,4-DINITROTOLUENE	17000.	U	580	U	560	U

ANALYSIS TYPE: SEMIVOLATILES (PAGE 2)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E33

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: TSV

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

	SAMPLE NUMBERS					
COMPOUND	I099G020D		I099G022		I099G023	
2,6-DINITROTOLUENE	17000.	U	580	U	560	U
DIETHYLPHTHALATE	17000.	U	580	U	560	U
4-CHLOROPHENYL PHENYL ETHER	17000.	U	580	U	560	U
FLUORENE	17000.	U	580	U	560	U
4-NITROANILINE	82000.	U	2800.	U	2700.	U
4,6-DINITRO-2-METHYLPHENOL	82000.	U	2800.	U	2700.	U
N-NITROSODIPHENYLAMINE	17000.	U	580	U	560	U
4-BROMOPHENYL PHENYL ETHER	17000.	U	580	U	560	U
HEXACHLOROBENZENE	17000.	U	580	U	560	U
PENTACHLOROPHENOL	82000.	U	2800.	U	2700.	U
PHENANTHRENE	17000.	U	580	U	67.0	M
ANTHRACENE	17000.	U	580	U	560	U
DI-N-BUTYLPHTHALATE	17000.	U	580	U	560	U
FLUORANTHENE	17000.	U	580	U	560	U
PYRENE	17000.	U	580	U	130	M
BUTYL BENZYL PHTHALATE	17000.	U	580	U	560	U
3,3' DICHLOROBENZIDINE	34000.	U	1200.	U	1100.	U
BENZO(A)ANTHRACENE	17000.	U	580	U	62.0	M
BIS(2-ETHYLHEXYL)PHTHALATE	4800.	M	580	U	160	M
CHRYSENE	17000.	U	580	U	560	U
DI-N-OCTYL PHTHALATE	17000.	U	580	U	560	U
BENZO(B)FLUORANTHENE	17000.	U	580	U	560	U
BENZO(K)FLUORANTHENE	17000.	U	580	U	560	U
BENZO(A)PYRENE	17000.	U	580	U	560	U
INDENO(1,2,3-CD)PYRENE	17000.	U	580	U	560	U
DIBENZO(A,H)ANTHRACENE	17000.	U	580	U	560	U
BENZO(G,H,I)PERYLENE	17000.	U	580	U	560	U

ANALYSIS TYPE: PESTICIDES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E35

MATRIX: SEDIMENT
METHOD: 9302M01
REVIEWER: JSV

UNITS: UG/KG
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G020D		I099G022		I099G023	
ALPHA-BHC	270	U	47.0	U	91.0	U
BETA-BHC	270	U	47.0	U	91.0	U
DELTA-BHC	270	U	47.0	U	91.0	U
GAMMA-BHC	270	U	47.0	U	91.0	U
HEPTACHLOR	270	U	47.0	U	91.0	U
ALDRIN	270	U	47.0	U	91.0	U
HEPTACHLOR EPOXIDE	270	U	47.0	U	91.0	U
ENDOSULFAN I	270	U	47.0	U	91.0	U
DIELDRIN	540	U	94.0	U	180	U
4,4'-DDE	540	U	94.0	U	180	U
ENDRIN	540	U	94.0	U	180	U
ENDOSULFAN II	540	U	94.0	U	180	U
4,4'-DDD	540	U	94.0	U	180	U
ENDRIN ALDEHYDE	540	U	94.0	U	180	U
ENDOSULFAN SULFATE	540	U	94.0	U	180	U
4,4'-DDT	540	U	94.0	U	180	U
ENDRIN KETONE	540	U	94.0	U	180	U
METHOXYCHLOR	2700.	U	470	U	910	U
CHLORDANE	2700.	U	470	U	910	U
TOXAPHENE	5400.	U	940	U	1800.	U
AROCLOR-1016	2700.	U	470	U	910	U
AROCLOR-1221	2700.	U	470	U	910	U
AROCLOR-1232	2700.	U	470	U	910	U
AROCLOR-1242	2700.	U	470	U	910	U
AROCLOR-1248	3600.		2200.		2000.	
AROCLOR-1254	5400.	U	940	U	1800.	U
AROCLOR-1260	5400.	U	940	U	1800.	U

TITLE: CADMUS
LAB: S-CUBED
ANALYST/ENTRY: LT

MATRIX: SEDIMEN.
METHOD: 9302M01
REVIEWER: VISWANATHAN TSV

UNITS: UG/KG
CASE: 6807
DATE: 4-28-87

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.	COMPOUND NAME**	FRACTION	EST.	CONC.*
I099G017	NOTHING SIGNIFICANT FOUND	VOA		
I099G017	POLYCHLORINATED BIPHENYL PEAKS	BNA	7900-16000	J
I099G017	PHENOXY BIPHENYL	BNA	27000	J
I099G018	NOTHING SIGNIFICANT FOUND	VOA		
I099G018	PHENOXY BIPHENYL	BNA	7800	J
I099G019	NOTHING SIGNIFICANT FOUND	VOA		
I099G019	POLYCHLORINATED BIPHENYL PEAKS	BNA	330-1200	J
I099G019	PHENOXY BIPHENYL	BNA	870	J
I099G019	1,1'-OXYBIS(BENZENE)	BNA	240	J
I099G020	NOTHING SIGNIFICANT FOUND	VOA		
I099G020	BENZALDEHYDE	BNA	240	J
I099G020	HYDROCARBON ENVELOPE (~25 MIN. WIDE PEAK AT BASE)	BNA		
I099G020D	NOTHING SIGNIFICANT FOUND	VOA		
I099G022	NOTHING SIGNIFICANT FOUND	VOA		
I099G022	HYDROCARBON ENVELOPE (~25 MIN. WIDE PEAK AT BASE)	BNA		
I099G023	NOTHING SIGNIFICANT FOUND	VOA		
I099G023	TETRACHLOROBIPHENYL	BNA	330	J
I099G023	HYDROCARBON ENVELOPE (~25 MIN. WIDE PEAK AT BASE)	BNA		
I099G017	UNKNOWNS (2 PEAKS)	BNA	13000-16000	J
I099G019	UNKNOWN COMPOUNDS (6 PEAKS)	BNA	420-2400	J
I099G020D	UNKNOWN	VOA	14	J
I099G023	UNKNOWN PHTHALATE	BNA	450	J

*This is a crude estimation based on response relative to an internal standard. An authentic standard has not been run.

**The compounds were identified using a library search routine. Authentic standards have not been analyzed to verify compound mass spectra and retention times.

TITLE: CADMUS MATRIX: SEDIMENT UNITS: UG/KG
LAB: S-CUBED METHOD: 9302M01 CASE: 6807
ANALYST/ENTRY: LT REVIEWER: VISWANATHAN/DATE: 4-28-87
TSV ✓

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.	COMPOUND NAME**	FRACTION	EST.	CONC.*
I099G001	NOTHING SIGNIFICANT FOUND	VOA		
I099G001	NOTHING SIGNIFICANT FOUND	BNA		
I099G002	NOTHING SIGNIFICANT FOUND	VOA		
I099G002	POLYCHLORINATED BIPHENYL PEAKS	BNA	10000-22000	J
I099G003	NOTHING SIGNIFICANT FOUND	BNA		
I099G003	NOTHING SIGNIFICANT FOUND	VOA		
I099G004	NOTHING SIGNIFICANT FOUND	VOA		
I099G005	NOTHING SIGNIFICANT FOUND	VOA		
I099G006	NOTHING SIGNIFICANT FOUND	VOA		
I099G009	NOTHING SIGNIFICANT FOUND	VOA		
I099G009	1,1'-BIPHENYL	BNA	100000	J
I099G009	1,1'-OXYBIS(BENZENE)	BNA	150000	J
I099G009	POLYCHLORINATED BIPHENYL PEAKS	BNA	41000-130000	J
I099G009	PHENOXY BIPHENYL ISOMERS(3 PEAKS)	BNA	89000-210000	J
I099G009	1,1-CYCLOHEXYLIDINE BIS(BENZENE)	BNA	120000	J
I099G010	NOTHING SIGNIFICANT FOUND	VOA		
I099G010	1,1'-OXYBIS(BENZENE)	BNA	11000	J
I099G010	1,1'-BIPHENYL(PHENOXY)	BNA	22000	J
I099G011	NOTHING SIGNIFICANT FOUND	VOA		
I099G011	1,1'-OXYBIS(BENZENE)	BNA	44	J
I099G012	NOTHING SIGNIFICANT FOUND	VOA		
I099G012	POLYCHLORINATED BIPHENYL PEAKS	BNA	250-1200	J
I099G012	PHENOXY BIPHENYLS (2 PEAKS)	BNA	1200-2100	J
I099G012	1,1'-CYCLOHEXYLIDENE BIS(BENZENE)	BNA	600	J
I099G015	NOTHING SIGNIFICANT FOUND	VOA		
I099G015	1,1'-OXYBIS(BENZENE)	BNA	760	J
I099G015	POLYCHLORINATED BIPHENYL PEAKS	BNA	330-1000	J
I099G016	NOTHING SIGNIFICANT FOUND	VOA		
I099G016	1,1'-OXYBIS(BENZENE)	BNA	13000	J
I099G016	POLYCHLORINATED BIPHENYL PEAKS	BNA	13000-58000	J
I099G016	1,1'-CYCLOHEXYLIDINEBIS(BENZENE)	BNA	39000	J
I099G004	UNKNOWN COMPOUNDS (4 PEAKS)	BNA	310-1200	J
I099G005	UNKNOWN	BNA	7500	J
I099G006	UNKNOWN	BNA	2600	J
I099G009	UNKNOWN COMPOUNDS (>7 PEAKS)	BNA	69000-100000	J
I099G010	UNKNOWN COMPOUNDS (4 PEAKS)	BNA	17000-42000	J
I099G012	UNKNOWN COMPOUNDS	BNA	790-2100	J
I099G015	UNKNOWN COMPOUNDS (10 PEAKS)	BNA	630-2400	J
I099G016	UNKNOWN COMPOUNDS (4 PEAKS)	BNA	32000-68000	J

*This is a crude estimation based on response relative to an internal standard. An authentic standard has not been run.

**The compounds were identified using a library search routine. Authentic standards have not been analyzed to verify compound mass spectra and retention times.

ANALYSIS TYPE: VOLATILE ANALYSES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E24
MATRIX: WATER
METHOD: 9302M01
REVIEWER: JSV
UNITS: UG/L
CASE: 6807
DATE: 04/28/87

	SAMPLE NUMBERS							
COMPOUND	I099G007		I099G008F		I099G013		I099G013D	
CHLOROMETHANE	100	U	10.0	U	10.0	U	10.0	U
BROMOMETHANE	100	U	10.0	U	10.0	U	10.0	U
VINYL CHLORIDE	310		10.0	U	130		180	
CHLOROETHANE	100	U	10.0	U	10.0	U	10.0	U
METHYLENE CHLORIDE	50.0	U	4.00	M	5.00	U	5.00	U
ACETONE	100	U	130	J	13.0	U	10.0	U
CARBON DISULFIDE	50.0	U	5.00	U	5.00	U	5.00	U
1,1 DICHLOROETHENE	19.0	M	5.00	U	1.00	M	1.00	M
1,1 DICHLOROETHANE	26.0	M	5.00	U	9.00		8.00	
TRANS-1,2,-DICHLOROETHENE	1700.		5.00	U	220		250	
CHLOROFORM	50.0	U	5.00	U	5.00	U	5.00	U
1,2,DICHLOROETHANE	50.0	U	5.00	U	5.00	U	5.00	U
2-BUTANONE		I		I		I		I
1,1,1 TRICHLOROETHANE	14.0	M	5.00	U	2.00	M	1.00	M
CARBON TETRACHLORIDE	50.0	U	5.00	U	5.00	U	5.00	U
VINYL ACETATE		I		I		I		I
BROMODICHLOROMETHANE		I		I		I		I
1,1,2,2,-TETRACHLOROETHANE	50.0	U	5.00	U	5.00	U	5.00	U
1,2-DICHLOROPROPANE	50.0	U	5.00	U	5.00	U	5.00	U
TRANS-1,3-DICHLOROPROPENE	50.0	U	5.00	U	5.00	U	5.00	U
TRICHLOROETHENE	19.0	M	5.00	U	7.00		5.00	
DIBROMOCHLOROMETHANE	50.0	U	5.00	U	5.00	U	5.00	U
1,1,2-TRICHLOROETHANE	50.0	U	5.00	U	5.00	U	5.00	U
BENZENE	50.0	U	5.00	U	1.00	M	1.00	M
CIS-1,3-DICHLOROPROPENE	50.0	U	5.00	U	5.00	U	5.00	U
2-CHLOROETHYL VINYL ETHER		I		I		I		I
BROMOFORM	50.0	U	5.00	U	5.00	U	5.00	U
2-HEXANONE		I		I		I		I
4-METHYL-2-PENTANONE		I		I		I		I
TETRACHLOROETHENE	50.0	U	5.00	U	5.00	U	5.00	U
TOLUENE	50.0	U	5.00	U	3.00	M	2.00	M
CHLOROBENZENE	50.0	U	5.00	U	12.0	J	10.0	J
ETHYL BENZENE	50.0	U	5.00	U	5.00	U	5.00	U
STYRENE	50.0	U	5.00	U	5.00	U	5.00	U
TOTAL XYLENES	50.0	U	5.00	U	5.00	U	5.00	U

ANALYSIS TYPE: SEMIVOLATILES (PAGE 1)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E25

MATRIX: WATER
METHOD: 9302M01
REVIEWER: TSV 4

UNITS: UG/L
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G007		I099G008F		I099G013		I099G013D	
PHENOL	10.0	U	10.0	U	28.0	J	25.0	J
BIS(2-CHLOROETHYL) ETHER	10.0	U	10.0	U	10.0	U	10.0	U
2-CHLOROPHENOL	10.0	U	10.0	U	10.0	U	10.0	U
1,3 DICHLOROBENZENE	10.0	U	10.0	U	10.0	U	10.0	U
1,4 DICHLOROBENZENE	10.0	U	10.0	U	10.0	U	10.0	U
BENZYL ALCOHOL	10.0	U	10.0	U	10.0	U	10.0	U
1,2 DICHLOROBENZENE	10.0	U	10.0	U	10.0	U	10.0	U
2-METHYLPHENOL	10.0	U	10.0	U	10.0	U	10.0	U
BIS(2-CHLOROISOPROPYL)ETHER	10.0	U	10.0	U	10.0	U	10.0	U
4-METHYLPHENOL	10.0	U	10.0	U	9.00	M	8.00	M
N-NITROSO-DIPROPYLAMINE	10.0	U	10.0	U	10.0	U	10.0	U
HEXACHLOROETHANE	10.0	U	10.0	U	10.0	U	10.0	U
NITROBENZENE	10.0	U	10.0	U	10.0	U	10.0	U
ISOPHORONE	10.0	U	10.0	U	10.0	U	10.0	U
2-NITROPHENOL	10.0	U	10.0	U	10.0	U	10.0	U
2,4-DIMETHYLPHENOL	10.0	U	10.0	U	4.00	M	4.00	M
BENZOIC ACID	50.0	U	50.0	U	50.0	U	50.0	U
BIS(2-CHLOROETHOXY) METHANE	10.0	U	10.0	U	10.0	U	10.0	U
2,4 DICHLOROPHENOL	10.0	U	10.0	U	10.0	U	10.0	U
1,2,4-TRICHLOROBENZENE	10.0	U	10.0	U	10.0	U	10.0	U
NAPHTHALENE	10.0	U	10.0	U	10.0	U	10.0	U
4-CHLOROANILINE	10.0	U	10.0	U	10.0	U	10.0	U
HEXACHLOROBUTADIENE	10.0	U	10.0	U	10.0	U	10.0	U
4-CHLORO-3-METHYLPHENOL	10.0	U	10.0	U	10.0	U	10.0	U
2-METHYLNAPHTHALENE	10.0	U	10.0	U	10.0	U	10.0	[illegible]
HEXACHLOROCYCLOPENTADIENE	10.0	U	10.0	U	10.0	U	10.0	[illegible]
2,4,6-TRICHLOROPHENOL	10.0	U	10.0	U	10.0	U	10.0	[illegible]
2,4,5-TRICHLOROPHENOL	50.0	U	50.0	U	50.0	U	50.0	[illegible]
2-CHLORONAPHTHALENE	10.0	U	10.0	U	10.0	U	10.0	U
2-NITROANILINE	50.0	U	50.0	U	50.0	U	50.0	U
DIMETHYLPHTHALATE	10.0	U	10.0	U	10.0	U	10.0	U
ACENAPHTHYLENE	10.0	U	10.0	U	10.0	U	10.0	U
3-NITROANILINE	50.0	U	50.0	U	50.0	U	50.0	U
ACENAPHTHENE	10.0	U	10.0	U	10.0	U	10.0	U
2,4-DINITROPHENOL	50.0	U	50.0	U	50.0	U	50.0	U
4-NITROPHENOL	50.0	U	50.0	U	50.0	U	50.0	U
DIBENZOFURAN	10.0	U	10.0	U	9.00	M	9.00	M
2,4-DINITROTOLUENE	10.0	U	10.0	U	10.0	U	10.0	U

ALYSIS TYPE: SEMIVOLATILES (PAGE 2)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREF:_______ ANALYST/ENTRY: E26

MATRIX: WATER
METHOD: 9302M01 ✓ 4
REVIEWER: TJV

UNITS: UG/L
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G007		I099G008F		I099G013		I099G013D	
2,6-DINITROTOLUENE	10.0	U	10.0	U	10.0	U	10.0	U
DIETHYLPHTHALATE	4.00	M	10.0	U	10.0	U	10.0	U
4-CHLOROPHENYL PHENYL ETHER	10.0	U	10.0	U	10.0	U	10.0	U
FLUORENE	10.0	U	10.0	U	10.0	U	10.0	U
4-NITROANILINE	50.0	U	50.0	U	50.0	U	50.0	U
4,6-DINITRO-2-METHYLPHENOL	50.0	U	50.0	U	50.0	U	50.0	U
N-NITROSODIPHENYLAMINE	10.0	U	10.0	U	10.0	U	10.0	U
4-BROMOPHENYL PHENYL ETHER	10.0	U	10.0	U	10.0	U	10.0	U
HEXACHLOROBENZENE	10.0	U	10.0	U	10.0	U	10.0	U
PENTACHLOROPHENOL	50.0	U	50.0	U	50.0	U	50.0	U
PHENANTHRENE	10.0	U	10.0	U	10.0	U	10.0	U
ANTHRACENE	10.0	U	10.0	U	10.0	U	10.0	U
DI-N-BUTYLPHTHALATE	10.0	U	10.0	U	10.0	U	10.0	U
FLUORANTHENE	10.0	U	10.0	U	10.0	U	10.0	U
PYRENE	10.0	U	10.0	U	10.0	U	10.0	U
BUTYL BENZYL PHTHALATE	10.0	U	10.0	U	10.0	U	10.0	U
3,3' DICHLOROBENZIDINE	20.0	U	20.0	U	20.0	U	20.0	U
BENZO(A)ANTHRACENE	10.0	U	10.0	U	10.0	U	10.0	U
BIS(2-ETHYLHEXYL)PHTHALATE	37.0	U	36.0	J	10.0	U	10.0	U
CHRYSENE	10.0	U	10.0	U	10.0	U	10.0	U
DI-N-OCTYL PHTHALATE	10.0	U	8.00	M	10.0	U	10.0	U
BENZO(B)FLUORANTHENE	10.0	U	10.0	U	10.0	U	10.0	U
BENZO(K)FLUORANTHENE	10.0	U	10.0	U	10.0	U	10.0	U
BENZO(A)PYRENE	10.0	U	10.0	U	10.0	U	10.0	U
INDENO(1,2,3-CD)PYRENE	10.0	U	10.0	U	10.0	U	10.0	U
DIBENZO(A,H)ANTHRACENE	10.0	U	10.0	U	10.0	U	10.0	U
BENZO(G,H,I)PERYLENE	10.0	U	10.0	U	10.0	U	10.0	U

ANALYSIS TYPE: PESTICIDES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E27

MATRIX: WATER
METHOD: 9302M01
REVIEWER: TS✓ 4

UNITS: UG/L
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G007		I099G008F		I099G013		I099G013D	
ALPHA-BHC	0.5	U	0.05	U	5.00	U	0.5	U
BETA-BHC	0.5	U	0.05	U	5.00	U	0.5	U
DELTA-BHC	0.5	U	0.05	U	5.00	U	0.5	U
GAMMA-BHC	0.5	U	0.05	U	5.00	U	0.5	U
HEPTACHLOR	0.5	U	0.05	U	5.00	U	0.5	U
ALDRIN	0.5	U	0.05	U	5.00	U	0.5	U
HEPTACHLOR EPOXIDE	0.5	U	0.05	U	5.00	U	0.5	U
ENDOSULFAN I	0.5	U	0.05	U	5.00	U	0.5	U
DIELDRIN	1.00	U	0.1	U	10.0	U	1.00	U
4,4'-DDE	1.00	U	0.1	U	10.0	U	1.00	U
ENDRIN	1.00	U	0.1	U	10.0	U	1.00	U
ENDOSULFAN II	1.00	U	0.1	U	10.0	U	1.00	U
4,4'-DDD	1.00	U	0.1	U	10.0	U	1.00	U
ENDRIN ALDEHYDE	1.00	U	0.1	U	10.0	U	1.00	U
ENDOSULFAN SULFATE	1.00	U	0.1	U	10.0	U	1.00	U
4,4'-DDT	1.00	U	0.1	U	10.0	U	1.00	U
ENDRIN KETONE	1.00	U	0.1	U	10.0	U	1.00	U
METHOXYCHLOR	5.00	U	0.5	U	50.0	U	5.00	U
CHLORDANE	5.00	U	0.5	U	50.0	U	5.00	U
TOXAPHENE	10.0	U	1.00	U	100	U	10.0	U
AROCLOR-1016	5.00	U	0.5	U	50.0	U	5.00	U
AROCLOR-1221	5.00	U	0.5	U	50.0	U	5.00	U
AROCLOR-1232	5.00	U	0.5	U	50.0	U	5.00	U
AROCLOR-1242	5.00	U	0.5	U	50.0	U	5.00	U
AROCLOR-1248	19.0	J	0.5	U	4200.	J	1100.	J
AROCLOR-1254	10.0	U	1.00	U	100	U	10.0	U
AROCLOR-1260	10.0	U	1.00	U	100	U	10.0	U

ALYSIS TYPE: VOLATILE AN [illegible]ES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E24

MATRIX: WATER
METHOD: 9302M01
REVIEWER: _TSV____4_

UNITS: UG/L
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G014		I099G021	
CHLOROMETHANE	10.0	U	200	U
BROMOMETHANE	10.0	U	200	U
VINYL CHLORIDE	10.0	U	290	
CHLOROETHANE	10.0	U	200	U
METHYLENE CHLORIDE	5.00	U	110	U
ACETONE	10.0	U	200	U
CARBON DISULFIDE	5.00	U	100	U
1,1 DICHLOROETHENE	5.00	U	26.0	M
1,1 DICHLOROETHANE	5.00	U	91.0	M
TRANS-1,2,-DICHLOROETHENE	5.00	U	2800.	
CHLOROFORM	5.00	J	64.0	M
1,2,DICHLOROETHANE	5.00	U	400	J
2-BUTANONE	10.0	U	200	U
1,1,1 TRICHLOROETHANE	5.00	U	100	U
CARBON TETRACHLORIDE	5.00	U	100	U
VINYL ACETATE		I		I
BROMODICHLOROMETHANE	1.00	M		I
1,1,2,2,-TETRACHLOROETHANE	5.00	U	100	U
1,2-DICHLOROPROPANE	5.00	U	100	U
TRANS-1,3-DICHLOROPROPENE	5.00	U	100	U
TRICHLOROETHENE	5.00	U	1100.	
DIBROMOCHLOROMETHANE	5.00	U	100	U
1,1,2-TRICHLOROETHANE	5.00	U	330	
BENZENE	5.00	U	100	U
CIS-1,3-DICHLOROPROPENE	5.00	U	100	U
2-CHLOROETHYL VINYL ETHER		I		I
BROMOFORM	5.00	U	100	U
2-HEXANONE		I		I
4-METHYL-2-PENTANONE		I		I
TETRACHLOROETHENE	5.00	U	100	U
TOLUENE	5.00	U	100	U
CHLOROBENZENE	5.00	U	100	U
ETHYL BENZENE	5.00	U	100	U
STYRENE	5.00	U	100	U
TOTAL XYLENES	5.00	U	100	U

ANALYSIS TYPE: SEMIVOLATILES (PAGE 1)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E25

MATRIX: WATER
METHOD: 9302M01
REVIEWER: JSV________5

UNITS: UG/L
CASE: 6807
DATE: 04/28/87

	SAMPLE NUMBERS			
	I099G014		I099G021	
COMPOUND				
PHENOL	20.0	U	3.00	M
BIS(2-CHLOROETHYL) ETHER	20.0	U	10.0	U
2-CHLOROPHENOL	20.0	U	10.0	U
1,3 DICHLOROBENZENE	20.0	U	10.0	U
1,4 DICHLOROBENZENE	20.0	U	10.0	U
BENZYL ALCOHOL	20.0	U	10.0	U
1,2 DICHLOROBENZENE	20.0	U	10.0	U
2-METHYLPHENOL	20.0	U	10.0	U
BIS(2-CHLOROISOPROPYL)ETHER	20.0	U	10.0	U
4-METHYLPHENOL	20.0	U	2.00	M
N-NITROSO-DIPROPYLAMINE	20.0	U	10.0	U
HEXACHLOROETHANE	20.0	U	10.0	U
NITROBENZENE	20.0	U	10.0	U
ISOPHORONE	20.0	U	10.0	U
2-NITROPHENOL	20.0	U	10.0	U
2,4-DIMETHYLPHENOL	20.0	U	1.00	M
BENZOIC ACID	100	U	50.0	U
BIS(2-CHLOROETHOXY) METHANE	20.0	U	10.0	U
2,4 DICHLOROPHENOL	20.0	U	10.0	U
1,2,4-TRICHLOROBENZENE	20.0	U	10.0	U
NAPHTHALENE	20.0	U	10.0	U
4-CHLOROANILINE	20.0	U	10.0	U
HEXACHLOROBUTADIENE	20.0	U	10.0	U
4-CHLORO-3-METHYLPHENOL	20.0	U	10.0	U
2-METHYLNAPHTHALENE	20.0	U	10.0	U
HEXACHLOROCYCLOPENTADIENE	20.0	U	10.0	U
2,4,6-TRICHLOROPHENOL	20.0	U	10.0	U
2,4,5-TRICHLOROPHENOL	100	U	50.0	U
2-CHLORONAPHTHALENE	20.0	U	10.0	U
2-NITROANILINE	100	U	50.0	U
DIMETHYLPHTHALATE	20.0	U	10.0	U
ACENAPHTHYLENE	20.0	U	10.0	U
3-NITROANILINE	100	U	50.0	U
ACENAPHTHENE	20.0	U	10.0	U
2,4-DINITROPHENOL	100	U	50.0	U
4-NITROPHENOL	100	U	50.0	U
DIBENZOFURAN	20.0	U	1.00	M
2,4-DINITROTOLUENE	20.0	U	10.0	U

ANALYSIS TYPE: SEMIVOLATILES (PAGE 2)

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E26

MATRIX: WATER
METHOD: 9302M01
REVIEWER: JS✓ 4

UNITS: UG/L
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G014		I099G021	
2,6-DINITROTOLUENE	20.0	U	10.0	U
DIETHYLPHTHALATE	20.0	U	10.0	U
4-CHLOROPHENYL PHENYL ETHER	20.0	U	10.0	U
FLUORENE	20.0	U	10.0	U
4-NITROANILINE	100	U	50.0	U
4,6-DINITRO-2-METHYLPHENOL	100	U	50.0	U
N-NITROSODIPHENYLAMINE	20.0	U	10.0	U
4-BROMOPHENYL PHENYL ETHER	20.0	U	10.0	U
HEXACHLOROBENZENE	20.0	U	10.0	U
PENTACHLOROPHENOL	100	U	50.0	U
PHENANTHRENE	20.0	U	10.0	U
ANTHRACENE	20.0	U	10.0	U
DI-N-BUTYLPHTHALATE	20.0	U	10.0	U
FLUORANTHENE	20.0	U	10.0	U
PYRENE	20.0	U	10.0	U
BUTYL BENZYL PHTHALATE	20.0	U	10.0	U
3,3' DICHLOROBENZIDINE	40.0	U	20.0	U
BENZO(A)ANTHRACENE	20.0	U	10.0	U
BIS(2-ETHYLHEXYL)PHTHALATE	20.0	U	16.0	J
CHRYSENE	20.0	U	10.0	U
DI-N-OCTYL PHTHALATE	20.0	U	10.0	U
BENZO(B)FLUORANTHENE	20.0	U	10.0	U
BENZO(K)FLUORANTHENE	20.0	U	10.0	U
BENZO(A)PYRENE	20.0	U	10.0	U
INDENO(1,2,3-CD)PYRENE	20.0	U	10.0	U
DIBENZO(A,H)ANTHRACENE	20.0	U	10.0	U
BENZO(G,H,I)PERYLENE	20.0	U	10.0	U

ANALYSIS TYPE: PESTICIDES

TITLE: CADMUS
LAB: S-CUBED
SAMPLE PREP:_______ ANALYST/ENTRY: E27

MATRIX: WATER
METHOD: 9302M01
REVIEWER: _________ 4

UNITS: UG/L
CASE: 6807
DATE: 04/28/87

SAMPLE NUMBERS

COMPOUND	I099G014		I099G021	
ALPHA-BHC	0.05	U	0.5	U
BETA-BHC	0.05	U	0.5	U
DELTA-BHC	0.05	U	0.5	U
GAMMA-BHC	0.05	U	0.5	U
HEPTACHLOR	0.05	U	0.5	U
ALDRIN	0.05	U	0.5	U
HEPTACHLOR EPOXIDE	0.05	U	0.5	U
ENDOSULFAN I	0.05	U	0.5	U
DIELDRIN	0.1	U	1.00	U
4,4'-DDE	0.1	U	1.00	U
ENDRIN	0.1	U	1.00	U
ENDOSULFAN II	0.1	U	1.00	U
4,4'-DDD	0.1	U	1.00	U
ENDRIN ALDEHYDE	0.1	U	1.00	U
ENDOSULFAN SULFATE	0.1	U	1.00	U
4,4'-DDT	0.1	U	1.00	U
ENDRIN KETONE	0.1	U	1.00	U
METHOXYCHLOR	0.5	U	5.00	U
CHLORDANE	0.5	U	5.00	U
TOXAPHENE	1.00	U	10.0	U
AROCLOR-1016	0.5	U	5.00	U
AROCLOR-1221	0.5	U	5.00	U
AROCLOR-1232	0.5	U	5.00	U
AROCLOR-1242	0.5	U	5.00	U
AROCLOR-1248	0.5	U	280	J
AROCLOR-1254	1.00	U	10.0	U
AROCLOR-1260	1.00	U	10.0	U

TITLE: CADMUS
LAB: S-CUBED
ANALYST/ENTRY: LT

MATRIX: WATER
METHOD: 9302M01
REVIEWER:VISWANATHAN
TSV

UNITS: UG/L
CASE: 6807
DATE: 4-28-87

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.	COMPOUND NAME**	FRACTION	EST.	CONC.*
I099G007	NOTHING SIGNIFICANT FOUND	VOA		
I099G007	CYCLOHEXEN-1-ONE	BNA	12	J
I099G008F	NOTHING SIGNIFICANT FOUND	VOA		
I099G013	NOTHING SIGNIFICANT FOUND	VOA		
I099G013	1,1'-BIPHENYL	BNA	180	J
I099G013	1,1'-OXYBIS(BENZENE)	BNA	350	J
I099G013	PHENOXY BIPHENYL ISOMERS(2 PEAKS)	BNA	220-380	J
I099G013	POLYCHLORINATED BIPHENYL PEAKS	BNA	140-280	J
I099G013D	NOTHING SIGNIFICANT FOUND	VOA		
I099G013D	1,1'-BIPHENYL	BNA	180	J
I099G013D	1,1'-OXYBIS(BENZENE)	BNA	330	J
I099G013D	PHENOXY BIPHENYL(2 ISOMERS)	BNA	200-300	J
I099G014	NOTHING SIGNIFICANT FOUND	VOA		
I099G014	CYCLOHEXEN-1-ONE	BNA	22	J
I099G021	NOTHING SIGNIFICANT FOUND	VOA		
I099G021	CYCLOHEXEN-1-ONE	BNA	10	J
I099G021	POLYCHLORINATED BIPHENYL PEAKS	BNA	13-36	J
I099G021	1,1'-OXYBIS(BENZENE)	BNA	78	J
I099G021	1,1'-BIPHENYL	BNA	73	J
I099G007	UNKNOWN COMPOUNDS (6 PEAKS)	BNA	10-110	J
I099G008F	UNKNOWN COMPOUND	BNA	100	J
I099G013	UNKNOWN PHOSPHORIC ACID ESTER	BNA	40	J
I099G013	UNKNOWN COMPOUNDS (12 PEAKS)	BNA	43-330	J
I099G013D	UNKNOWN COMPOUNDS (13 PEAKS)	BNA	93-570	J
I099G014	UNKNOWN COMPOUND	BNA	150	J
I099G021	UNKNOWN COMPOUNDS (5 PEAKS)	BNA	11-89	J

*This is a crude estimation based on response relative to an internal standard. An authentic standard has not been run.

**The compounds were identified using a library search routine. Authentic standards have not been analyzed to verify compound mass spectra and retention times.

APPENDIX N – OU1/OU2 ENVIRONMENTAL COVENANT AND EPWF ORDINANCE

14

L-13

S-11

E-14

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05/02/2019 02:10:54 PM 1/14

CERTIFIED-FILED FOR RECORD
Mary E. Dempsey
Recorder of Deeds
St. Charles County, Missouri
BY:CGRAF $60.00

(ABOVE SPACE RESERVED FOR RECORDER'S USE)

Document Title: Environmental Covenant

Document Date: 4/11, 2019

Grantor: Findett Real Estate Corporation
31 Eagle Cove Lane
St. Charles, MO 63303

Grantee: Findett Real Estate Corporation
31 Eagle Cove Lane
St. Charles, MO 63303

Department: U.S. Environmental Protection Agency, Region 7
Attn: Superfund Division
11201 Renner Boulevard
Lenexa, Kansas 66219

Legal Description: See attached Exhibit A

0795 40555752 52
Superfund

OU:
01,02 4/11/19

LAW OFFICE OF ELLEN S GOLDMAN
7944 SANTA FE DR
OVERLAND PARK, KS 66204

ENVIRONMENTAL COVENANT

This Environmental Covenant ("Covenant") is entered into by and between the Grantor, Findett Real Estate Corporation ("Owner"), a Missouri corporation, the Grantee, Findett Real Estate Corporation ("Holder"), and the U.S. Environmental Protection Agency, Region 7 ("EPA" or "Department") pursuant to the Missouri Environmental Covenants Act, Sections 260.1000 through 260.1039, RSMo ("MoECA"). Owner, Holder, and the EPA may collectively be referred to as the "Parties" herein.

RECITALS

WHEREAS, Owner is the owner in fee simple of certain real property commonly known and numbered as 8 Governor Drive, St. Charles, Missouri 63301, legally described in Exhibit A and depicted on the site map attached hereto as Exhibit B (the "Property");

WHEREAS, the Property is situated in St. Charles County, Missouri;

WHEREAS, Owner desires to grant to the Holder this Covenant for the purpose of subjecting the Property to certain activity and use limitations as provided for in the MoECA for the purpose of ensuring the protection of human health and the environment by minimizing the potential for exposure to contamination that remains on the Property and to ensure that the Property is not developed, used, or operated in a manner incompatible with the environmental response project implemented at the Property;

WHEREAS, the EPA enters into this Covenant as a "department" pursuant to the MoECA, with all the attendant rights of a "department" under such Act, which include, but are not limited to, having a right to enforce this Covenant;

WHEREAS, Holder enters into this covenant as a "holder" pursuant to the MoECA, with all the attendant rights of a "holder" under such Act, which include, but are not limited to, acquiring an interest in the Property and a right to enforce this Covenant;

WHEREAS, the EPA and responsible parties performed an investigation and "environmental response project" (as defined in the MoECA) at the Property, pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601 - 9675 ("CERCLA"). This Covenant is being filed with the appropriate recorder of deeds because contaminants of concern remain at the Property at levels that do not allow for unrestricted land use or unlimited exposures, following the investigation and remediation of the Property under CERCLA;

WHEREAS, the environmental response project conducted at the Property included the following activities:

- The Property began operating in 1962 as an industrial facility which reprocessed heat transfer fluids, hydraulic fluids, solvents and catalysts. The process fluids and materials contained hazardous substances including volatile organic compounds ("VOCs") and polychlorinated biphenyls ("PCBs"). In the late 1980s, the EPA and Missouri Department of Natural Resources ("MDNR") conducted a remedial investigation of the Property pursuant to CERCLA. This investigation led to the signing of a Record of Decision ("ROD") for Operable Unit 1 ("OU1") on the Property on December 12, 1988. The selected remedy included the hydraulic control and treatment of the VOC-contaminated shallow groundwater plume and the offsite treatment and disposal of shallow soils, as well as a review of such remedial actions every five (5) years to ensure the protection of human health and the environment. On December 29, 1989, the EPA and Owner's predecessor, Findett Corporation, entered into a Consent Decree requiring Owner to conduct the remedial actions as set forth in the 1988 ROD. A groundwater extraction and treatment system ("GETS") was installed in 1991, and the contaminated soils were excavated and disposed of in an offsite facility. This resulted in the completion of the remedial action for OU1 in 2003. However, the Five-Year Review completed on September 25, 2015 ("Five-Year Review") noted that there were detections of contaminants above their regulatory standards or risk-based screening levels in the OU1 extraction wells and monitoring network, possible incomplete containment of the contamination, and concerns regarding the potential for non-continuous operation of the GETS. In 2016, the GETS was expanded to ensure continuous operations. The Five-Year Review suggested the implementation of institutional controls preventing future residential land use, construction of buildings onsite, and exposure to contaminated subsurface soils;

- On October 4, 2000, the EPA entered into an Administrative Order on Consent ("AOC") with a group of responsible parties requiring removal of PCB-contaminated soils above 25 parts per million and located above the groundwater table at Operable Unit 2 ("OU2") on the Property. This AOC is on file with the EPA Region 7 Hearing Clerk under Docket No. CERCLA VII-2000-0028. The soil removal action was completed in July 2001. The Five-Year Review observed that, while the soil removal action was complete, some contaminants remained, so institutional controls should be implemented preventing future residential land use and exposure to contaminated subsurface soils and groundwater;

WHEREAS, upon completion of the response actions described above, contaminants of concern have remained on the Property above levels that are protective of unrestricted use of, and unlimited exposures at, the Property; and

WHEREAS, the remedies described above are deemed protective if and only if the activity and use limitations described in this Covenant remain in place for as long as the contaminants of concern remain at the Property above levels that allow for the unrestricted use of, and unlimited exposures at, the Property.

NOW THEREFORE, Owner, Holder, and the EPA as the "Department" as defined at Section 260.1003(3) of MoECA, agree to the following:

1. Parties.

The Owner, Holder, and the EPA are Parties to this Covenant, and may enforce it as provided in

Section 260.1030, RSMo.

2. Activity and Use Limitations.

Owner hereby subjects the Property to, and agrees to comply with, the following activity and use limitations:

a. **No Residential Land Use:** Based on reports on file at the EPA's offices in Lenexa, Kansas and MDNR's offices in Jefferson City, Missouri, the Property currently meets the EPA's and MDNR's standards for non-residential use. Therefore, contaminants of concern remaining at the Property do not pose a significant current or future risk to human health or the environment so long as the following restrictions remain in place: The Property shall **not** be used for residential purposes, which for purposes of this Covenant include but are not limited to: single family homes, duplexes, multi-plexes, apartments, condominiums, schools, child-care facilities, or any land use where persons can be expected to reside.

b. **No Disturbance of Soil:** Based on reports on file at the EPA's offices in Lenexa, Kansas and MDNR's offices in Jefferson City, Missouri, contaminants of concern remaining at the Property exceed the EPA's and MDNR's standards for non-residential use and construction worker exposure, but do not pose a significant current or future risk to human health or the environment with respect to non-residential uses of the property so long as the soil is not disturbed such that exposure would result. Therefore, soil on the Property shall not be excavated or otherwise disturbed in any manner without the prior written approval of the EPA or MDNR. If an Owner/Transferee desires to disturb soil at the Property, then such Owner/Transferee shall request permission to do so from the EPA or MDNR at least thirty (30) days before the soil disturbance activities are scheduled to begin. Based on the potential hazards associated with the soil disturbance activities, the EPA or MDNR may deny the request to disturb the soils as required to ensure human health and the environment or may, for that purpose, require specific protective or remedial actions before allowing such soil disturbance activities to occur. Contaminated soil may be disturbed if necessary during an emergency (such as water or gas main break, fire, explosion or natural disaster), in which case the Owner/Transferee shall ensure that notification is provided to the EPA or MDNR orally or in writing as soon as practicable, but no later than forty-eight (48) hours after the disturbance. Any contaminated soil disturbed as part of an emergency response action must be returned to its original location and depth, or properly characterized, managed and disposed of, in accordance with all applicable local, state, and federal requirements. Within thirty (30) days after such emergency has been abated, the Owner/Transferee shall provide a written report describing such emergency and any response actions.

c. **Construction Worker Notice:** In the event that construction or excavation work is to be performed that may expose workers to contaminated soil on the Property, Owner/Transferee shall ensure that actual notice is provided in advance, both orally and in writing, to any person or entity performing any work that results in exposure to such soil, so that appropriate protective measures are taken to protect such workers' health and safety in accordance with applicable health and safety laws and regulations. Such notice shall include, but not be limited to, providing a copy of this Covenant to any individuals responsible for the construction. Owner/Transferee shall maintain copies of any such written notice for a period of at least three (3) years, and shall provide copies of such records to the EPA or MDNR upon request.

d. **No Drilling or Use of Groundwater:** Based on reports on file at the EPA's offices in Lenexa, Kansas and MDNR's offices in Jefferson City, Missouri, contaminants of concern remain in groundwater in one or more zones beneath the Property at levels exceeding the Maximum Contaminant Levels ("MCLs") set forth in the Safe Drinking Water Act, 42 U.S.C. §§ 300j-26, and regulations promulgated thereunder at 40 C.F.R. Part 141. The MCLs are the maximum permissible levels of contaminants in water which is delivered to any user of a public water system. Therefore, in addition to any applicable state or local well use restrictions, the following restrictions shall apply to the Property:

(i) Groundwater from the Property shall not be consumed or otherwise used for any purpose, except as approved by the EPA or MDNR for the collection of samples for environmental analysis purposes, collection or treatment of groundwater for remedial purposes, or collection or treatment of groundwater as part of excavation or construction activities;

(ii) There shall be no drilling or other artificial penetration of any groundwater-bearing unit(s) containing contaminants, unless performed in accordance with a work plan approved by the EPA or MDNR; and

(iii) Installation of any new groundwater wells on the Property is prohibited, except for wells used for investigative, monitoring and/or remediation purposes installed in accordance with a work plan approved by the EPA or MDNR.

e. **No Construction of Buildings:**
Based on reports on file at the EPA's offices in Lenexa, Kansas and MDNR's offices in Jefferson City, Missouri, contaminants of concern remaining at the Property exceed the EPA's standards for residential use related to subsurface soil/groundwater to indoor air exposure for volatile contaminants. Therefore, no enclosed buildings may be constructed on the Property without written approval from the EPA or MDNR. If an Owner/Transferee desires to construct a building on the Property, then such Owner/Transferee shall request, in writing, approval from the EPA or MDNR at least sixty (60) days before construction is anticipated to begin. Based upon applicable authorities to protect from risk to human health and the environment associated with the construction, the EPA or MDNR may approve the request, deny the request, or may require specific protective or remedial actions before allowing construction activities to occur. Construction shall not be initiated prior to receipt of written approval from the EPA or MDNR.

If any person desires in the future to use the Property for any purpose or in any manner that is prohibited by this Covenant, the EPA and MDNR must be notified in advance so that a Modification, Temporary Deviation, or Termination request can be considered as described below. Further analyses and/or response actions may be required prior to any such use.

3. Running with the Land.

This Covenant shall be binding upon Owner and Owner's heirs, successors, assigns, and other transferees in interest (collectively referred to as "Transferees") during their period of ownership, and shall run with the land, as provided in Section 260.1012, RSMo, subject to amendment or termination as set forth herein. The term "Transferee(s)," as used in this Covenant, shall mean any future owner of any interest in the Property or any portion thereof, including, but not limited to, owners of an interest in fee simple, mortgagees (subject to applicable lender liability protections prescribed by law), easement holders, and/or lessees.

4. Location of Files and Records.

Records of this environmental response project for the Property are currently located at the EPA's offices in Lenexa, Kansas and MDNR's offices in Jefferson City, Missouri. Information regarding the environmental response project may be obtained by making a request to the EPA pursuant to the federal Freedom of Information Act, 5 U.S.C. § 552, or to MDNR pursuant to the Missouri "Sunshine Law", Chapter 610, RSMo. Requests should reference the site identification name of "Findett Corp., MOD006333975."

5. Enforcement.

Compliance with this Covenant may be enforced as provided in Section 260.1030, RSMo. MDNR (and any successor agencies) is expressly granted the power to enforce this Covenant. Failure to timely enforce compliance with this Covenant or the activity and use limitations contained herein by any party shall not bar subsequent enforcement by such party and shall not be deemed a waiver of the party's right to take action to enforce any non-compliance. Nothing in this Covenant shall restrict any person from exercising any authority under any other applicable law.

In addition to or in lieu of any other remedy authorized by law, prior to taking legal action to enforce this Covenant, the EPA may require Owner/Transferee to submit a plan to investigate and/or correct any alleged violation of this Covenant, in which case the EPA will provide written notification to the Holder. If such Owner/Transferee fails to act within the required timeframe or if the EPA finds a proposed remedy unacceptable, the EPA may pursue any remedy authorized by law. In such event, the EPA will provide written notification to the Holder, prior to or contemporaneously with any legal action taken to enforce this Covenant. Should MDNR decide to exercise its right to enforce this Covenant, MDNR shall so notify the EPA and Holder at least thirty (30) calendar days in advance of taking formal action to do so.

6. Right of Access.

Owner, on behalf of itself and any Transferees, hereby grants to the Holder, the EPA, MDNR, and their respectively authorized agents, contractors, and employees, the right to access the Property at all reasonable times for implementation, monitoring, inspection, or enforcement of this Covenant and the related environmental response project. Nothing herein shall be deemed to limit or otherwise impede the EPA's or MDNR's rights of access and entry under federal or state law or other agreement.

7. Compliance Reporting.

Owner/Transferee shall submit to Holder, the EPA, and MDNR, by no later than January 31st of each year, documentation verifying that the activity and use limitations imposed hereby were in place and complied with during the preceding calendar year. The Compliance Report shall include the following statement, signed by Owner/Transferee:

> I certify that to the best of my knowledge, after thorough evaluation of appropriate facts and information, the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

In the event that an Owner, Transferee, or Holder becomes aware of any noncompliance with the activity and use limitations described in Paragraph 2 above, such person or entity shall notify all other Parties to this Covenant in writing as soon as possible, but no later than ten (10) business days thereafter.

8. Additional Rights.

Reserved.

9. Notice upon Conveyance.

Each instrument hereafter conveying any interest in the Property or any portion of the Property shall contain a notice of the activity and use limitations set forth in this Covenant, and provide the recording reference for this Covenant. The notice shall be substantially in the following form:

> THE INTEREST CONVEYED HEREBY IS SUBJECT TO AN ENVIRONMENTAL COVENANT DATED______, 2019, RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF ST. CHARLES COUNTY, MISSOURI, ON______, 2019, AS DOCUMENT_______, BOOK______, PAGE_____.

Owner/Transferee shall notify Holder, the EPA, and MDNR within ten (10) days following each conveyance of an interest in any portion of the Property. The notice shall include the name, address, and telephone number of the Transferee, and a copy of the deed or other documentation evidencing the conveyance.

10. Representations and Warranties.

Owner hereby represents and warrants to Holder and the EPA that:

a) that Owner has the power and authority to enter into this Covenant, to grant the rights and interests herein provided and to carry out all of Owner's obligations hereunder;
b) that this Covenant will not materially violate or contravene or constitute a material default under any other agreement, document or instrument to which Owner is a party or by which Owner may be bound or affected; and
c) that Owner is the sole owner of the Property and holds fee simple title, which is free, clear and unencumbered.

11. Amendments, Termination, and Temporary Deviations.

This Covenant may be amended or terminated by approval of the EPA (in consultation with MDNR), Holder, and the current Owner/Transferee of record at the time of such amendment or termination, pursuant to section 260.1027 RSMo. Any other Parties to this Covenant hereby waive the right to consent to any amendment to, or termination of, this Covenant. Following signature by all requisite persons or entities on any amendment or termination of this Covenant, Owner/Transferee shall record and distribute such documents as described below.

Temporary deviations from the obligations or restrictions specified in this Covenant may be approved by the EPA (in consultation with MDNR) in lieu of a permanent amendment to this Covenant. Owner/Transferee may submit a written request to the EPA to temporarily deviate from specified requirements described herein for a specific purpose and timeframe. Any such request shall be transmitted to Holder and the EPA as described below. The request must specifically invoke this paragraph of this Covenant, fully explain the basis for such temporary deviation, and demonstrate that protection of human health and the environment will be maintained. The EPA shall evaluate the request and convey approval or denial in writing, on a reasonably timely basis. Owner/Transferee may not deviate from the requirements of this Covenant unless and until such approval has been obtained.

12. Severability.

If any provision of this Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

13. Governing Law.

This Covenant shall be governed by and interpreted in accordance with the laws of the State of Missouri.

14. Recordation.

Within thirty (30) days after the date of the final required signature upon this Covenant or any amendment or termination thereof, Owner shall record this Covenant with the appropriate recorder of deeds for each county in which any portion of the Property is situated. Owner shall be responsible for any costs associated with recording this Covenant.

15. Effective Date.

The effective date of this Covenant shall be the date upon which the fully executed Covenant has been recorded with the office of the recorder of the county in which the Property is situated.

16. Distribution of Covenant.

Within thirty (30) days following the recording of this Covenant, or any amendment or termination of this Covenant, Owner/Transferee shall, in accordance with Section 260.1018, RSMo, distribute a file- and date-stamped copy of the Covenant as recorded with the appropriate recorder of deeds (including book and page numbers) to: (a) each of the Parties hereto; (b) each person holding a recorded interest in the Property, including any mortgagees or easement holders; (c) each person in possession of the Property; (d) each municipality or other unit of local government in which the Property is located; (e) MDNR; and (e) any other person designated herein.

17. Contact Information.

Any document or other item required by this Covenant to be given to another party hereto shall be sent to:

<u>If to Owner/Transferee</u>:
Findett Real Estate Corporation
31 Eagle Cove Lane
St. Charles, MO 63303

<u>If to the EPA</u>:
Director, Superfund Division
U.S. Environmental Protection Agency, Region 7
11201 Renner Blvd.
Lenexa, KS 66219

<u>If to MDNR</u>:
Superfund Section Chief
Missouri Department of Natural Resources
Hazardous Waste Program
P.O. Box 176
Jefferson City, MO 65102-0176

Owner/Transferee, Holder, the EPA, or MDNR may change the designated recipient of such notices by providing written notice of the same to each other. If any notice or other submittal under this Covenant is received by a former Owner/Transferee who no longer has an interest in the Property, then such former Owner/Transferee shall notify the EPA, Holder, MDNR, and the current Owner/Transferee of the Property regarding the misdirected communication.

18. Reservation of Rights.

This Covenant is a necessary component of the environmental response project described above. Nothing in this Covenant shall be construed so as to relieve any Owner/Transferee from the obligation to comply with this Covenant during their period of ownership, or the obligation to comply with any other source of law. This Covenant is not a permit, nor does it modify any permit, order, agreement, decree, or judgment issued under any federal, State, or local laws or regulations, and the EPA does not warrant or aver in any manner that an Owner/Transferee's compliance with any aspect of this Covenant will result in compliance with any such requirements. The EPA and MDNR reserve all legal and equitable remedies available to enforce the provisions of this Covenant or any other legal requirement, and/or to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, the Property. Nothing herein shall be construed so as to prevent the EPA, MDNR, or Holder from taking any independent actions as allowed by law.

[REMAINDER OF PAGE INTENTIONALLY BLANK]

The undersigned represent and certify that they are authorized to sign this Covenant on behalf of their respective Parties.

IT IS SO AGREED:

FOR FINDETT REAL ESTATE CORPORATION, a Missouri Corporation

By: ____________________ Date: April 5, 2019
Name: George Garrison
Title: President
Address:
31 Eagle Cove Lane
St. Charles, MO 63303

STATE OF South Carolina)
COUNTY OF Spartanburg)
)

On this 5th day of April, 2019, before me a Notary Public in and for said state, personally appeared George Garrison, the president of Findett Real Estate Corporation, a Missouri corporation, known to me to be the person who executed the within Environmental Covenant on behalf of said limited liability company and acknowledged to me that he/she executed the same for the purposes therein stated.

Mitzi M. Morris
Notary Public

Mitzi M. Morris
My Commission Expires
December 17 2023
State of South Carolina

FOR THE EPA

By: Mary P. Peterson Date: 4/11/2019

Mary P. Peterson, Director
Superfund Division
U.S. Environmental Protection Agency, Region 7
11202 Renner Boulevard
Lenexa, KS 66219

STATE OF KANSAS)
)
COUNTY OF JOHNSON)

On this 11th day of April, 2019, before me a Notary Public in and for said state, personally appeared Mary P. Peterson (or her designee), Director of the Superfund Program of the U.S Environmental Protection Agency, a federal agency, known to me to be the person who executed the within Covenant on behalf of said agency and acknowledged to me that she executed the same for the purposes therein stated.

NOTARY PUBLIC - State of Kansas
MILADY R. PETERS
My Appt. Expires 10/14/22

Notary Public

EXHIBIT A

Lots Five (5), Six (6), Seven (7), and Eight (8) of Gardnerville Industrial Park, a subdivision of part of the North half of the Southeast quarter of Section 23, Township 47 North, Rage 4 East, as said lots are shown on the Plat of said Subdivision recorded in Plat Book 8 page 17 of the St. Charles County Recorder's Office.

EXHIBIT B

RECORD AS IS

St. Charles County Recorder's Office
Mary E. Dempsey
201 North Second Street, Suite 338
St. Charles , MO 63301
(636) 949-7505 www.sccmo.org

Receipt for Services

Cashier CGRAF **Batch #** 1014171

Customer Name LAW OFFICE OF ELLEN GOLDMAN/ENV **Date:** 05/02/2019 **Time:** 02:10:54PM

Remarks DR/CMG

Date	Instrument No	Document Type	Transaction Type	GF Number	Pg/Amt
5/2/2019 2:10:54PM	20190502000206270	COVEN	DE7068 1035		14

Party 1: FINDETT REAL ESTATE CORP **Party 2:** FINDETT REAL ESTATE CORP

COVEN	**Total:**		$60.00
	Fee Total:		$60.00
CHECK	4704	ELLEN S GOLDMAN ATTNY	60.00
	Payment Total:		$60.00

GEOTECHNOLOGY INC
FROM THE GROUND UP

May 27, 2010 J006295.07

RECEIVED
JUN 01 2010
SUPERFUND DIVISION

Mr. Steve Auchterlonie
Remedial Project Manager
EPA Region VII, Superfund Division
901 N. Fifth Street
Kansas City, Kansas 66101

Re: Revised Wellhead Protection District Ordinance
City of St. Charles
Remedial Design/Remedial Action
Operable Unit 3 – Hayford Bridge Road Groundwater Site
St. Charles, Missouri

Dear Mr. Auchterlonie:

Pursuant to the Consent Decree (07-1215) for the referenced site, and on behalf of the Hayford Bridge Road (HBR) OU3 Group, Geotechnology, Inc. is submitting the revised Wellhead Protection (WHP) District ordinance that was recently approved by the City of St. Charles. The WHP District ordinance addresses, in part, the institutional control requirements for OU3. Two parcels within the affected area of OU3 (i.e., Ostmann and Monsanto parcels) are not within City limits or jurisdiction. We understand that City of St. Charles officials are working with St. Charles County officials on an agreement that addresses the enforceability of the WHP ordinance with non-City residents/property owners within the City's WHP District.

Please contact me if you have questions or additional information is needed.

Very truly yours,

GEOTECHNOLOGY, INC.

Kenny J. Hemmen, RG, CGWP
Senior Project Manager

KJH:kjh/jsj

cc: Ms. Candice McGhee; MDNR, Hazardous Waste Program
1738 East Elm, Jefferson City, Missouri 65101
The HBR OU3 Group Technical Committee

0795 3.0

OU 01

Bill No. 10108 Ordinance No. 10-26

Sponsor: Michael Klinghammer

An Ordinance Amending Chapter 156 of the Code of Ordinances by Amending Section 156.065 Pertaining to WHP Wellhead Protection District.

Be it Ordained by the Council of the City of St. Charles, Missouri, as Follows:

SECTION 1. Section 156.065 of the Code of Ordinances of the City of St. Charles, Missouri, is hereby amended to read as follows:

§ 156.065 WHP WELLHEAD PROTECTION DISTRICT.

(A) *Purpose*. The purpose of this section is to safeguard the public health, safety, and general welfare through the protection of groundwater used as a public water supply.

(B) *Permitted uses*. Any use permitted by right in an underlying zoning district shall also be permitted by right in an overlying Wellhead Protection District, the boundaries of which are illustrated on the map attached as Exhibit A. ~~except for those conditional uses listed in § 156.065(C), as well as the following prohibited uses~~:

~~(1) The production, use, handling, or storage of any extremely hazardous substance, greater than the exempted quantity, as defined in § 156.005.~~

~~(2) Landfills, including but not limited to industrial and municipal landfills; open dumps; or any other waste disposal facility.~~

~~(3) Waste transfer stations and incinerators.~~

~~(4) Waste disposal wells and underground injection of liquid wastes.~~

~~(5) Sewage lagoons or other impoundment of waste materials~~

~~(6) Wastewater treatment plants.~~

~~(7) Cemeteries and graveyards for humans or domesticated animals.~~

~~(8) Scrap and junk yards.~~

~~(9) Uncovered road salt storage.~~

NOTE: Underlined Text is Inserted. Struck Through Text is Deleted.

~~(10) Vehicle service stations and convenience stores which sell motor fuel.~~

~~(11) Vehicle repair and service facilities, including but not limited to businesses such as vehicle mechanic services, transmission repair services, and oil changing services.~~

~~(12) Dry cleaning businesses.~~

~~(13) Furniture stripping businesses.~~

~~(14) Livestock feed lots.~~

(C) *Conditional uses.*

(1) The following uses may be permitted in the WHP Wellhead Protection District as a conditional use if approved by the City Council following recommendation by the Planning and Zoning Commission:

(a) The production, use, handling, or storage of any hazardous substance or liquid petroleum product.

~~(2)~~ ~~The following uses may be permitted 1,000 feet inside of the boundary perimeter of the WHP Wellhead Protection District as a conditional use if approved by the City Council following recommendation by the Planning and Zoning Commission:~~

~~(a)~~ (b) Fleet maintenance repair and service facilities, including but not limited to mechanic services, transmission repair services and oil changing services in conjunction with and supplementary to a permitted business operation.

~~(b)~~ (c) Construction of new underground storage tanks and associated pipes in compliance with applicable local, state and federal laws and in conjunction with ~~the~~ and supplementary to a permitted business operation.

(d) Dry cleaning business.

(e) Furniture stripping.

(f) Wastewater Pretreatment Facilities or other impoundments of waste material.

(g) Vehicle service stations and convenience stores which sell motor fuel.

(h) Electrical power generator and substations.

(i) Closed-loop heat pump well systems, provided the entire length of the pipe system is sealed with a thermal grout.

~~(3)~~ (2) In order to receive approval from the City Council, each facility which handles or uses regulated substances must fulfill the following requirements:

(a) Provide for the installation and maintenance of devices for secondary containment in case of inadvertent discharge from primary containers. Ensure the proper storage of regulated substances to insure the ~~health and safety~~ integrity and proper functionality of impervious floor surface.

(b) Submission of an emergency contingency plan for each facility to respond to unauthorized discharges.

(c) Posting of a bond or carrying of insurance which would pay for the cost of cleanup incurred as the result of inadvertent discharge.

(d) The three previous requirements must be approved in writing by both the Fire Chief and the Community Development Director, or their designees.

(D) *Prohibited uses.* The following uses are prohibited in the WHP Wellhead Protection District:

(1) The production, use, handling, or storage of any extremely hazardous substance, greater than the exempted quantity, as defined in § 156.005.

(2) Landfills, including but not limited to industrial and municipal landfills; open dumps; or any other waste disposal facility.

(3) Waste transfer stations and incinerators.

(4) Waste disposal wells and underground injection of liquid wastes.

(5) Sewage lagoons.

(6) Wastewater treatment plants.

(7) Cemeteries and graveyards for humans or domesticated animals.

NOTE: Underlined Text is Inserted. Struck Through Text is Deleted.

(8) Scrap and junk yards.

(9) Uncovered salt storage.

(10) Private potable water wells into known and potential sources of contamination, including, but not limited to those identified on Exhibit A.

(11) Ponds/lakes constructed deeper than 15 feet, in order to prohibit excavation below the upper cohesive solids into the underlying sand and gravel aquifer except at properties where site specific drilling data indicates deeper excavation, will not contact the sand and gravel aquifer to a maximum allowable excavation depth of five feet above the base of the upper cohesive soils.

(12) Open-loop heat pump well systems which utilize groundwater as the heat source and sink.

(13) Any use not described in divisions (B) or (C).

~~(D)~~ (E) *Exemptions.* The following substances are not subject to the provisions of this chapter, as long as they are used, handled, or stored in a manner that does not result in contamination of the groundwater:

(1) Use of any regulated substance in an amount less than the exempted quantity for that substance.

(2) Any substance to the extent it is used for personal, family or household purposes, or is present in the same form and concentration as a product packaged for distribution and use by the general public. However, regulated substances used in the operation of a home business shall not be exempt from the provisions of these requirements.

(3) Any substance to the extent it is used in routine agricultural operations or is a fertilizer held for sale by a retailer to the user.

(4) Any substance to the extent it is used in a research laboratory, hospital or other medical facility, and is under the direct supervision of a technically qualified individual.

(5) Regulated substances contained in properly operating sealed units (transformers, refrigeration units, etc.) which are not operated as part of routine use and which are in operable condition.

(6) Motor fuels, lubricants, and coolants which are in use within operable internal combustion engines and attached fuel tanks.

(7) Radioactive materials regulated by the United States Nuclear Regulatory Commission.

(8) Regulated substances in continuous transit through a WHP District.

~~(E)~~(F) *Design standards.* Within the WHP District, the design standards of the district upon which the WHP District is superimposed shall apply. In addition, the following design standards shall be required in a WHP Zoning District:

(1) ~~Construction of new underground storage tanks and associated pipes is prohibited.~~ Operation of existing underground storage tanks is permitted, as long as doing so is in compliance with applicable state and federal laws.

(2) Other design measures as required to receive a conditional use permit from the City Council.

SECTION 2. This Ordinance shall be in full force and effect from and after the date of its passage and approval.

SECTION 3. It is the intention of the city council, and it is hereby ordained that the provisions of this ordinance shall become and be made a part of the Code of Ordinances of the City of St. Charles, Missouri, and the sections of this ordinance may be renumbered to accomplish such intention.

February 16, 2010
Date Passed

Larry Muench, Presiding Officer

February 19, 2010
Date Approved by Mayor

Patricia M. York
Patricia M. York, Mayor

Approved as to Form:
1/27/2010
Michael J. Valenti, City Attorney Date

Attest:
Marily K. McCoy
City Clerk

T:\ORDINANC\CODEBK\156.065 WHP Wellhead Protection District.doc

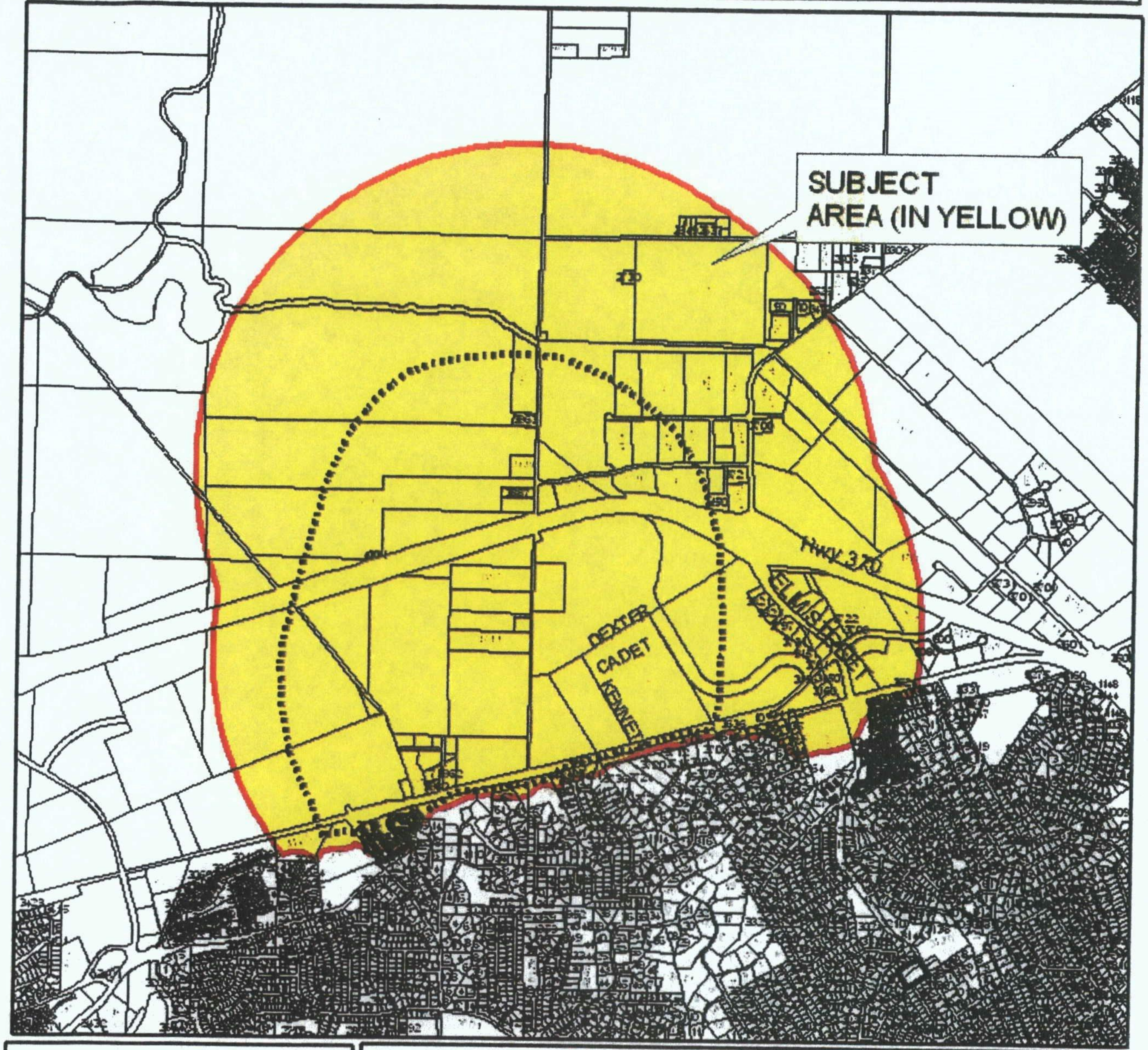
NOTE: Underlined Text is Inserted. Struck Through Text is Deleted.

Figure 2
Known and Potential Sources of Contamination within the Wellhead Protection Area
St. Charles, MO

STL \\LACLEDE\PROJ\CITYOFSTCHARLES\WHPP_UPDATE_2008\GIS\MAPFILES\FIGURE2_STCHARLES_MO_WHPP_POTENTIAL_CONTAM_SOURCES.MXD RHURSEY 9/15/2009 09:52:05

CH2MHILL

Case No. DR-09-09 **Wellhead Protection District**



Color Legend:

- ⬚ Existing Wellhead Protection District
- 🟨 Proposed Wellhead Protection District

Case. No. DR-09-09. An ordinance amending §156.065 WHP Wellhead Protection District of Chapter 156 of the St. Charles Code of Ordinances (Zoning Code) by revising the list of permitted, conditional and prohibited uses and revising the adopted location map for the district.

0 1,050 2,100 4,200 6,300 8,400 Feet

PLANNING AND ZONING
DECEMBER 2009

By: CWL

N

AGENDA ITEM # 14

MEMORANDUM

DATE: December 21, 2009

TO: Planning and Zoning Commission

FROM: David Gipson, AICP
Planning Manager

SUBJECT: Case No. DR-09-09
Amendment to §156.065 WHP Wellhead Protection District

This proposal is to amend §156.065 WHP Wellhead Protection District by revising the list of permitted, conditional and prohibited uses and revising the adopted location map for the district. The existing Wellhead Protection District was approved in May of 1998 to safeguard the public health, safety, and general welfare through the protection of groundwater used as a public water supply. The ordinance establishes a District Boundary and regulates or prohibits uses that could potentially contaminate the City's water supply. These regulations should not impact residential uses within the Wellhead Protection District.

The existing WHP was defined by a 10 year time of travel recharge area. The 10 year time of travel recharge area is a geographical area which provides the recharge (replenishment of underground water) to an aquifer(s) which is a current or potential potable water source (e.g. the City's drinking water) and, due to its geological properties, is highly susceptible to the introduction of pollutants. In this instance, it is being defined by an estimated amount of time for a water particle to travel from its source through the aquifer to the well sites (10 years). The proposed WHP boundary is being expanded based upon a Missouri Department of Natural Resources (MODNR) recommendation that the WHP area be defined by a fixed 1-mile radius.

Along with changes to the WHP boundary, there are some minor revisions proposed within the regulating ordinance. A list of prohibited and regulated uses can be found within the attached ordinance.

Recommended Motion

Motion to forward the proposed WHP Wellhead Protection District ordinance and boundary amendment to the St. Charles City Council with a favorable recommendation.

RCA FORM (OFFICE USE ONLY)
MEETING/DATE: 02/02/10
Regular(X) Special() Comm. of Whole()
ATTACHMENT: YES(X) NO()
Report(X) Resolution() Ordinance()

Bill # 10108

Request for Council Action

Ward All; Sponsor: Michael Klinghammer

- **Description: An Ordinance amending §156.065 WHP Wellhead Protection District of Chapter 156 of the St. Charles Code of Ordinances (Zoning Code) by revising the list of permitted, conditional and prohibited uses and revising the adopted location map for the district.**

- **Recommendation: Staff -- Approve(X) Disapprove()**
  Board/Committee/Commission -- Approve (X) Disapprove ()

- **Summary:**

This proposal is to amend §156.065 WHP Wellhead Protection District by revising the list of permitted, conditional and prohibited uses and revising the adopted location map for the district. The existing Wellhead Protection District was approved in May of 1998 to safeguard the public health, safety, and general welfare through the protection of groundwater used as a public water supply. The ordinance establishes a District Boundary and regulates or prohibits uses that could potentially contaminate the City's water supply. These regulations should not impact residential uses within the Wellhead Protection District.

The existing WHP was defined by a 10 year time of travel recharge area. The 10 year time of travel recharge area is a geographical area which provides the recharge (replenishment of underground water) to an aquifer(s) which is a current or potential potable water source (e.g. the City's drinking water) and, due to its geological properties, is highly susceptible to the introduction of pollutants. In this instance, it is being defined by an estimated amount of time for a water particle to travel from its source through the aquifer to the well sites (10 years). The proposed WHP boundary is being expanded based upon a Missouri Department of Natural Resources (MODNR) recommendation that the WHP area be defined by a fixed 1-mile radius.

Along with changes to the WHP boundary, there are some minor revisions proposed within the regulating ordinance. A list of prohibited and regulated uses can be found within the attached ordinance.

The public hearing for this item was conducted by the City Council on January 5, 2010. The Bill is now being brought forward for introduction. The Staff Report from the Planning and Zoning Commission meeting has been included for reference. The Planning and Zoning Commission held a public hearing for this amendment at the December 21, 2009 meeting. There were three speakers during the public hearing. The Planning and Zoning Commission voted unanimously to approve the amendment and to forward the request to the City Council with a favorable recommendation.

- **Budget Impact:** (revenue generated, estimated cost, CIP item, etc.)

  N/A

Account #

RCA prepared by: David Gipson Dept.Director Director of Admin MLS/DOA 1/27/10

O:\AGENDA\AGENDA\020210\DR-09-09 Wellhead Amend Intro RCA.doc

GEOTECHNOLOGY INC
FROM THE GROUND UP

May 27, 2010 J006295.07

Mr. Steve Auchterlonie
Remedial Project Manager
EPA Region VII, Superfund Division
901 N. Fifth Street
Kansas City, Kansas 66101

Re: Revised Wellhead Protection District Ordinance
City of St. Charles
Remedial Design/Remedial Action
Operable Unit 3 – Hayford Bridge Road Groundwater Site
St. Charles, Missouri

Dear Mr. Auchterlonie:

Pursuant to the Consent Decree (07-1215) for the referenced site, and on behalf of the Hayford Bridge Road (HBR) OU3 Group, Geotechnology, Inc. is submitting the revised Wellhead Protection (WHP) District ordinance that was recently approved by the City of St. Charles. The WHP District ordinance addresses, in part, the institutional control requirements for OU3. Two parcels within the affected area of OU3 (i.e., Ostmann and Monsanto parcels) are not within City limits or jurisdiction. We understand that City of St. Charles officials are working with St. Charles County officials on an agreement that addresses the enforceability of the WHP ordinance with non-City residents/property owners within the City's WHP District.

Please contact me if you have questions or additional information is needed.

Very truly yours,

GEOTECHNOLOGY, INC.

Kenny J. Hemmen, RG, CGWP
Senior Project Manager

KJH:kjh/jsj

cc: Ms. Candice McGhee; MDNR, Hazardous Waste Program
1738 East Elm, Jefferson City, Missouri 65101
The HBR OU3 Group Technical Committee

Bill No. 10108 Ordinance No. 10-26

Sponsor: Michael Klinghammer

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Be it Ordained by the Council of the City of St. Charles, Missouri, as Follows:

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(A) *Purpose*. The purpose of this section is to safeguard the public health, safety, and general welfare through the protection of groundwater used as a public water supply.

(B) *Permitted uses.* Any use permitted by right in an underlying zoning district shall also be permitted by right in an overlying Wellhead Protection District, the boundaries of which are illustrated on the map attached as Exhibit A. ~~except for those conditional uses listed in § 156.065(C), as well as the following prohibited uses~~:

~~(1) The production, use, handling, or storage of any extremely hazardous substance, greater than the exempted quantity, as defined in § 156.005.~~

~~(2) Landfills, including but not limited to industrial and municipal landfills; open dumps; or any other waste disposal facility.~~

~~(3) Waste transfer stations and incinerators.~~

~~(4) Waste disposal wells and underground injection of liquid wastes.~~

~~(5) Sewage lagoons or other impoundment of waste materials~~

~~(6) Wastewater treatment plants.~~

~~(7) Cemeteries and graveyards for humans or domesticated animals.~~

~~(8) Scrap and junk yards.~~

~~(9) Uncovered road salt storage.~~

NOTE: Underlined Text is Inserted. Struck Through Text is Deleted.

~~(10) Vehicle service stations and convenience stores which sell motor fuel.~~

~~(11) Vehicle repair and service facilities, including but not limited to businesses such as vehicle mechanic services, transmission repair services, and oil changing services.~~

~~(12) Dry cleaning businesses.~~

~~(13) Furniture stripping businesses.~~

~~(14) Livestock feed lots.~~

(C) *Conditional uses.*

(1) The following uses may be permitted in the WHP Wellhead Protection District as a conditional use if approved by the City Council following recommendation by the Planning and Zoning Commission:

(a) The production, use, handling, or storage of any hazardous substance or liquid petroleum product.

~~(2)~~ ~~The following uses may be permitted 1,000 feet inside of the boundary perimeter of the WHP Wellhead Protection District as a conditional use if approved by the City Council following recommendation by the Planning and Zoning Commission:~~

~~(a)~~ (b) Fleet maintenance repair and service facilities, including but not limited to mechanic services, transmission repair services and oil changing services in conjunction with and supplementary to a permitted business operation.

~~(b)~~ (c) Construction of new underground storage tanks and associated pipes in compliance with applicable local, state and federal laws and in conjunction with ~~the~~ and supplementary to a permitted business operation.

(d) Dry cleaning business.

(e) Furniture stripping.

(f) Wastewater Pretreatment Facilities or other impoundments of waste material.

(g) Vehicle service stations and convenience stores which sell motor fuel.

(h) Electrical power generator and substations.

(i) Closed-loop heat pump well systems, provided the entire length of the pipe system is sealed with a thermal grout.

~~(3)~~ (2) In order to receive approval from the City Council, each facility which handles or uses regulated substances must fulfill the following requirements:

(a) Provide for the installation and maintenance of devices for secondary containment in case of inadvertent discharge from primary containers. Ensure the proper storage of regulated substances to insure the ~~health and safety~~ integrity and proper functionality of impervious floor surface.

(b) Submission of an emergency contingency plan for each facility to respond to unauthorized discharges.

(c) Posting of a bond or carrying of insurance which would pay for the cost of cleanup incurred as the result of inadvertent discharge.

(d) The three previous requirements must be approved in writing by both the Fire Chief and the Community Development Director, or their designees.

(D) *Prohibited uses.* The following uses are prohibited in the WHP Wellhead Protection District:

(1) The production, use, handling, or storage of any extremely hazardous substance, greater than the exempted quantity, as defined in § 156.005.

(2) Landfills, including but not limited to industrial and municipal landfills; open dumps; or any other waste disposal facility.

(3) Waste transfer stations and incinerators.

(4) Waste disposal wells and underground injection of liquid wastes.

(5) Sewage lagoons.

(6) Wastewater treatment plants.

(7) Cemeteries and graveyards for humans or domesticated animals.

NOTE: Underlined Text is Inserted. Struck Through Text is Deleted.

(8) Scrap and junk yards.

(9) Uncovered salt storage.

(10) Private potable water wells into known and potential sources of contamination, including, but not limited to those identified on Exhibit A.

(11) Ponds/lakes constructed deeper than 15 feet, in order to prohibit excavation below the upper cohesive solids into the underlying sand and gravel aquifer except at properties where site specific drilling data indicates deeper excavation, will not contact the sand and gravel aquifer to a maximum allowable excavation depth of five feet above the base of the upper cohesive soils.

(12) Open-loop heat pump well systems which utilize groundwater as the heat source and sink.

(13) Any use not described in divisions (B) or (C).

~~(D)~~ (E) *Exemptions.* The following substances are not subject to the provisions of this chapter, as long as they are used, handled, or stored in a manner that does not result in contamination of the groundwater:

(1) Use of any regulated substance in an amount less than the exempted quantity for that substance.

(2) Any substance to the extent it is used for personal, family or household purposes, or is present in the same form and concentration as a product packaged for distribution and use by the general public. However, regulated substances used in the operation of a home business shall not be exempt from the provisions of these requirements.

(3) Any substance to the extent it is used in routine agricultural operations or is a fertilizer held for sale by a retailer to the user.

(4) Any substance to the extent it is used in a research laboratory, hospital or other medical facility, and is under the direct supervision of a technically qualified individual.

(5) Regulated substances contained in properly operating sealed units (transformers, refrigeration units, etc.) which are not operated as part of routine use and which are in operable condition.

(6) Motor fuels, lubricants, and coolants which are in use within operable internal combustion engines and attached fuel tanks.

(7) Radioactive materials regulated by the United States Nuclear Regulatory Commission.

(8) Regulated substances in continuous transit through a WHP District.

~~(E)~~(F) *Design standards*. Within the WHP District, the design standards of the district upon which the WHP District is superimposed shall apply. In addition, the following design standards shall be required in a WHP Zoning District:

(1) ~~Construction of new underground storage tanks and associated pipes is prohibited.~~ Operation of existing underground storage tanks is permitted, as long as doing so is in compliance with applicable state and federal laws.

(2) Other design measures as required to receive a conditional use permit from the City Council.

SECTION 2. This Ordinance shall be in full force and effect from and after the date of its passage and approval.

SECTION 3. It is the intention of the city council, and it is hereby ordained that the provisions of this ordinance shall become and be made a part of the Code of Ordinances of the City of St. Charles, Missouri, and the sections of this ordinance may be renumbered to accomplish such intention.

February 16, 2010
Date Passed

Larry Muench, Presiding Officer

February 19, 2010
Date Approved by Mayor

Patricia M. York
Patricia M. York, Mayor

Approved as to Form:
1/27/2010
Michael J. Valenti, City Attorney Date

Attest: Marilyn K. McCoy
City Clerk

T:\ORDINANC\CODEBK\156.065 WHP Wellhead Protection District.doc

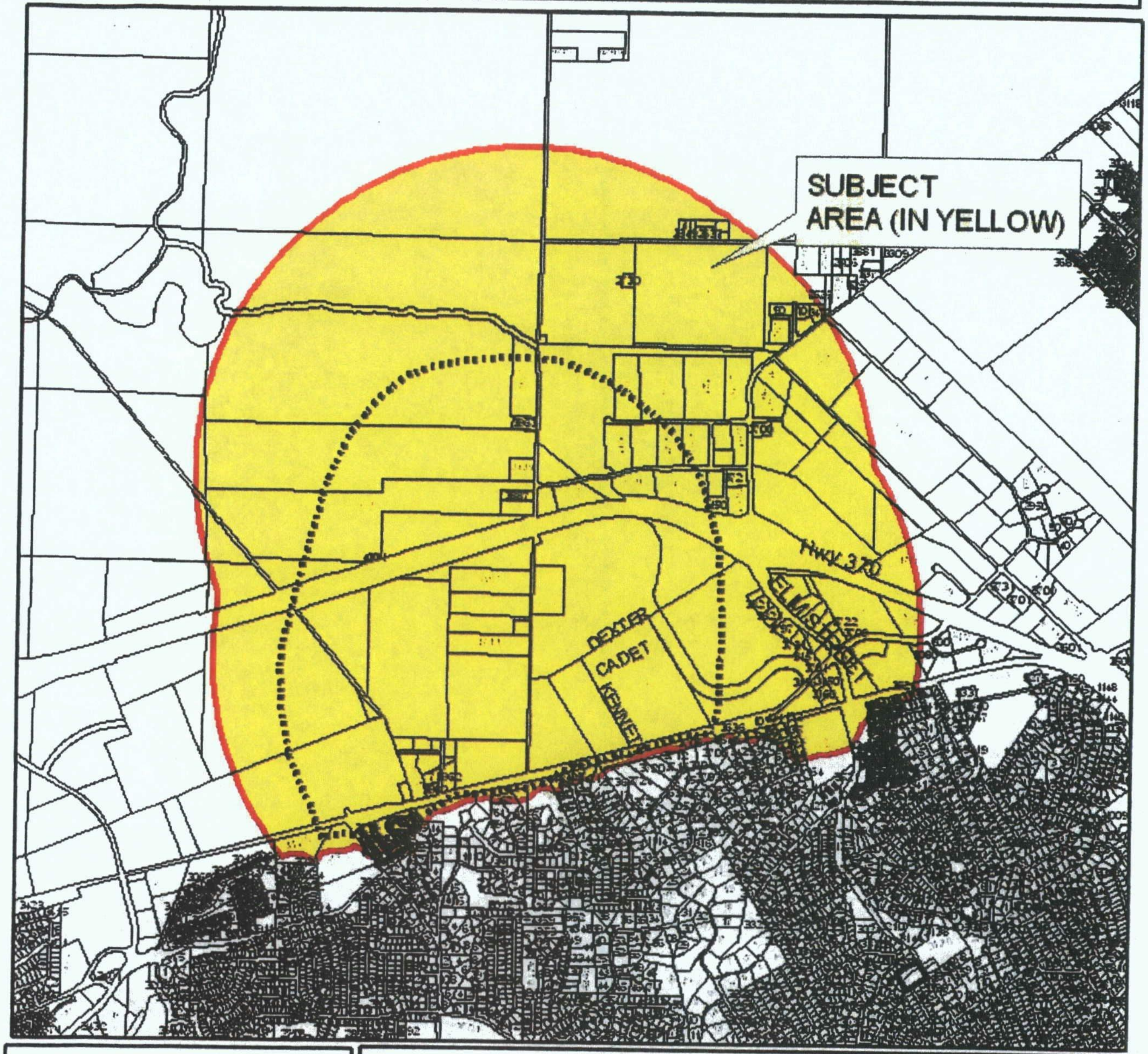
NOTE: Underlined Text is Inserted. Struck Through Text is Deleted.

Figure 2
Known and Potential Sources of Contamination within the Wellhead Protection Area
St. Charles, MO

STL \\LACLEDE\PROJ\CITYOFSTCHARLES\WHPP_UPDATE_2008\GIS\MAPFILES\FIGURE2_STCHARLES_MO_WHPP_POTENTIAL_CONTAM_SOURCES.MXD RHURSEY 9/15/2009 09:52:05

CH2MHILL

Case No. DR-09-09 Wellhead Protection District



Color Legend:

- ⬚ Existing Wellhead Protection District
- 🟨 Proposed Wellhead Protection District

Case. No. DR-09-09. An ordinance amending §156.065 WHP Wellhead Protection District of Chapter 156 of the St. Charles Code of Ordinances (Zoning Code) by revising the list of permitted, conditional and prohibited uses and revising the adopted location map for the district.

0 1,050 2,100 4,200 6,300 8,400 Feet

PLANNING AND ZONING
DECEMBER 2009

By: CWL

N

AGENDA ITEM # 14

MEMORANDUM

DATE: December 21, 2009

TO: Planning and Zoning Commission

FROM: David Gipson, AICP
Planning Manager

SUBJECT: Case No. DR-09-09
Amendment to §156.065 WHP Wellhead Protection District

This proposal is to amend §156.065 WHP Wellhead Protection District by revising the list of permitted, conditional and prohibited uses and revising the adopted location map for the district. The existing Wellhead Protection District was approved in May of 1998 to safeguard the public health, safety, and general welfare through the protection of groundwater used as a public water supply. The ordinance establishes a District Boundary and regulates or prohibits uses that could potentially contaminate the City's water supply. These regulations should not impact residential uses within the Wellhead Protection District.

The existing WHP was defined by a 10 year time of travel recharge area. The 10 year time of travel recharge area is a geographical area which provides the recharge (replenishment of underground water) to an aquifer(s) which is a current or potential potable water source (e.g. the City's drinking water) and, due to its geological properties, is highly susceptible to the introduction of pollutants. In this instance, it is being defined by an estimated amount of time for a water particle to travel from its source through the aquifer to the well sites (10 years). The proposed WHP boundary is being expanded based upon a Missouri Department of Natural Resources (MODNR) recommendation that the WHP area be defined by a fixed 1-mile radius.

Along with changes to the WHP boundary, there are some minor revisions proposed within the regulating ordinance. A list of prohibited and regulated uses can be found within the attached ordinance.

Recommended Motion

Motion to forward the proposed WHP Wellhead Protection District ordinance and boundary amendment to the St. Charles City Council with a favorable recommendation.

RCA FORM (OFFICE USE ONLY)
MEETING/DATE: 02/02/10
Regular(X) Special() Comm. of Whole()
ATTACHMENT: YES(X) NO()
Report(X) Resolution() Ordinance()

Bill # 10108

Request for Council Action

Ward All; Sponsor: Michael Klinghammer

- **Description: An Ordinance amending §156.065 WHP Wellhead Protection District of Chapter 156 of the St. Charles Code of Ordinances (Zoning Code) by revising the list of permitted, conditional and prohibited uses and revising the adopted location map for the district.**

- **Recommendation: Staff -- Approve(X) Disapprove()**
  Board/Committee/Commission -- Approve (X) Disapprove ()

- ## Summary:

This proposal is to amend §156.065 WHP Wellhead Protection District by revising the list of permitted, conditional and prohibited uses and revising the adopted location map for the district. The existing Wellhead Protection District was approved in May of 1998 to safeguard the public health, safety, and general welfare through the protection of groundwater used as a public water supply. The ordinance establishes a District Boundary and regulates or prohibits uses that could potentially contaminate the City's water supply. These regulations should not impact residential uses within the Wellhead Protection District.

The existing WHP was defined by a 10 year time of travel recharge area. The 10 year time of travel recharge area is a geographical area which provides the recharge (replenishment of underground water) to an aquifer(s) which is a current or potential potable water source (e.g. the City's drinking water) and, due to its geological properties, is highly susceptible to the introduction of pollutants. In this instance, it is being defined by an estimated amount of time for a water particle to travel from its source through the aquifer to the well sites (10 years). The proposed WHP boundary is being expanded based upon a Missouri Department of Natural Resources (MODNR) recommendation that the WHP area be defined by a fixed 1-mile radius.

Along with changes to the WHP boundary, there are some minor revisions proposed within the regulating ordinance. A list of prohibited and regulated uses can be found within the attached ordinance.

The public hearing for this item was conducted by the City Council on January 5, 2010. The Bill is now being brought forward for introduction. The Staff Report from the Planning and Zoning Commission meeting has been included for reference. The Planning and Zoning Commission held a public hearing for this amendment at the December 21, 2009 meeting. There were three speakers during the public hearing. The Planning and Zoning Commission voted unanimously to approve the amendment and to forward the request to the City Council with a favorable recommendation.

- **Budget Impact:** (revenue generated, estimated cost, CIP item, etc.)

  N/A

Account #

RCA prepared by: David Gipson Dept.Director JG Director of Admin MLS/DOA 1/27/10

O:\AGENDA\AGENDA\020210\DR-09-09 Wellhead Amend Intro RCA.doc

APPENDIX O – APRIL 2009 FIRE INCIDENT RESPONSE RECORD

A

09203 FDID * | MO State * | MM 04 DD 12 YYYY 2009 Incident Date * | 3 Station | 09-0002245 Incident Number * | 000 Exposure *

☐ Delete
☒ Change
☐ No Activity

NFIRS -1 Basic

B Location*

☐ Check this box to Indicate that the address for this incident is provided on the Wildland Fire Module In Section B "Alternative Location Specification". Use only for Wildland fires.

Census Tract 3115 - 00

☒ Street address
☐ Intersection
☐ In front of
☐ Rear of
☐ Adjacent to
☐ Directions

Number/Milepost: 8
Prefix:
Street or Highway: GOVERNOR
Street Type: DR
Suffix:
Apt./Suite/Room:
City: ST CHARLES CITY
State: MO
Zip Code: 63301 -
Cross street or directions, as applicable:

C Incident Type *

111 Building fire
Incident Type

D Aid Given or Received*

1 ☒ Mutual aid received
2 ☐ Automatic aid recv.
3 ☐ Mutual aid given
4 ☐ Automatic aid given
5 ☐ Other aid given
N ☐ None

Their FDID: | Their State:
Their Incident Number:

E1 Date & Times

Midnight is 0000

Check boxes if dates are the same as Alarm Date.

		Month	Day	Year	Hr Min Sec
	ALARM always required				
	Alarm *	04	12	2009	21:55:04
	ARRIVAL required, unless canceled or did not arrive				
☒	Arrival *	04	12	2009	22:02:13
	CONTROLLED Optional, Except for wildland fires				
☐	Controlled				
	LAST UNIT CLEARED, required except for wildland fires				
☐	Last Unit Cleared	04	13	2009	02:23:28

E2 Shift & Alarms

Local Option

Shift or Platoon: C
Alarms:
District: 3

E3 Special Studies

Local Option

Special Study ID#:
Special Study Value:

F Actions Taken *

10 Fire control or
Primary Action Taken (1)

42 HazMat detection,
Additional Action Taken (2)

46 Decontaminate persons
Additional Action Taken (3)

G1 Resources *

☐ Check this box and skip this section if an Apparatus or Personnel form is used.

	Apparatus	Personnel
Suppression	0020	0018
EMS		
Other		

☐ Check box if resource counts include aid received resources.

G2 Estimated Dollar Losses & Values

LOSSES: Required for all fires if known. Optional for non fires.

		None
Property	$, 001 , 050 , 000	☐
Contents	$, 500 , 000	☐

PRE-INCIDENT VALUE: Optional

Property	$ 001 , 050 , 000	☐
Contents	$, 500 , 000	☐

Completed Modules

☒ Fire-2
☒ Structure-3
☐ Civil Fire Cas.-4
☐ Fire Serv. Cas.-5
☐ EMS-6
☐ HazMat-7
☐ Wildland Fire-8
☒ Apparatus-9
☒ Personnel-10
☐ Arson-11

H1* Casualties ☐ None

	Deaths	Injuries
Fire Service		
Civilian		

H2 Detector

Required for Confined Fires.

1 ☐ Detector alerted occupants
2 ☐ Detector did not alert them
U ☐ Unknown

H3 Hazardous Materials Release

N ☐ None
1 ☐ Natural Gas: slow leak, no evauation or HazMat actions
2 ☐ Propane gas: <21 lb. tank (as in home BBQ grill)
3 ☐ Gasoline: vehicle fuel tank or portable container
4 ☐ Kerosene: fuel burning equipment or portable storage
5 ☐ Diesel fuel/fuel oil: vehicle fuel tank or portable
6 ☐ Household solvents: home/office spill, cleanup only
7 ☐ Motor oil: from engine or portable container
8 ☐ Paint: from paint cans totaling < 55 gallons
0 ☐ Other: Special HazMat actions required or spill > 55gal., Please complete the HazMat form

I Mixed Use Property

NN ☐ Not Mixed
10 ☐ Assembly use
20 ☐ Education use
33 ☐ Medical use
40 ☐ Residential use
51 ☐ Row of stores
53 ☐ Enclosed mall
58 ☐ Bus. & Residential
59 ☐ Office use
60 ☐ Industrial use
63 ☐ Military use
65 ☐ Farm use
00 ☐ Other mixed use

J Property Use* Structures

131 ☐ Church, place of worship
161 ☐ Restaurant or cafeteria
162 ☐ Bar/Tavern or nightclub
213 ☐ Elementary school or kindergarten
215 ☐ High school or junior high
241 ☐ College, adult education
311 ☐ Care facility for the aged
331 ☐ Hospital
341 ☐ Clinic, clinic type infirmary
342 ☐ Doctor/dentist office
361 ☐ Prison or jail, not juvenile
419 ☐ 1-or 2-family dwelling
429 ☐ Multi-family dwelling
439 ☐ Rooming/boarding house
449 ☐ Commercial hotel or motel
459 ☐ Residential, board and care
464 ☐ Dormitory/barracks
519 ☐ Food and beverage sales
539 ☐ Household goods, sales, repairs
579 ☐ Motor vehicle/boat sales/repair
571 ☐ Gas or service station
599 ☐ Business office
615 ☐ Electric generating plant
629 ☐ Laboratory/science lab
700 ☒ Manufacturing plant
819 ☐ Livestock/poultry storage (barn)
882 ☐ Non-residential parking garage
891 ☐ Warehouse

Outside

124 ☐ Playground or park
655 ☐ Crops or orchard
669 ☐ Forest (timberland)
807 ☐ Outdoor storage area
919 ☐ Dump or sanitary landfill
931 ☐ Open land or field
936 ☐ Vacant lot
938 ☐ Graded/care for plot of land
946 ☐ Lake, river, stream
951 ☐ Railroad right of way
960 ☐ Other street
961 ☐ Highway/divided highway
962 ☐ Residential street/driveway
981 ☐ Construction site
984 ☐ Industrial plant yard

Lookup and enter a Property Use code only if you have NOT checked a Property Use box:

Property Use 700
Manufacturing, processing

NFIRS-1 Revision 03/11/99

K1 Person/Entity Involved

Local Option

ARCH TECHNOLOGY
Business name (if applicable)

636 - 946 - 2355
Area Code / Phone Number

☐ Check This Box if same address as incident location. Then skip the three duplicate address lines.

Mr.,Ms., Mrs.:
First Name: STEPHEN
MI:
Last Name: BURIAN
Suffix:

Number: 8
Prefix:
Street or Highway: GOVERNOR
Street Type: DR
Suffix:

Post Office Box:
Apt./Suite/Room:
City: ST CHARLES CITY

State: MO
Zip Code: 63301 -

☐ **More people involved? Check this box and attach Supplemental Forms (NFIRS-1S) as necessary**

K2 Owner

☐ Same as person involved? Then check this box and skip The rest of this section.

Local Option

ARCH TECHNOLOGY
Business name (if Applicable)

- -
Area Code / Phone Number

☐ Check this box if same address as incident location. Then skip the three duplicate address lines.

Mr.,Ms., Mrs.:
First Name: GEORGE
MI: E
Last Name: GARRISON
Suffix:

Number: 8
Prefix:
Street or Highway: GOVERNOR
Street Type: DR
Suffix:

Post Office Box:
Apt./Suite/Room:
City: ST CHARLES CITY

State: MO
Zip Code: 63301 -

L Remarks

Local Option

Units were dispatched to a report of a commercial building explosion. 9432 and 9554 arrived and found a chemical manufacturing facility that had experienced a substantial explosion. The structure had approximately 50% fire involvement and significant structural damage. There was one worker at the facility who had suffered burns from the explosion. 9406A was on the scene and requested a full first alarm assignment.

Access was made to the site and the patient was removed and placed in care of EMS (initially 9554 crew, then transferred to SCCAD M1 who transported to St. John-see SCCAD MARF). 9432 crew went into hydraulics and set up a ladder pipe operation directed to the center of the structure where there was heavy fire involvement. 9554 crew assisted in establishing water supply from 9450 on arrival of this unit.

9400 arrived on the scene and established Elm Point command. Arriving fire units were staged on Elm Point and personnel were instructed to await orders from command. Information obtained from the injured worker and a plant employee who arrived after the explosion indicated that a mixing process was initiated immediately prior to the explosion occurring. It was unknown at this time what chemicals were involved in the process or the fire. 9406C was made operations sector. Recon was made of the incident site. It was determined that the fire was in the reactor building and warehouse. The decision was made to shut down the ladder pipe and withdraw all personnel to a safe location until a chemical inventory was obtained and further recon made. All personnel were withdrawn to a safe location and staged for decontamination.

A second alarm was requested along with Hazmat and Command Post. When Hazmat arrived a gross DECON station was set up and the initial responding crews (9554, 9432, 9406A) were

L Authorization

Officer in charge ID	Signature	Position or rank	Assignment	Month	Day	Year
9400	Unknown Staff Member	FC		04	13	2009

☐ Check Box if same as Officer in charge.

Member making report ID	Signature	Position or rank	Assignment	Month	Day	Year
25	ODDIE, JOHN W	CAP		04	13	2009

		MM	DD	YYYY				
09203	MO	4	12	2009	3	09-0002245	000	**Complete Narrative**
FDID *	State *	Incident Date *			Station	Incident Number *	Exposure *	

Narrative:

Units were dispatched to a report of a commercial building explosion. 9432 and 9554 arrived and found a chemical manufacturing facility that had experienced a substantial explosion. The structure had approximately 50% fire involvement and significant structural damage. There was one worker at the facility who had suffered burns from the explosion. 9406A was on the scene and requested a full first alarm assignment.

Access was made to the site and the patient was removed and placed in care of EMS (initially 9554 crew, then transferred to SCCAD M1 who transported to St. John-see SCCAD MARF). 9432 crew went into hydraulics and set up a ladder pipe operation directed to the center of the structure where there was heavy fire involvement. 9554 crew assisted in establishing water supply from 9450 on arrival of this unit.

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A second alarm was requested along with Hazmat and Command Post. When Hazmat arrived a gross DECON station was set up and the initial responding crews (9554, 9432, 9406A) were decontaminated and transported to a fire station for showers. Other building representative arrived and communicated with Command and Hazmat about the processing facility and chemical inventory.

A hazmat recon team was established to check out the fire building. This team also set up air monitoring stations down wind. Recon revealed substantial structural damage to two buildings with small spot fires burning throughout the building. It appeared that the reactor vessel was destroyed, but that most of the remaining inventory remained in tanks or drums. With this information a plan was established to set up a foam line to extinguish the spot fires and for an entry team to attempt to shut power down to the processing building, and shut off any valves in the damaged processing facility. The spot fires were extinguished quickly using less than 10 gallons of foam concentrate (at 3%). One gas fed fire could not be extinguished. The entry team shut off the power and valves in the facility and were able to shut off the propane feeding the gas fire. At this time the alarm was declared under control.

There was limited overhaul conducted and one small area under a large pile of metal debris continued to smolder. Air monitoring continued and readings obtained were: 0-VOC, 0-H2S, 7-20-CO, and 7 mrg gamma. Sampling was done on the standing water inside the structure and was negative, with the exception of one slightly lowered pH reading.

MODNR was contacted and the responding rep. (Skip Ricketts) was advised of the situation and a walk through was conducted. After all hazards were assessed the scene was turned over to the business representatives. Heritage Environmental was contacted by the business representatives for environmental clean up.

09203	MO	4	12	2009	3	09-0002245	000	**Complete Narrative**
FDID *	State *	Incident Date MM	DD	YYYY *	Station	Incident Number *	Exposure *	

Narrative:

04/13/2009 08:39:58 GRZYB

On 04/12/2009 at 21:55:04 dispatched To Governor DR & Elm Point RD /St Charles City, MO 63301. The location is a Manufacturing, processing. The incident was determined to be a(n) Building fire.

22:02:13 arrived on scene.
The following actions were performed on scene:

Fire control or extinguishment, other
Hazmat detection, monitoring, sampling, & ana
Decontaminate persons or equipment

Units responding were:
Unit 9404 responded.
Unit 9406 responded.
Unit 9408 responded.
Unit 9412 responded.
Unit 9420 responded.
Unit 9426 responded.
Unit 9432 responded.
Unit 9440 responded.

Unit 9450 responded.
Unit 9457 responded.
Unit 9500 responded.
Unit 9504 responded.
Unit 9512 responded.
Unit 9524 responded.
Unit 9534 responded.
Unit 9542 responded.
Unit 9554 responded.
Unit M01 responded.
Unit M02 responded.
Unit M9602 responded.

02:23:28 all units back in service.

....

INFO RECEIVED FROM INSURANCE FIRE INVESTIGATOR ROB MILLER,
MIXING CHEMICALS FOR FIRST TIME
44 LBS OF FERRIC CHLORIDE (POWDER)
1000LBS OF MDB (METHYLENEDIOXYBENZENE)

		MM	DD	YYYY				
09203	MO	4	12	2009	3	09-0002245	000	**Complete Narrative**
FDID *	State *	Incident Date *			Station	Incident Number *	Exposure *	

Narrative:

EXPLOSION IN REACTOR VESSEL

PREVIOUSLY HAD MIXED SIMILAR CHEMICALS BUT NOT EXACT (ZINC CHLORIDE INSTEAD OF FERRIC CHLORIDE), ALSO SOME MATERIALS WERE USED RECYCLED MATERIALS.
RONEY 5/12/09.

A

FDID *	State *	Incident Date * (MM DD YYYY)	Station	Incident Number *	Exposure *
09203	MO	04 12 2009	3	09-0002245	000

☐ Delete
☒ Change
☐ No Activity

NFIRS -2
Fire

B Property Details

B1 ☒ Not Residential
Estimated Number of residential living units in building of origin whether or not all units became involved

B2 001 ☐ Buildings not involved
Number of buildings involved

B3 ☐ None
Acres burned (outside fires) ☐ Less than one acre

C On-Site Materials or Products ☐ None

Complete if there were any significant amounts of commercial, industrial, energy or agricultural products or materials on the Property, whether or not they became involved

Enter up to three codes. Check one or more boxes for each code entered.

On-site material (1): 500 Flammables,
1 ☐ Bulk storage or warehousing
2 ☒ Processing or manufacturing
3 ☐ Packaged goods for sale
4 ☐ Repair or service

On-site material (2):
1 ☐ Bulk storage or warehousing
2 ☐ Processing or manufacturing
3 ☐ Packaged goods for sale
4 ☐ Repair or service

On-site material (3):
1 ☐ Bulk storage or warehousing
2 ☐ Processing or manufacturing
3 ☐ Packaged goods for sale
4 ☐ Repair or service

D Ignition

D1 38 Processing/manufacturin
Area of fire origin *

D2 72 Spontaneous combustion,
Heat source *

D3 UU Undetermined
Item first ignited * 1 ☐ Check Box if fire spread was confined to object of origin

D4
Type of material first ignited — Required only if item first ignited code is 00 or <70

E1 Cause of Ignition

☐ Check box if this is an exposure report. Skip to section G

1 ☐ Intentional
2 ☐ Unintentional
3 ☐ Failure of equipment or heat source
4 ☐ Act of nature
5 ☐ Cause under investigation
U ☒ Cause undetermined after investigation

E2 Factors Contributing To Ignition

☒ None

Factor Contributing To Ignition (1): UU Undetermined

Factor Contributing To Ignition (2):

E3 Human Factors Contributing To Ignition

Check all applicable boxes

☒ None
1 ☐ Asleep
2 ☐ Possibly impaired by alcohol or drugs
3 ☐ Unattended person
4 ☐ Possibly mental disabled
5 ☐ Physically Disabled
6 ☐ Multiple persons involved

7 ☐ Age was a factor

Estimated age of person envolved

1 ☐ Male 2 ☐ Female

F1 Equipment Involved In Ignition

☐ None If Equipment was not involved, Skip to Section G

Equipment Involved

Brand

Model

Serial #

Year

F2 Equipment Power

Equipment Power Source

F3 Equipment Portability

1 ☐ Portable

2 ☐ Stationary

Portable equipment normally can be moved by one person, is designed to be use in multiple locations, and requires no tools to install.

G Fire Suppression Factors

Enter up to three codes. ☐ None

Fire suppression factor (1)

Fire suppression factor (2)

Fire suppression factor (3)

H1 Mobile Property Involved

☐ None

1 ☐ Not involved in ignition, but burned
2 ☐ Involved in ignition, but did not burn
3 ☐ Involved in ignition and burned

H2 Mobile Property Type & Make

Mobile property type

Mobile property make

Moblie property model

Year

License Plate Number

State

VIN Number

Local Use

☐ Pre-Fire Plan Available

Some of the information presented in this report may be based upon reports from other Agencies

☐ Arson report attached
☐ Police report attached
☐ Coroner report attached
☐ Other reports attached

NFIRS-2 Revision 01/19/99

NFIRS-3
Structure
Fire

I1 Structure Type ★
If Fire was In enclosed building or a portable/mobile structure complete the rest of this form
1 ☒ Enclosed Building
2 ☐ Portable/mobile structure
3 ☐ Open structure
4 ☐ Air supported structure
5 ☐ Tent
6 ☐ Open platform (e.g. piers)
7 ☐ Underground structure (work areas)
8 ☐ Connective structure (e.g. fences)
0 ☐ Other type of structure

I2 Building Status ★
1 ☐ Under construction
2 ☒ Occupied & operating
3 ☐ Idle, not routinely used
4 ☐ Under major renovation
5 ☐ Vacant and secured
6 ☐ Vacant and unsecured
7 ☐ Being demolished
O ☐ Other
U ☐ Undetermined

I3 Building ★ Height
Count the ROOF as part of the highest story
001 Total number of stories at or above grade
___ Total number of stories below grade

I4 Main Floor Size★
___ , 003 , 500 Total square feet
OR
___ , ___ Lenght in feet **BY** ___ , ___ Width in feet

J1 Fire Origin ★
001 Story of fire origin
☐ Below Grade

J2 Fire Spread ★
1 ☐ Confined to object of origin
2 ☐ Confined to room of origin
3 ☐ Confined to floor of origin
4 ☒ Confined to building of origin
5 ☐ Beyond building of origin

J3 Number of Stories Damaged By Flame
Count the ROOF as part of the highest story
___ Number of stories w/ minor damage (1 to 24% flame damage)
___ Number of stories w/ significant damage (25 to 49% flame damage)
___ Number of stories w/ heavy damage (50 to 74% flame damage)
002 Number of stories w/ extreme damage (75 to 100% flame damage)

K Material Contributing Most To Flame Spread
☐ Check if no flame spread OR same as material first ignited OR unable to determine — Skip To Section L
K1 ___ ___ Item contributing most to flame spread
K2 ___ ___ Type of material contributing most of flame spread — Required only if item contributing code is 00 or<70

L1 Presence of Detectors ★
(In area of the fire)
N ☐ None Present — Skip to section M
1 ☐ Present
U ☒ Undetermined

L2 Detector Type
1 ☐ Smoke
2 ☐ Heat
3 ☐ Combination smoke - heat
4 ☐ Sprinkler, water flow detection
5 ☐ More than 1 type present
O ☐ Other ___
U ☐ Undetermined

L3 Detector Power Supply
1 ☐ Battery only
2 ☐ Hardwire only
3 ☐ Plug in
4 ☐ Hardwire with battery
5 ☐ Plug in with battery
6 ☐ Mechanical
7 ☐ Multple detectors & power supplies
0 ☐ Other ___
U ☐ Undetermined

L4 Detector Operation
1 ☐ Fire too small to activate
2 ☐ Operated (Complete Section L5)
3 ☐ Failed to Operate (Complete Section L6)
U ☐ Undetermined

L5 Detector Effectiveness
Required if detector operated
1 ☐ Alerted Occupants, occupants responded
2 ☐ Occupants failed to respond
3 ☐ There were no occupants
4 ☐ Failed to alert occupants
U ☐ Undetermined

L6 Detector Failure Reason
Required if detector failed to operate
1 ☐ Power failure, shutoff or disconnect
2 ☐ Improper installation or placement
3 ☐ Defective
4 ☐ Lack of maintenance, includes cleaning
5 ☐ Battery missing or disconnected
6 ☐ Battery discharged or dead
0 ☐ Other ___
U ☐ Undetermined

M1 Presence of Automatic Extinguishment System ★
N ☒ None Present
1 ☐ Present — Complete rest of Section M

M2 Type of Automatic Extinguishment System ★
Required if fire was within designed range of AES
1 ☐ Wet pipe sprinkler
2 ☐ Dry pipe sprinkler
3 ☐ Other sprinkler system
4 ☐ Dry chemical system
5 ☐ Foam system
6 ☐ Halogen type system
7 ☐ Carbon dioxide (CO_2) system
0 ☐ Other special hazard system
U ☐ Undetermined

M3 Automatic Extinguishment System Operation
Required if fire was within designed range
1 ☐ Operated & effective (Go to M4)
2 ☐ Operated & not effective (M4)
3 ☐ Fire too small to activate
4 ☐ Failed to operate (Go to M5)
0 ☐ Other
U ☐ Undetermined

M4 Number of Sprinkler Heads Operating
Required if system operated
___ Number of sprinkler heads operating

M5 Automatic Extinguishment System Failure Reason
Required if system failed
1 ☐ System shut off
2 ☐ Not enough agent discharged
3 ☐ Agent discharged but did not reach fire
4 ☐ Wrong type of system
5 ☐ Fire not in area protected
6 ☐ System components damaged
7 ☐ Lack of maintenance
8 ☐ Manual Intervention
0 ☐ Other ___
U ☐ Undetermined

NFIRS-3 Revision 01/19/99

A

FDID *	State *	Incident Date * MM	DD	YYYY	Station	Incident Number *	Exposure *	
09203	MO	4	12	2009	3	09-0002245	000	☐ Delete ☒ Change

NFIRS - 9 Apparatus or Resources

B

Apparatus or Resource *		Date and Times Check if same as alarm date	Month	Day	Year	Hour Min	Sent	Number of People *	Use Check ONE box for each apparatus to indicate its main use at the incident.	Actions Taken
1	ID 9404 Type 92	Dispatch ☒ Arrival ☒ Clear ☐	4 4 4	12 12 13	2009 2009 2009	22:14 22:40 02:20	☒	0	☒ Suppression ☐ EMS ☐ Other	
2	ID 9406 Type 92	Dispatch ☒ Arrival ☒ Clear ☐	4 4 4	12 12 13	2009 2009 2009	21:57 22:04 02:20	☒	1	☒ Suppression ☐ EMS ☐ Other	
3	ID 9408 Type 92	Dispatch ☒ Arrival ☒ Clear ☐	4 4 4	12 12 13	2009 2009 2009	23:06 23:20 02:23	☒	0	☒ Suppression ☐ EMS ☐ Other	
4	ID 9412 Type 12	Dispatch ☒ Arrival ☒ Clear ☐	4 4 4	12 12 13	2009 2009 2009	21:59 22:08 02:12	☒	3	☒ Suppression ☐ EMS ☐ Other	
5	ID 9420 Type 11	Dispatch ☒ Arrival ☒ Clear ☐	4 4 4	12 12 13	2009 2009 2009	22:03 22:28 02:23	☒	3	☒ Suppression ☐ EMS ☐ Other	
6	ID 9426 Type 72	Dispatch ☒ Arrival ☒ Clear ☐	4 4 4	12 12 13	2009 2009 2009	22:18 22:32 02:18	☒	0	☒ Suppression ☐ EMS ☐ Other	
7	ID 9432 Type 12	Dispatch ☒ Arrival ☒ Clear ☐	4 4 4	12 12 13	2009 2009 2009	21:55 22:03 02:22	☒	3	☒ Suppression ☐ EMS ☐ Other	
8	ID 9440 Type 11	Dispatch ☒ Arrival ☒ Clear ☐	4 4 4	12 12 13	2009 2009 2009	21:59 22:12 02:23	☒	3	☒ Suppression ☐ EMS ☐ Other	
9	ID 9450 Type 11	Dispatch ☒ Arrival ☒ Clear ☐	4 4 4	12 12 13	2009 2009 2009	22:02 22:04 02:20	☒	3	☒ Suppression ☐ EMS ☐ Other	

NFIRS - 9 Apparatus or Resources

A

FDID *	State *	Incident Date * MM	DD	YYYY	Station	Incident Number *	Exposure *	
09203	MO	4	12	2009	3	09-0002245	000	☐ Delete ☒ Change

B

Apparatus or Resource *		Date and Times	Check if same as alarm date	Month	Day	Year	Hour Min	Sent ☒	Number of People *	Use (Check ONE box for each apparatus to indicate its main use at the incident.)	Actions Taken
1	ID 9457	Dispatch	☒	4	12	2009	21:59	☒	2	☒ Suppression	
	Type 76	Arrival	☒	4	12	2009	22:06			☐ EMS	
		Clear	☐	4	13	2009	02:06			☐ Other	
2	ID 9500	Dispatch	☒	4	12	2009	22:18	☒	0	☒ Suppression	
	Type 00	Arrival	☒	4	12	2009	22:34			☐ EMS	
		Clear	☐	4	13	2009	02:09			☐ Other	
3	ID 9504	Dispatch	☒	4	12	2009	21:59	☒	0	☒ Suppression	
	Type 00	Arrival	☒	4	12	2009	22:05			☐ EMS	
		Clear	☐	4	13	2009	02:10			☐ Other	
4	ID 9512	Dispatch	☒	4	12	2009	22:02	☒	0	☒ Suppression	
	Type 00	Arrival	☒	4	12	2009	22:14			☐ EMS	
		Clear	☐	4	13	2009	00:58			☐ Other	
5	ID 9524	Dispatch	☒	4	12	2009	22:02	☒	0	☒ Suppression	
	Type 00	Arrival	☒	4	12	2009	22:11			☐ EMS	
		Clear	☐	4	13	2009	01:04			☐ Other	
6	ID 9534	Dispatch	☒	4	12	2009	22:02	☒	0	☒ Suppression	
	Type 00	Arrival	☒	4	12	2009	22:17			☐ EMS	
		Clear	☐	4	13	2009	00:54			☐ Other	
7	ID 9542	Dispatch	☒	4	12	2009	21:59	☒	0	☒ Suppression	
	Type 00	Arrival	☒	4	12	2009	22:07			☐ EMS	
		Clear	☐	4	13	2009	02:14			☐ Other	
8	ID 9554	Dispatch	☒	4	12	2009	21:56	☒	0	☒ Suppression	
	Type 11	Arrival	☒	4	12	2009	22:02			☐ EMS	
		Clear	☐	4	13	2009	02:23			☐ Other	
9	ID M01	Dispatch	☒	4	12	2009	21:59	☒	0	☒ Suppression	
	Type 76	Arrival	☒	4	12	2009	22:06			☐ EMS	
		Clear	☒	4	12	2009	22:56			☐ Other	

A

FDID ★	State ★	Incident Date ★ (MM DD YYYY)	Station	Incident Number ★	Exposure ★		
09203	MO	4 12 2009	3	09-0002245	000	☐ Delete ☒ Change	NFIRS - 9 Apparatus or Resources

B

Apparatus or ★ Resource	Date and Times Check if same as alarm date Month Day Year Hour Min	Sent	Number of ★ People	Use Check ONE box for each apparatus to indicate its main use at the incident.	Actions Taken
1 ID M02 Type 76	Dispatch ☒ 4 12 2009 22:04 Arrival ☒ 4 12 2009 22:15 Clear ☐ 4 13 2009 02:23	☒	0	☒ Suppression ☐ EMS ☐ Other	
2 ID M9602 Type 70	Dispatch ☒ 4 12 2009 22:25 Arrival ☒ 4 12 2009 23:03 Clear ☐ 4 13 2009 02:07	☒	0	☒ Suppression ☐ EMS ☐ Other	
3 ID Type	Dispatch ☐ Arrival ☐ Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
4 ID Type	Dispatch ☐ Arrival ☐ Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
5 ID Type	Dispatch ☐ Arrival ☐ Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
6 ID Type	Dispatch ☐ Arrival ☐ Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
7 ID Type	Dispatch ☐ Arrival ☐ Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
8 ID Type	Dispatch ☐ Arrival ☐ Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
9 ID Type	Dispatch ☐ Arrival ☐ Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	

Type of Apparatus or Resources

Ground Fire Suppression
11 Engine
12 Truck or aerial
13 Quint
14 Tanker & pumper combination
16 Brush truck
17 ARF (Aircraft Rescue and Firefighting)
10 Ground fire suppression, other

Heavy Ground Equipment
21 Dozer or plow
22 Tractor
24 Tanker or tender
20 Heavy equipment, other

Aircraft
41 Aircraft: fixed wing tanker
42 Helitanker
43 Helicopter
40 Aircraft, other

Marine Equipment
51 Fire boat with pump
52 Boat, no pump
50 Marine apparatus, other

Support Equipment
61 Breathing apparatus support
62 Light and air unit
60 Support apparatus, other

Medical & Rescue
71 Rescue unit
72 Urban Search & rescue unit
73 High angle rescue unit
75 BLS unit
76 ALS unit
70 Medical and rescue unit,other

More Apparatus? Use Additional Sheets

Other
91 Mobile command post
92 Chief officer car
93 HazMat unit
94 Type 1 hand crew
95 Type 2 hand crew
99 Privately owned vehicle
00 Other apparatus/resource

NN None
UU Undetermined

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		MM	DD	YYYY				
09203	MO	4	12	2009	3	09-0002245	000	☐ Delete ☒ Change
FDID *	State *	Incident Date *			Station	Incident Number *	Exposure *	

NFIRS - 10 Personnel

B Apparatus or Resource * Use codes listed below	**Date and Times** Check if same as alarm date	Month	Day	Year	Hours/mins	**Sent** ☒	**Number of People** *	**Use** Check ONE box for each apparatus to indicate its main use at the incident.	**Actions Taken** List up to 4 actions for each apparatus and each personnel.
1 ID 9404 Type 92	Dispatch ☒	4	12	2009	22:14	Sent ☒	0	☒ Suppression ☐ EMS ☐ Other	
	Arrival ☒	4	12	2009	22:40				
	Clear ☐	4	13	2009	02:20				

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
			☐				
			☐				
			☐				
			☐				
			☐				
			☐				

2 ID 9406 Type 92	Dispatch ☒	4	12	2009	21:57	Sent ☒	1	☒ Suppression ☐ EMS ☐ Other	
	Arrival ☒	4	12	2009	22:04				
	Clear ☐	4	13	2009	02:20				

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
50	GRZYB, MICHAEL	DC	X				

3 ID 9408 Type 92	Dispatch ☒	4	12	2009	23:06	Sent ☒	0	☒ Suppression ☐ EMS ☐ Other	
	Arrival ☒	4	12	2009	23:20				
	Clear ☐	4	13	2009	02:23				

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken

A

FDID *	State *	Incident Date * MM	DD	YYYY	Station	Incident Number *	Exposure *		
09203	MO	4	12	2009	3	09-0002245	000	☐ Delete ☒ Change	**NFIRS - 10 Personnel**

B Apparatus or Resource *
Use codes listed below

Date and Times
Check if same as alarm date
Month Day Year Hours/mins

Sent ☒

Number of People *

Use
Check ONE box for each apparatus to indicate its main use at the incident.

Actions Taken
List up to 4 actions for each apparatus and each personnel.

1 **ID** 9412 **Type** 12

		Month	Day	Year	Hours/mins
Dispatch	☒	4	12	2009	21:59
Arrival	☒	4	12	2009	22:08
Clear	☐	4	13	2009	02:12

Sent ☒ **Number of People** 3

☒ Suppression
☐ EMS
☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
4	GOIN, BRIAN	FF	X				
5076	BERGNER, TOMMY	EM	X				
56	BIRD, GARY	BC	X				

2 **ID** 9420 **Type** 11

		Month	Day	Year	Hours/mins
Dispatch	☒	4	12	2009	22:03
Arrival	☒	4	12	2009	22:28
Clear	☐	4	13	2009	02:23

Sent ☒ **Number of People** 3

☒ Suppression
☐ EMS
☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
2	HAASE, DOUGLAS	EM	X				
5004	DETERMANN, SCOTT	FFM	X				
57	FECHT, DAVID	CAP	X				

3 **ID** 9426 **Type** 72

		Month	Day	Year	Hours/mins
Dispatch	☒	4	12	2009	22:18
Arrival	☒	4	12	2009	22:32
Clear	☐	4	13	2009	02:18

Sent ☒ **Number of People** 0

☒ Suppression
☐ EMS
☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken

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A

09203	MO	MM 4	DD 12	YYYY 2009	3	09-0002245	000	☐ Delete ☒ Change
FDID *	State *	Incident Date *			Station	Incident Number *	Exposure *	

NFIRS - 10 Personnel

B Apparatus or Resource * Use codes listed below	**Date and Times** Check if same as alarm date Month Day Year Hours/mins	**Sent**	**Number of People** *	**Use** Check ONE box for each apparatus to indicate its main use at the incident.	**Actions Taken** List up to 4 actions for each apparatus and each personnel.
		☒			

1 ID 9432 Type 12

		Month	Day	Year	Hours/mins
Dispatch	☒	4	12	2009	21:55
Arrival	☒	4	12	2009	22:03
Clear	☐	4	13	2009	02:22

Sent ☒ Number of People 3

☒ Suppression
☐ EMS
☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
25	ODDIE, JOHN	CAP	X				
373	BLACKWELL, CHRIS	CAPM	X				
5091	MACKLEY, MATTHEW	CAPM	X				

2 ID 9440 Type 11

		Month	Day	Year	Hours/mins
Dispatch	☒	4	12	2009	21:59
Arrival	☒	4	12	2009	22:12
Clear	☐	4	13	2009	02:23

Sent ☒ Number of People 3

☒ Suppression
☐ EMS
☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
07	SEMROW, KEITH	FFE	X				
502	STONE, HAROLD	EM	X				
6141	WOHLER, SHAWN	EM	X				

3 ID 9450 Type 11

		Month	Day	Year	Hours/mins
Dispatch	☒	4	12	2009	22:02
Arrival	☒	4	12	2009	22:04
Clear	☐	4	13	2009	02:20

Sent ☒ Number of People 3

☒ Suppression
☐ EMS
☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
363	PITTS, DAVID	CAPM	X				
6110	PICKER, RORY	FFM	X				
65	RISCH, MARTIN	FF	X				

A

09203	MO	MM 4	DD 12	YYYY 2009	3	09-0002245	000	☐ Delete ☒ Change
FDID *	State *	Incident Date *			Station	Incident Number *	Exposure *	

NFIRS - 10 Personnel

B **Apparatus or Resource** * Use codes listed below | **Date and Times** Check if same as alarm date — Month Day Year Hours/mins | **Sent** ☒ | **Number of People** * | **Use** Check ONE box for each apparatus to indicate its main use at the incident. | **Actions Taken** List up to 4 actions for each apparatus and each personnel.

1 ID 9457 Type 76

		Month	Day	Year	Hours/mins
Dispatch	☒	4	12	2009	21:59
Arrival	☒	4	12	2009	22:06
Clear	☐	4	13	2009	02:06

Sent ☒ — Number of People: 2 — ☒ Suppression ☐ EMS ☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
5010	FIDLER, DAVE	FFM	X				
5051	BERGMANN, JERAMY	FFM	X				

2 ID 9500 Type 00

		Month	Day	Year	Hours/mins
Dispatch	☒	4	12	2009	22:18
Arrival	☒	4	12	2009	22:34
Clear	☐	4	13	2009	02:09

Sent ☒ — Number of People: 0 — ☒ Suppression ☐ EMS ☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken

3 ID 9504 Type 00

		Month	Day	Year	Hours/mins
Dispatch	☒	4	12	2009	21:59
Arrival	☒	4	12	2009	22:05
Clear	☐	4	13	2009	02:10

Sent ☒ — Number of People: 0 — ☒ Suppression ☐ EMS ☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken

NFIRS-10 Revision 11/17/98

A

		MM	DD	YYYY				
09203	MO	4	12	2009	3	09-0002245	000	☐ Delete
FDID *	State *	Incident Date *			Station	Incident Number *	Exposure *	☒ Change

NFIRS - 10
Personnel

B Apparatus or Resource * Use codes listed below	Date and Times Check if same as alarm date Month Day Year Hours/mins	Sent ☒	Number of People *	Use Check ONE box for each apparatus to indicate its main use at the incident.	Actions Taken List up to 4 actions for each apparatus and each personnel.

1	ID 9512	Dispatch ☒	4	12	2009	22:02	Sent	0	☒ Suppression	
		Arrival ☒	4	12	2009	22:14	☒		☐ EMS	
	Type 00	Clear ☐	4	13	2009	00:58			☐ Other	

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
			☐				
			☐				
			☐				
			☐				
			☐				
			☐				

2	ID 9524	Dispatch ☒	4	12	2009	22:02	Sent	0	☒ Suppression	
		Arrival ☒	4	12	2009	22:11	☒		☐ EMS	
	Type 00	Clear ☐	4	13	2009	01:04			☐ Other	

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken

3	ID 9534	Dispatch ☒	4	12	2009	22:02	Sent	0	☒ Suppression	
		Arrival ☒	4	12	2009	22:17	☒		☐ EMS	
	Type 00	Clear ☐	4	13	2009	00:54			☐ Other	

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken

A

FDID * 09203
State * MO
Incident Date * MM 4 DD 12 YYYY 2009
Station 3
Incident Number * 09-0002245
Exposure * 000
☐ Delete
☒ Change

NFIRS - 10 Personnel

B Apparatus or Resource * Use codes listed below

Date and Times Check if same as alarm date — Month Day Year Hours/mins

Sent ☒

Number of People *

Use Check ONE box for each apparatus to indicate its main use at the incident.

Actions Taken List up to 4 actions for each apparatus and each personnel.

1 ID 9542 Type 00	Dispatch ☒	4	12	2009	21:59	Sent ☒	☒ Suppression
	Arrival ☒	4	12	2009	22:07	Number of People 0	☐ EMS
	Clear ☐	4	13	2009	02:14		☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
			☐				
			☐				
			☐				
			☐				
			☐				
			☐				

2 ID 9554 Type 11	Dispatch ☒	4	12	2009	21:56	Sent ☒	☒ Suppression
	Arrival ☒	4	12	2009	22:02	Number of People 0	☐ EMS
	Clear ☐	4	13	2009	02:23		☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken

3 ID M01 Type 76	Dispatch ☒	4	12	2009	21:59	Sent ☒	☒ Suppression
	Arrival ☒	4	12	2009	22:06	Number of People 0	☐ EMS
	Clear ☒	4	12	2009	22:56		☐ Other

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken

A

FDID *	State *	Incident Date * MM	DD	YYYY	Station	Incident Number *	Exposure *		
09203	MO	4	12	2009	3	09-0002245	000	☐ Delete ☒ Change	**NFIRS - 10 Personnel**

B

Apparatus or Resource * Use codes listed below	**Date and Times** Check if same as alarm date	Month	Day	Year	Hours/mins	**Sent** ☒	**Number of People** *	**Use** Check ONE box for each apparatus to indicate its main use at the incident.	**Actions Taken** List up to 4 actions for each apparatus and each personnel.
1 ID M02	Dispatch ☒	4	12	2009	22:04	Sent ☒	0	☒ Suppression	
Type 76	Arrival ☒	4	12	2009	22:15			☐ EMS	
	Clear ☐	4	13	2009	02:23			☐ Other	

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
			☐				
			☐				
			☐				
			☐				
			☐				
			☐				

		Month	Day	Year	Hours/mins				
2 ID M9602	Dispatch ☒	4	12	2009	22:25	Sent ☒	0	☒ Suppression	
Type 70	Arrival ☒	4	12	2009	23:03			☐ EMS	
	Clear ☐	4	13	2009	02:07			☐ Other	

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken

		Month	Day	Year	Hours/mins				
3 ID	Dispatch ☐					Sent ☐		☐ Suppression	
Type	Arrival ☐							☐ EMS	
	Clear ☐							☐ Other	

Personnel ID	Name	Rank or Grade	Attend ☒	Action Taken	Action Taken	Action Taken	Action Taken
			☐				
			☐				
			☐				
			☐				
			☐				
			☐				

A

FDID *	State *	Incident Date * MM	DD	YYYY	Station	Incident Number *	Exposure *		
09203	MO	4	12	2009	3	09-0002245	000	☐ Delete ☒ Change	**NFIRS - 1S Supplemental**

K1 Person/Entity Involved

Business name if applicable: ARCH TECHNOLOGY
Phone Number: - -

☐ Check this box if same address as incident location. Then skip the three duplicate address lines.

Mr., Ms., Mrs.:
First Name: KEITH
MI:
Last Name: VAN PELT
Suffix:
Number: 8
Prefix:
Street or highway: GOVERNOR
Street Type: DR
Suffix:
Post office box:
Apt./Suite/Room:
City: ST CHARLES CITY
State: MO
Zip Code: 63301 -

K2 Person/Entity Involved

Business name if applicable:
Phone Number: - -

☐ Check this box if same address as incident location. Then skip the three duplicate address lines.

Mr., Ms., Mrs.:
First Name:
MI:
Last Name:
Suffix:
Number:
Prefix:
Street or highway:
Street Type:
Suffix:
Post office box:
Apt./Suite/Room:
City:
State:
Zip Code: -

K3 Person/Entity Involved

Business name if applicable:
Phone Number: - -

☐ Check this box if same address as incident location. Then skip the three duplicate address lines.

Mr., Ms., Mrs.:
First Name:
MI:
Last Name:
Suffix:
Number:
Prefix:
Street or highway:
Street Type:
Suffix:
Post office box:
Apt./Suite/Room:
City:
State:
Zip Code: -

K4 Person/Entity Involved

Business name if applicable:
Phone Number: - -

☐ Check this box if same address as incident location. Then skip the three duplicate address lines.

Mr., Ms., Mrs.:
First Name:
MI:
Last Name:
Suffix:
Number:
Prefix:
Street or highway:
Street Type:
Suffix:
Post office box:
Apt./Suite/Room:
City:
State:
Zip Code: -

K5 Person/Entity Involved

Business name if applicable:
Phone Number: - -

☐ Check this box if same address as incident location. Then skip the three duplicate address lines.

Mr., Ms., Mrs.:
First Name:
MI:
Last Name:
Suffix:
Number:
Prefix:
Street or highway:
Street Type:
Suffix:
Post office box:
Apt./Suite/Room:
City:
State:
Zip Code: -

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