DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS Code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: Former General Latex Chemical Corporation Facility, Ashland, Ohio
Facility Address : 1526 Cleveland Avenue, Ashland, Ohio
Facility EPA ID#: OHD001008341

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   _X__ If yes – check here and continue with #2 below.

   _____ If no – re-evaluate existing data, or

   _____ If data are not available skip to #8 and enter "IN" (more information needed) status

Definition of Environmental Indicators (for the RCRA Corrective Action)

EIs are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination: subject to RCRA corrective action at or from the identified facility (i.e., facility-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA. The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., nonaqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determination status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Is **groundwater** known or reasonably suspected to be "**contaminated**"[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

_X_ If yes – continue after identifying key contaminants citing appropriate "levels" and referencing supporting documentation.

____ If no – skip to #8, and enter "YE," status code after providing or citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

____ If unknown – skip to #8 and enter "IN" status code.

Rationale and Reference(s)

Facility Investigations and References

The environmental conditions at the former General Latex Chemical Corporation facility (facility) have been studied through various site investigation activities by the current owner. These studies include:

- *Phase I and Phase II property investigations completed in 2001 and 2003*
- *Soil and groundwater fate and transport investigation completed in 2003*
- *Soil removal remedial action completed in 2003*
- *Groundwater monitoring from 2001 to present*
- *Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) completed in 2008*
- *Subslab soil vapor investigation conducted in 2008 and 2009*

Groundwater at the site has been sampled since 2001 and volatile organic compounds (VOCs) have been sampled during all events. Semivolatile organic compounds (SVOCs) and RCRA metals were collected during the initial Phase II property investigations (September and October 2001). The most recent groundwater data for each analytical suite were used to evaluate current conditions at the site. The most recent (May 2009) data have not yet been summarized in a report to the U.S. Environmental Protection Agency (USEPA). However, Attachment A includes the May 2009 analytical laboratory reports, data quality evaluation reports, and the validated groundwater data tabulated.

Key references that summarize these data through the 2008 investigation include:

- *Phase II property investigation report by Roffman Associates Inc. (RAI 2003) submitted in 2003 that documents findings from the Phase I property inspection and consolidated Phase II investigation data from 2001 through 2003*
- *Current Conditions Report (CCR) by CH2M HILL submitted in 2009, which is a comprehensive document that summarizes historical information provided in the RAI reports; evaluates soil, groundwater, and soil gas data against screening criteria; defines the nature and extent of soil and groundwater contamination at the site; and includes an evaluation of the 2008 RFI data*

These reports have been submitted previously to USEPA.

As described in Section 3 of the CCR (CH2M HILL 2009), groundwater is encountered at depths ranging from 7 to 27 feet below ground surface within the permeable sand and gravel deposits. The general groundwater flow direction at the site is toward the north and the northeast, which is consistent with the site topography. Three unconsolidated water-bearing zones were identified at the site: Zone 1 (shallow), Zone 2(intermediate), and Zone 3 (deep). Zone 2 is the primary water-bearing unit, which consists of a permeable sand and gravel unit that is continuous across the site. Figure 1 shows the facility features and the locations of the Zone 1, 2, and 3 monitoring wells.

Groundwater data were collected from all three zones during the 2008 RFI and from Zones 1 and 2 in 2009. Groundwater concentrations from these events were compared against USEPA maximum contaminant levels (MCLs) or the regional screening levels (RSLs) for tap water (USEPA 2009), if no MCL exists. Table 1 lists the constituents that exceeded the screening level. Figure 2 shows the exceedances for Zone 1 groundwater, and Figure 3 for Zone 2

groundwater. No exceedances were observed in groundwater data collected from Zone 3. As seen on these figures, the extent of impacted groundwater is contained within the property boundary.

TABLE 1
Potential Constituents of Interest in Groundwater that Exceed USEPA Regional Screening Levels

Analyte	Screening Level			Units	Groundwater Maximum Detected Concentration	Location of Maximum Detected Concentration
	Tap Water	MCL	Applied Screening Level*			
METALS						
Lead	NA	15	15	µg/L	36.2	MW03
VOCs						
Bromomethane	8.7	NA	8.7	µg/L	10.1	MW16
Chloroform	0.19	NA	0.19	µg/L	1.21	MW16
Chloromethane	190	NA	190	µg/L	676	MW16
Methylene chloride	4.8	5	5	µg/L	101	MW16
Trichloroethene	1.7	5	5	µg/L	53.8	MW09
Trichlorofluoromethane (Freon-11)	1,300	NA	1,300	µg/L	414,000	MW16

* Applied Screening Level = The MCL is used when available; otherwise, the May 2009 tap water RSL is applied.
µg/L – micrograms per liter
NA – not applicable

References

CH2M HILL. 2009. Current Conditions Report, Former General Latex and Chemical Corporation Facility, Ashland, Ohio. May.

Roffman Associates Inc. (RAI). 2003. Phase II Property Investigation.

USEPA. 2009. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. Available online at http://epa-prgs.ornl.gov/chemicals/index.shtml. May.

Footnotes:

[1] "Contamination" and "Contaminated" describes media containing constituents (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination?

   _X_ If yes – continue after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

   ____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) – skip to #8 and enter "NO" status code, after providing an explanation.

   ____ If unknown – skip to #8 and enter "IN" status code

Rationale and Reference(s):

Based on available information about the facility geologic, hydrogeologic, and hydrologic conditions, groundwater contamination at the facility is considered stabilized. This determination was made based on multiple lines of evidence, including the following:

- *Knowledge of facility history and approximate timeframe of releases*
- *Removal or control of source(s)*
- *Understanding of geologic conditions and groundwater flow patterns*
- *Groundwater monitoring data supporting plume stabilization*

Information supporting each of these lines of evidence is detailed in the following paragraphs.

- *The primary sources of contamination are controlled.*

  ⇒ *The facilities and operations causing the observed contamination have been discontinued. All manufacturing operations were discontinued in mid-October 2001, with the last product being shipped on November 1, 2001. Dismantling activities began on December 4, 2001, and concluded February 7, 2002. The site has been vacant since 2002, with only the building structure, the unfilled portion of the south lagoon, and a section of the old railroad spur remaining.*

- *Groundwater flow patterns (CCR Figure 3-8; CH2M HILL 2009) and the distribution of potential constituents of interest (PCOIs) above USEPA risk-based criteria in groundwater have been characterized and are well understood through a series of 23 monitoring wells spatially distributed across the facility (Figure 1). Details on the flow patterns and distribution of constituents are included in the CCR (Sections 3 and 4, and Appendices A, B, and D).*

- *Groundwater monitoring data support stabilization of groundwater contamination.*

  ⇒ *Groundwater samples have been collected to monitor groundwater quality beginning with the initial facility investigation activities in 2001 and continuing through 2003 during subsequent investigations. Quarterly groundwater monitoring was preformed from 2004 through 2007. Semiannual monitoring began in October 2008 and is ongoing.*

  ⇒ *In shallow groundwater, trichloroethene (TCE) concentrations above the MCL are localized to two areas: in the north central part of the site, partially under the building, and the western edge of the property near the former lagoons (Figure 2). TCE concentrations versus time for the four shallow groundwater wells that define the plume are plotted on Figures 4 through 7. A decreasing trend is seen in the monitoring wells that define the plume near the building, MW-6 (Figure 4), MW-12 (Figure 5), and MW-15 (Figure 6). TCE concentrations in MW-9 at the western edge of the property are fluctuating but are within historical concentration ranges (Figure 7).*

  ⇒ *In intermediate groundwater, TCE concentrations above the MCL are localized on the western edge of the property near the former lagoons (Figure 3) and defined by wells MW-10 and MW-19. TCE concentrations*

in MW-10 were higher in the May 2009 sampling event; however, these results are considered to be within the expected sampling variability (Figure 8). Well MW-21 was sampled for the first time in October 2008, and TCE was detected above the MCL. However, in the subsequent May 2009 sampling event, the TCE concentration decreased by an order of magnitude and was below the MCL (Figure 3). These wells and downgradient wells will continue to be sampled to verify plume stability.

⇒ *Freon-11 exceeds the RSL in shallow groundwater only and is localized to the southern end of the building. Freon-11 concentrations show a stabile to decreasing trend in the two wells (MW-11 and MW-16) that define the plume (Figure 10).*

⇒ *At well MW-16, bromomethane, chloroform, chloromethane, and methylene chloride were detected above their respective RSLs in October 2008; however, these constituents were not detected in May 2009 (Figure 2).*

References

CH2M HILL. 2009. Current Conditions Report, Former General Latex and Chemical Corporation Facility, Ashland, Ohio. May.

Roffman Associates Inc. (RAI). 2003. Phase II Property Investigation.

Footnotes:

[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be samples/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring location are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

___ If yes – continue after identifying potentially affected surface water bodies.

__X_ _ If no – skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

____ If unknown – skip to #8 and enter "IN" status code.

Rationale and Reference(s):

The facility does not discharge into any surface water bodies. There are no natural surface water bodies or state-designated wetlands on the site, or in the vicinity around the site. Based on site observations, the unfilled portion of the south lagoon and the terminus of the drainage ditch intermittently have water within their borders; however, these do not discharge offsite.

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

   __ If yes – skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonable suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgment/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

   ____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) – continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

   ____ If unknown – enter "IN" status code in #8.

Rationale and Reference(s):

Not applicable.

Footnotes:
[3] As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

   ___ If yes – continue after either:1) identifying the Final Remedy decision incorporating these conditions, or other facility-specific criteria (developed for the protection of the facility's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment[5], appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, us/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or facility-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

   ___ If no – (the discharge of "contaminated" groundwater can not be shown to be "**currently**

acceptable") – skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

__ If unknown – skip to #8 and enter "IN" status code.

Rationale and Reference(s):

Not applicable.

Footnotes:

[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts tot he surface waters, sediments or eco-systems.

7. Will groundwater **monitoring**/measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

_X__ If yes – continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

____ If no – enter "NO" status code in #8.

____ If unknown – enter "IN" status code in #8.

Rationale and Reference(s):

Groundwater monitoring data have been collected since 2001, with the most recent sampling event occurring in May 2009. A semiannual groundwater monitoring program was initiated at the facility in 2009 to verify contaminated groundwater has remained within the dimensions of the existing area of "contaminated" groundwater at the facility and is not migrating. Details of this groundwater monitoring program are provided in the sampling and analysis plan (SAP; CH2M HILL 2009). The groundwater monitoring program outlined in the SAP will continue until a groundwater monitoring plan has been developed as part of the Corrective Measures Proposal, which will be submitted to USEPA in 2010.

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

_X__ YE – Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the ***former General Latex and Chemical Corporation facility, OHD001008341,*** located at ***1526 Cleveland Avenue, Ashland, Ohio***. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater". This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

____ NO – Unacceptable migration of contaminated groundwater is observed or expected.

____ IN – More information is needed to make a determination.

Completed by (signature) _____ Date _____

(print) _____

(title) _____

Supervisor (signature) _____ Date _____

(print) _____

(title)_____

(EPA Region or State) _____

Location where References may be found:

Environmental facility reports have been previously submitted to the USEPA Region 5, Chicago, IL. The CCR (CH2M HILL 2009) consolidated historic data and presented 2008 investigation data. Included in the CCR were historic soil and groundwater data collected between 2001 and 2003, and soil, groundwater, and soil gas data collected in September and October 2008. The May 2009 groundwater data is attached to this document.

Contact telephone and e-mail numbers

(name)_____

(phone #)_____

(e-mail)_____

Figures

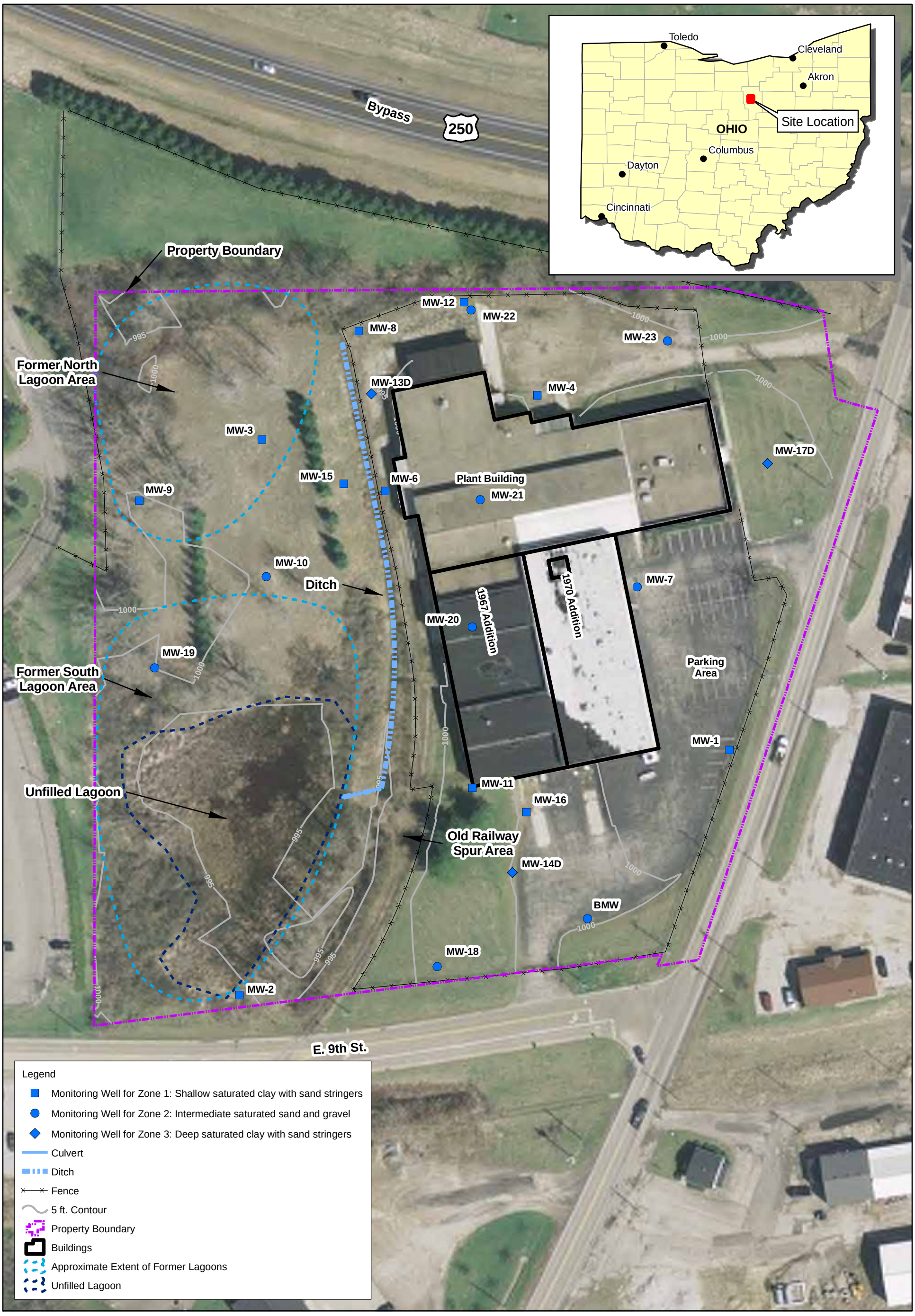


Figure 1
Facility Features Map
Groundwater Environmental Indicator Report
Former General Latex and Chemical Corporation Facility
Ashland, ohio

CH2MHILL

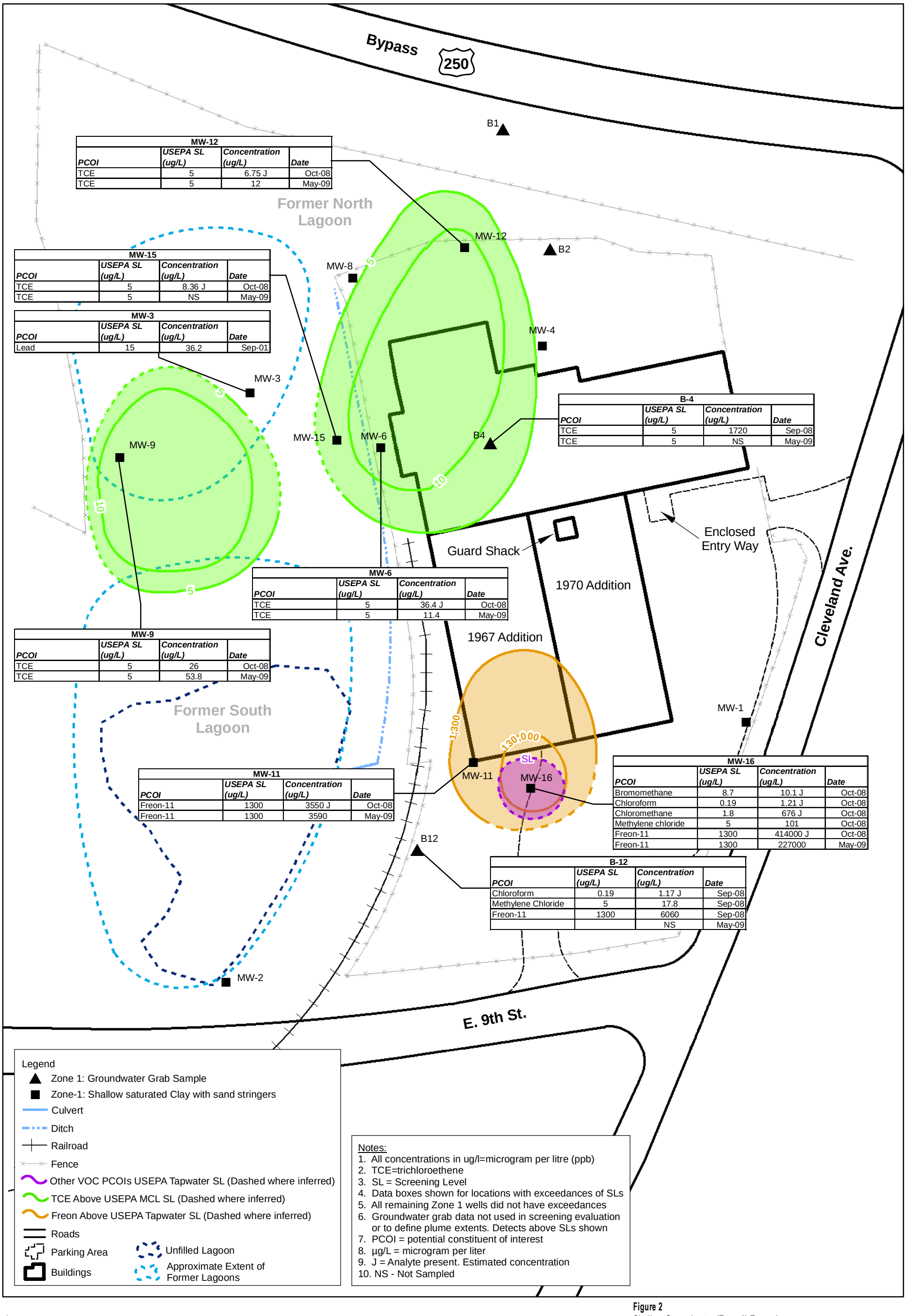


Figure 2
Shallow Groundwater (Zone 1) Exceedances
Groundwater Environmental Indicator Report
Former General Latex & Chemical Corp Facility
Ashland, Ohio

CH2MHILL

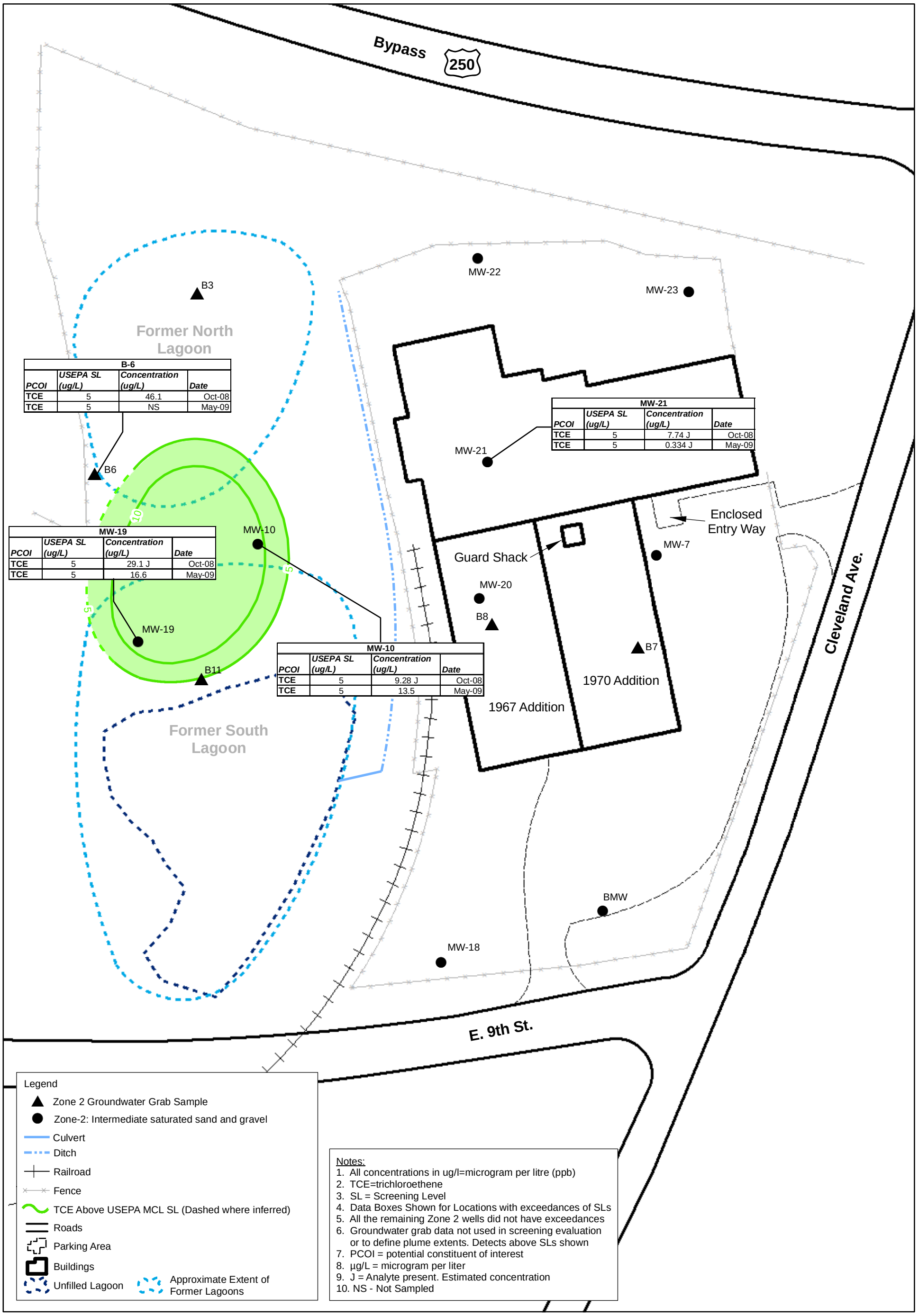


Figure 3
Intermediate Groundwater (Zone 2) Exceedances
Groundwater Environmental Indicator Report
Former General Latex & Chemical Corp Facility
Ashland, Ohio

CH2MHILL

Figure 4
TCE Concentrations vs Time
MW-6

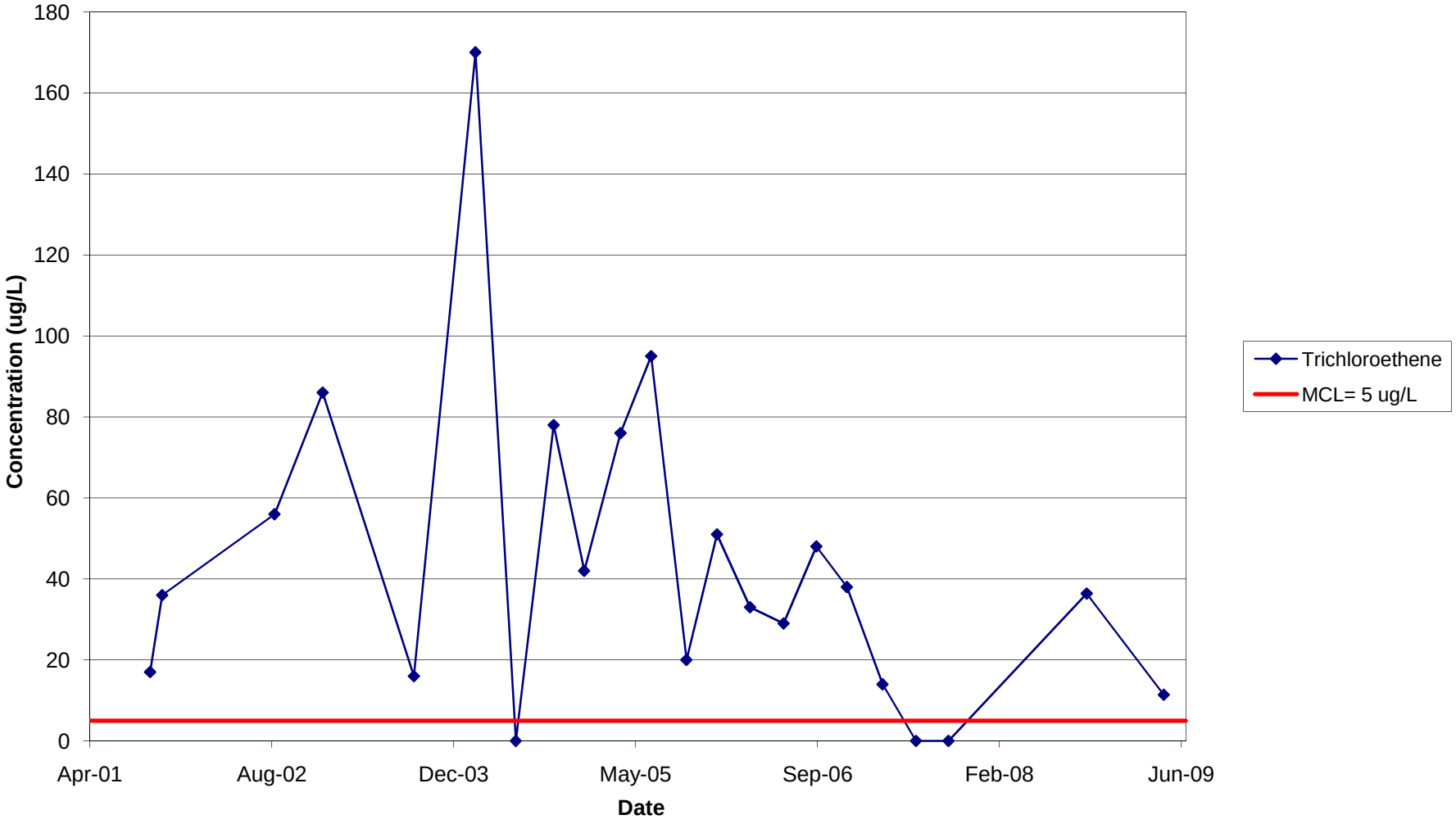


Figure 5
TCE Concentrations vs Time
MW-12

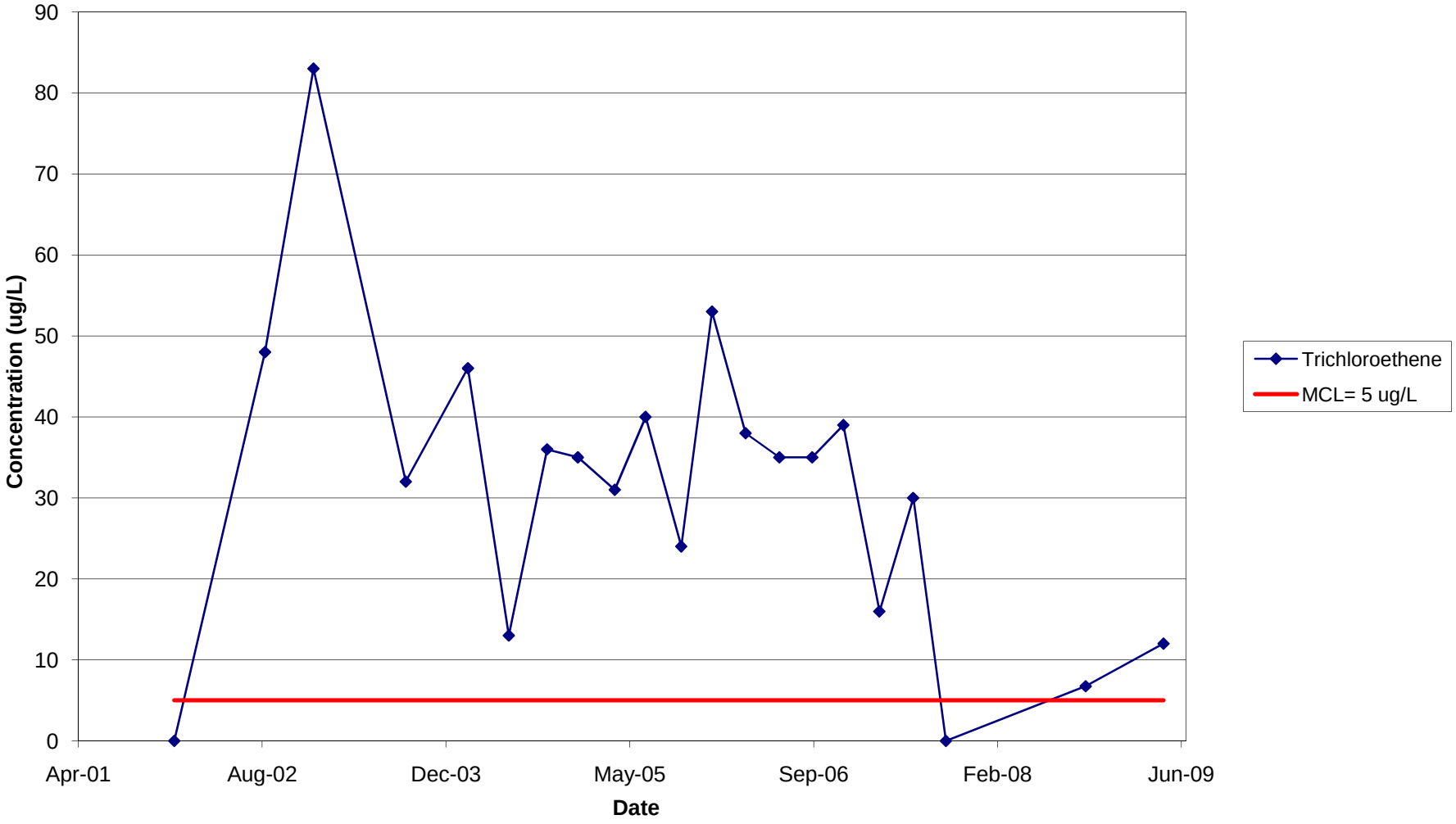


Figure 6
TCE Concentrations vs Time
MW-15

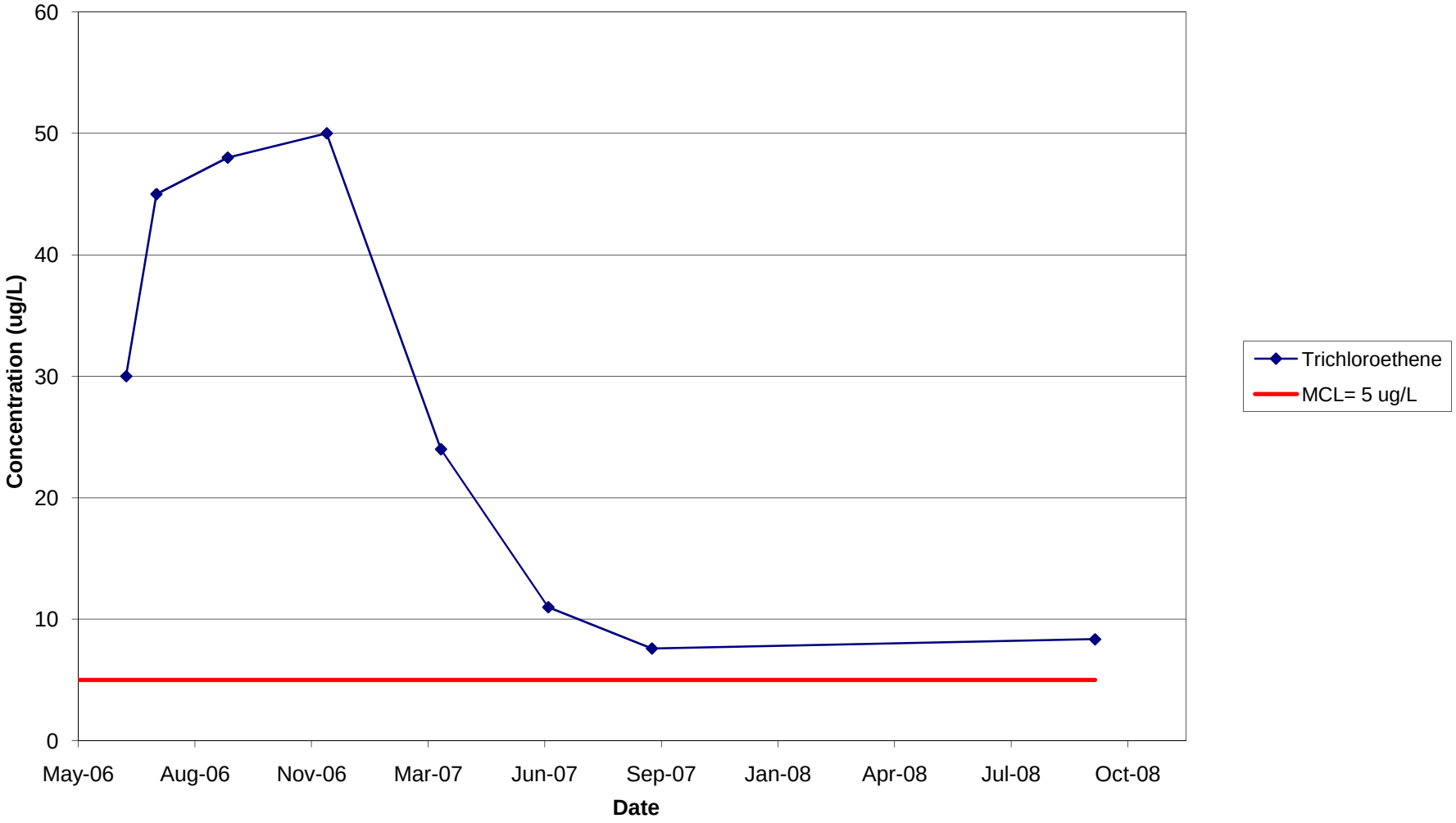


Figure 7
TCE Concentrations vs Time
MW-9

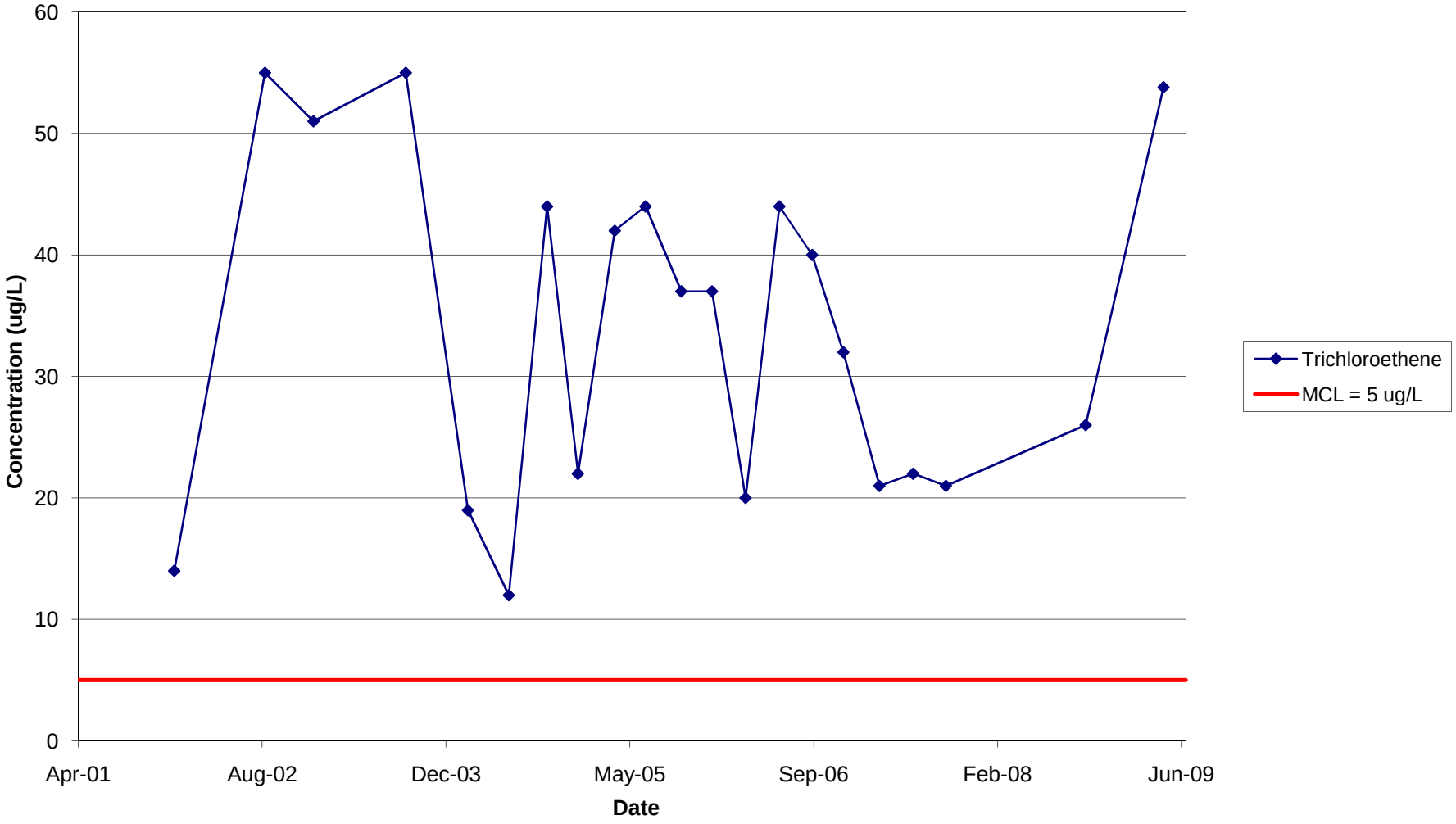


Figure 8
TCE Concentrations vs Time
MW-10

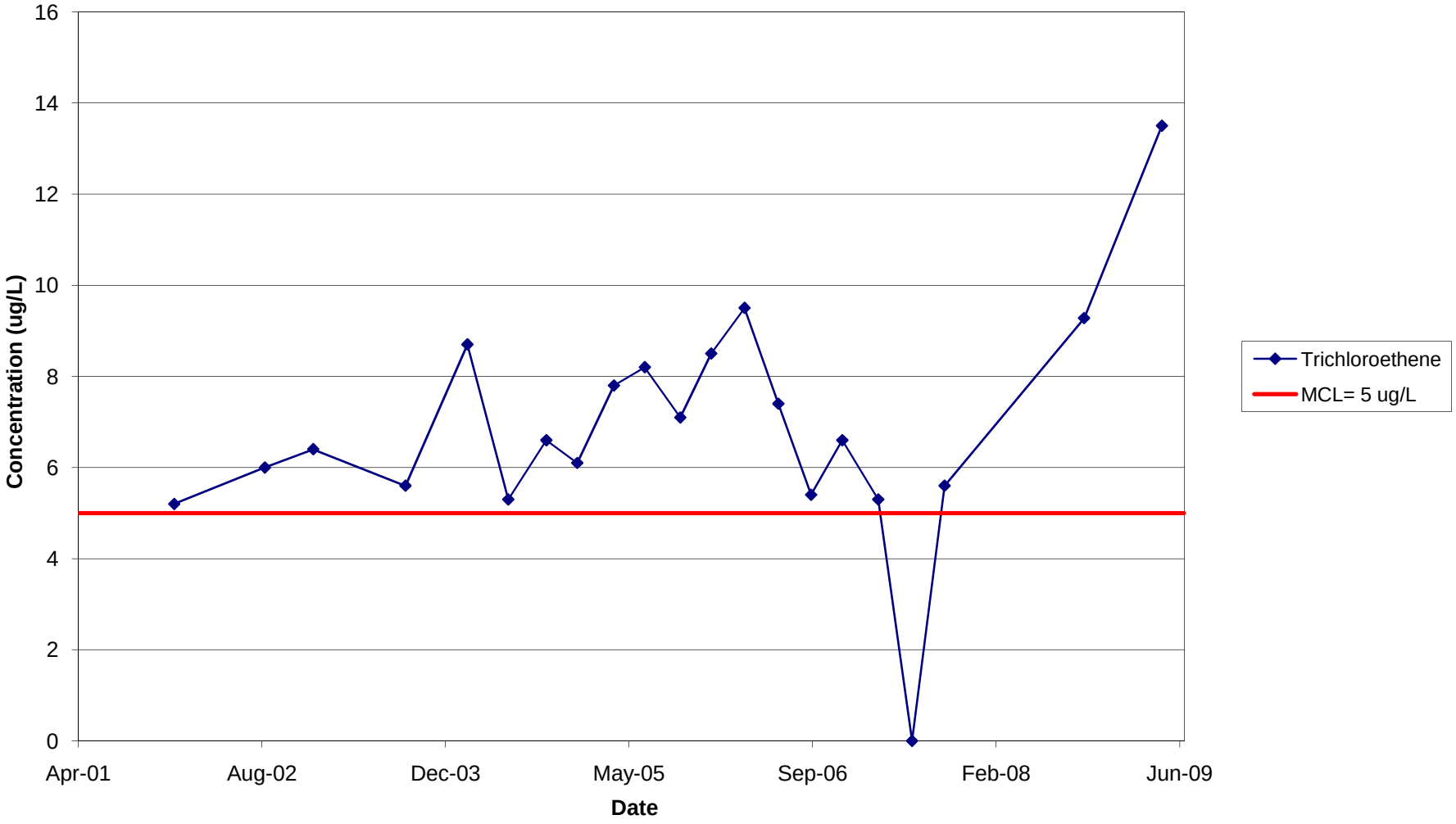


Figure 9
TCE Concentrations vs Time
MW-19

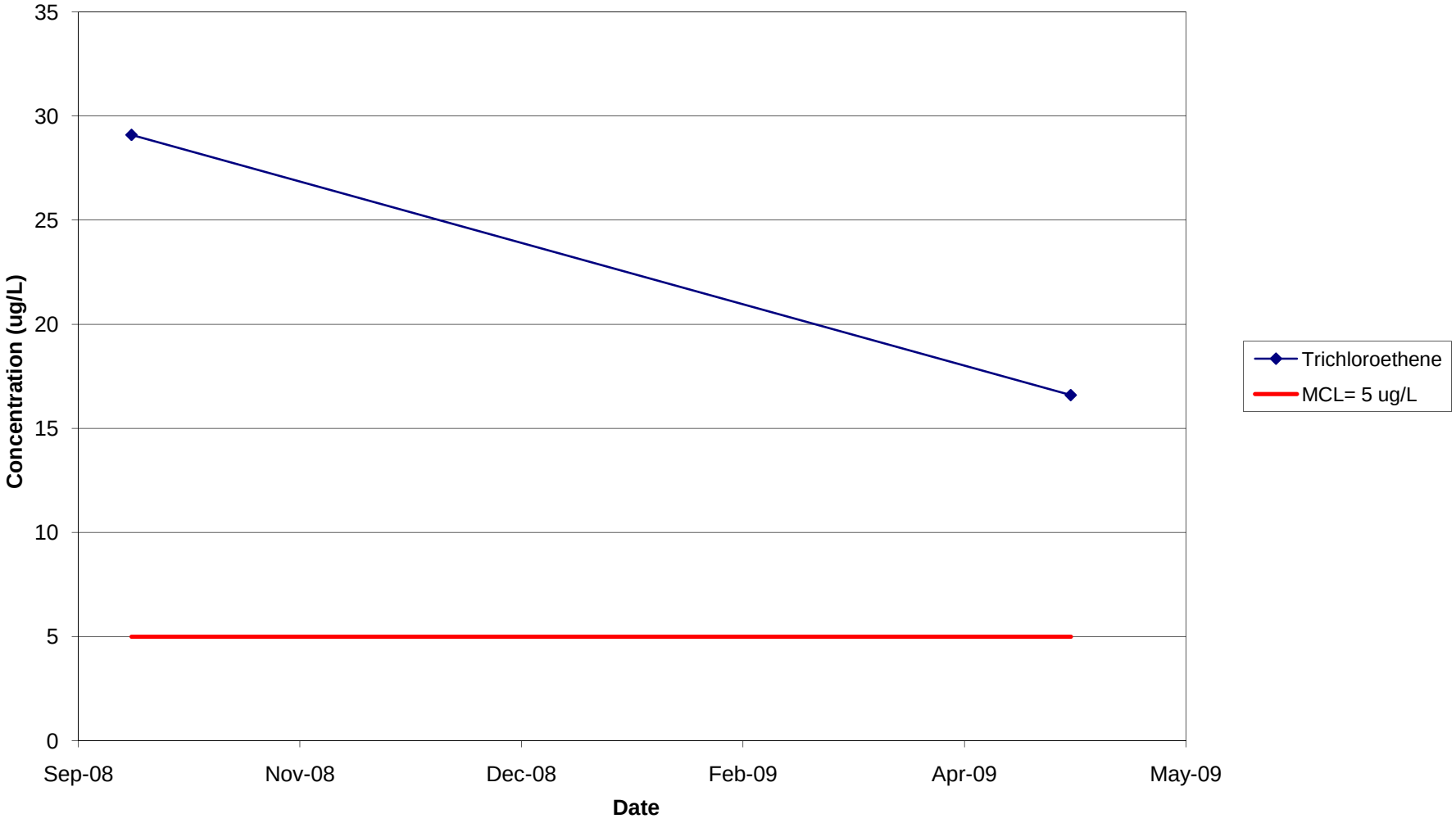
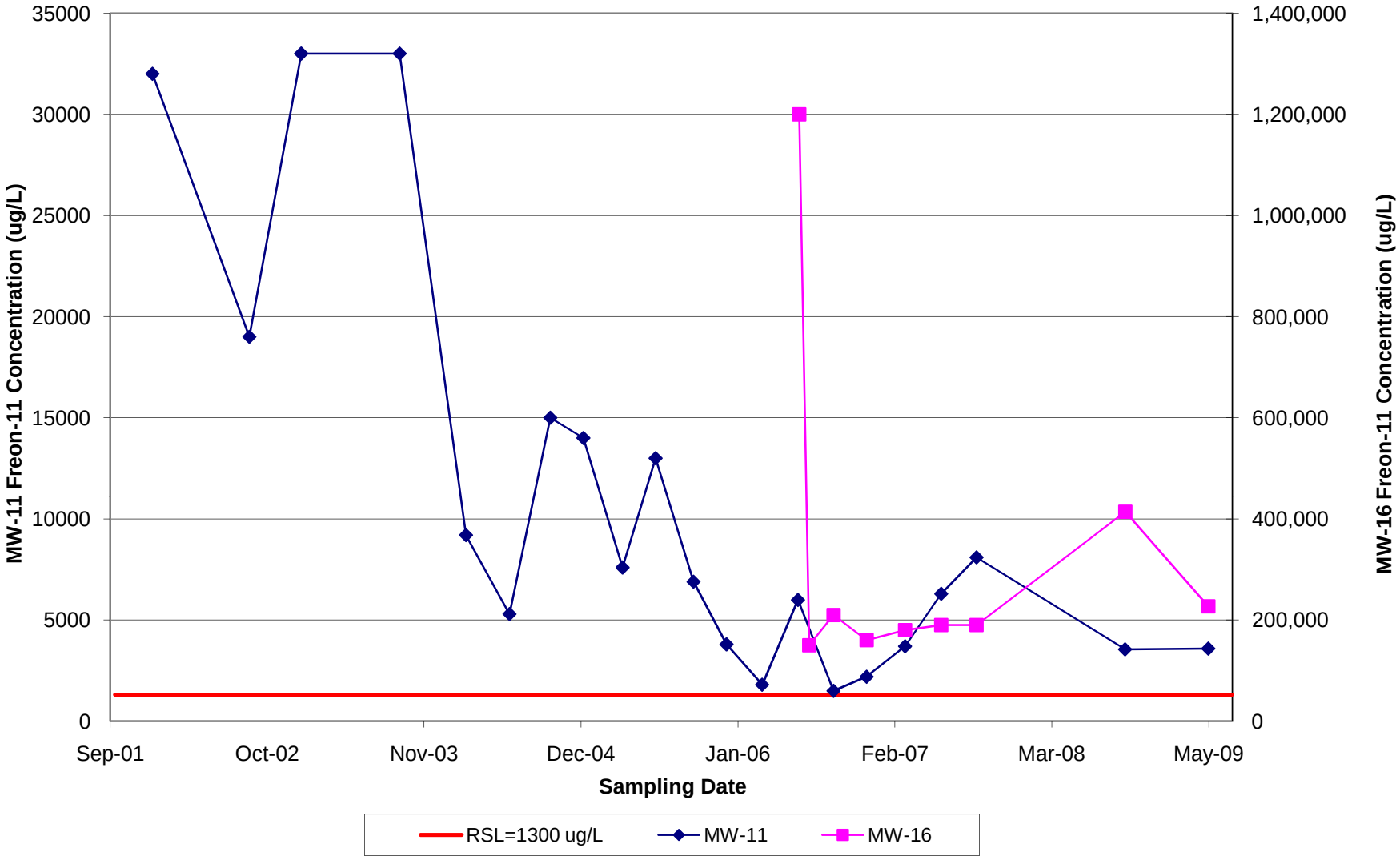


Figure 10
Freon-11 Concentrations vs Time
MW-11 and MW-16



Attachment A

Former General Latex and Chemical Corporation Site, Ashland, Ohio
Groundwater Investigation – May 2009
Data Quality Evaluation

Introduction

This data quality evaluation (DQE) report assesses the data quality of analytical results for groundwater samples collected from the former General Latex and Chemical Corporation Facility (facility) located in Ashland, Ohio. CH2M HILL collected samples May 4 through May 6, 2009. Guidance for this DQE report came from the *Quality Assurance Project Plan (QAPP), Former General Latex and Chemical Corporation Site, Ashland, Ohio, RCRA Facility Investigation (August 2008);* the *U.S. Environmental Protection Agency (EPA) Contract Laboratory National Functional Guidelines for Organic Review* (October 1999); and individual method requirements.

The analytical results were evaluated using the criteria of precision, accuracy, representativeness, comparability, and completeness (PARCC) as presented in the QAPP. This report is intended as a general data quality assessment designed to summarize data issues.

Analytical Data

This DQE report covers 12 groundwater samples, two field duplicates (FDs) and two trip blanks (TBs). A list of samples included in this DQE is included as Attachment A. The samples were reported in two sample delivery groups identified as L09050144 and L09050146. The analyses were performed by Microbac Laboratories, Inc. (MCBM) in Marietta, Ohio. Samples were collected and shipped by overnight carrier to the laboratory for analysis. The samples were analyzed by the method listed in Table 1.

TABLE 1
Analytical Parameters
Groundwater Investigation, Former General Latex and Chemical Corporation Site, Ashland, Ohio

Parameter	Method	Laboratory
Volatile Organic Compounds	SW8260B	MCBM

The sample delivery groups were assessed by reviewing the following: (1) the chain-of-custody documentation; (2) holding time compliance; (3) initial and continuing calibration criteria; (4) method blanks/field blanks; (5) laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) recoveries; (6) matrix spike (MS)/matrix spike duplicate (MSD) recoveries; (7) surrogate spike recoveries; (8) FD precision; (9) internal standard recoveries; and, (10) the required quality control (QC) samples at the specified frequencies.

Data flags were assigned according to the QAPP. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there will only be one final flag. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample impacts.

The data flags are those listed in the QAPP and are defined below:

- J = The identification of the analyte was acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (that is, the quantitative value is considered estimated).
- R = The result was rejected. This flag denotes the failure of QC criteria such that it cannot be determined if the analyte is present or absent in the sample.
- U = The analyte was analyzed for but not detected.
- UJ = The analyte was not detected; however, the reported detection limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Findings

The overall summaries of the data validation are contained in the following sections and Table 2.

Holding Time/Preservation

All acceptance criteria were met.

Calibration

Initial and continuing calibration analyses were performed as required by the methods and all acceptance criteria were met with the following exceptions:

- The recovery of chloromethane was below the lower control limit in a continuing calibration verification (CCV), indicating associated sample results are possibly biased low. Seven associated nondetected results were qualified as estimated and flagged "UJ".
- The recovery of bromomethane was above the upper control limit in a CCV, indicating associated sample results are possibly biased high. Associated samples were not qualified because they did not contain reportable levels of bromomethane.

Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination.

Field Blanks

TBs were collected, analyzed, and were free of contamination.

Laboratory Control Samples

LCS/LCSDs were analyzed as required and all accuracy and precision criteria were met.

Matrix Spike

MS/MSD samples were analyzed as required and all accuracy and precision criteria were met.

Internal Standards

All internal standard acceptance criteria were met.

Surrogates

All surrogate acceptance criteria were met.

Field Duplicates

FDs were collected at the required frequency, analyzed and all precision criteria were met.

Chain-of-Custody

Required procedures were followed and were free of errors.

Overall Assessment

The goal of this assessment is to demonstrate that a sufficient number of representative samples were collected and the resulting analytical data can be used to support the decision making process. The following summary highlights the PARCC findings for the above-defined events:

- Precision of the data was verified through the review of the field and laboratory data quality indicators that include FD, LCS/LCSD, and MS/MSD precision. Precision was acceptable.
- Accuracy of the data was verified through the review of the calibration data, LCS/LCSD, MS/MSD, internal standards, and surrogate standard recoveries. Accuracy was acceptable with seven nondetected results being qualified as estimated because of a CCV exceedance.
- Representativeness of the data was verified through the samples' collection, storage and preservation procedures, verification of holding time compliance, and evaluation of method/field blank data. The laboratory did not note any issues related to sample preservation or storage of the samples. All samples were analyzed within the USEPA-recommended holding time.
- Comparability of the data was verified using standard USEPA analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.

- Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable measurements compared to planned measurements. Valid data are defined as all data that are not rejected for project use. All data were considered valid. The completeness goal was met for all compounds.

TABLE 2
Validation Flags

NativeID	Method	Analyte	Final Result	Units	Final Flag	Validation Reason
FD01-050509	SW8260B	Chloromethane	0.25	ug/L	UJ	CCV<LCL
MW09GW1424-050509	SW8260B	Chloromethane	0.25	ug/L	UJ	CCV<LCL
MW10GW1732-050509	SW8260B	Chloromethane	0.25	ug/L	UJ	CCV<LCL
MW11GW0919-050409	SW8260B	Chloromethane	6.25	ug/L	UJ	CCV<LCL
MW16GW1020-050409	SW8260B	Chloromethane	625	ug/L	UJ	CCV<LCL
MW18GW3035-050409	SW8260B	Chloromethane	0.25	ug/L	UJ	CCV<LCL
MW22GW2535-050509	SW8260B	Chloromethane	0.25	ug/L	UJ	CCV<LCL

Validation Reasons:
CCV<LCL = Continuing calibration verification was recovered below the lower control limit.

Attachment A

Samples Associated with DQE		
Field ID	**Sample Date**	**QAQC Type**
FD01-050509	5/5/2009	FD
FD02-050609	5/6/2009	FD
MW18GW3035-050409	5/4/2009	N
MW11GW0919-050409	5/4/2009	N
MW16GW1020-050409	5/4/2009	N
MW19GW1828-050509	5/5/2009	N
MW22GW2535-050509	5/5/2009	N
MW10GW1732-050509	5/5/2009	N
MW09GW1424-050509	5/5/2009	N
MW06GW1020-050509	5/5/2009	N
MW20GW2333-050609	5/6/2009	N
MW21GW2434-050609	5/6/2009	N
MW23GW3040-050609	5/6/2009	N
MW12GW1424-050609	5/6/2009	N
TRIP BLANK_050508	5/5/2009	TB
TRIP BLANK_050909	5/6/2009	TB

TABLE A-1
Summary of Chemicals Detected in Groundwater, May 2009
Human Health Environmental Indicator Report
Former General Latex and Chemical Corporation Facility
Ashland, Ohio

	Location			MW06	MW09		MW10	MW11	MW12	MW16
	Sample ID			MW06GW1020-050509	FD01-050509	MW09GW1424-050509	MW10GW1732-050509	MW11GW0919-050409	MW12GW1424-050609	MW16GW1020-050409
	Screen Interval (ft bgs)			10 - 20	14 - 24	14 - 24	17 - 32	09 - 19	14 - 24	10 - 20
	Sample Date			5/5/2009	5/5/2009	5/5/2009	5/5/2009	5/4/2009	5/6/2009	5/4/2009
Analyte	**Screening Level**	**Screeing Level Source**	**Units**							
VOCs (µg/L)										
Bromomethane	8.7	RSL - Tapwater	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 12.5	< 0.5	< 1250
Chloroform	0.19	RSL - Tapwater	µg/L	< 0.125	**0.126 J**	**0.156 J**	< 0.125	< 3.13	< 0.125	< 313
Chloromethane	190	RSL - Tapwater	µg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 6.25	< 0.25	< 625
Methylene chloride	5	MCL	µg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 6.25	< 0.25	< 625
TCE	5	MCL	µg/L	**11.4**	**52.9**	**53.8**	**13.5**	< 6.25	**12**	< 625
Trichlorofluoromethane	1300	RSL - Tapwater	µg/L	**0.296 J**	**1.46 J**	**1.46 J**	< 0.25	**3590**	< 0.25	**227000**

	Location			MW18	MW19	MW20	MW21		MW22	MW23
	Sample ID			MW18GW3035-050409	MW19GW1828-050509	MW20GW2333-050609	FD02-050609	MW21GW2434-050609	MW22GW2535-050509	MW23GW3040-050609
	Screen Interval (ft bgs)			30 - 35	18 - 28	23 - 33	24- 34	24 - 34	25 - 35	30 - 40
	Sample Date			5/4/2009	5/5/2009	5/6/2009	5/6/2009	5/6/2009	5/5/2009	5/6/2009
Analyte	**Screening Level**	**Screeing Level Source**	**Units**							
VOCs (µg/L)										
Bromomethane	8.7	RSL - Tapwater	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	0.19	RSL - Tapwater	µg/L	< 0.125	< 0.125	< 0.125	< 0.125	< 0.125	< 0.125	< 0.125
Chloromethane	190	RSL - Tapwater	µg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Methylene chloride	5	MCL	µg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
TCE	5	MCL	µg/L	< 0.25	**16.6**	< 0.25	**0.334 J**	**0.303 J**	**0.512 J**	< 0.25
Trichlorofluoromethane	1300	RSL - Tapwater	µg/L	< 0.25	**0.52 J**	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25

Notes:
Nondetects are shown as < Laboratory Method Detection Limit
J = The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
µg/L = micrograms per liter
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria

Laboratory analytical reports contained on CD.