MLC

Motors Liquidation Company
500 Renaissance Center
Suite 1400
Detroit, MI 48243

July 6, 2010

Mr. Rob Marshall
Hazardous Waste Permit Section
Office of Land Quality
Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, IN 46204

Re: RCRA Corrective Action
2009 Annual Groundwater Monitoring Report
Dr. Martin Luther King Jr. Boulevard Facility
Anderson, Madison County
IND98070080

Dear Mr. Marshall:

The 2009 Groundwater Monitoring Report is enclosed for IDEM's review. Please note the recommendations and associated time frames. Should you have any questions regarding this report, please contact me at 217.522.6714.

Sincerely,

John Dunwoodie
For

David Favero
As Agent for MLC

Enclosure:
2009 Annual Groundwater Monitoring Report, Dr. Martin Luther King Jr. Boulevard Site, Anderson, Indiana, RCRA Corrective Action, IND 980 700 801, AECOM, July 6, 2010.

c: John Bassett, AECOM (via e-mail)
Shannon Richardson, CRA (via e-mail)
Steve Song, ENVIRON (via e-mail)

2009 Annual Groundwater Monitoring Report
Motors Liquidation Company
Dr. Martin Luther King Jr. Boulevard Site
Anderson, Indiana
RCRA Facility Investigation
IND 980 700 801

Prepared for:

Motors Liquidation Company
500 Renaissance Center
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Detroit, MI 48243

Prepared by:

AECOM
1800 West 17th Street, Suite A
Bloomington, IN 47404

April 26, 2010

60135322

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ACRONYMS AND ABBREVIATIONS

1,1-DCE	1,1,1-dichloroethene
1,1,1,-TCA	1,1,1-trichloroethane
mg/L	milligram per liter
AOC	area of concern
AOI	areas of interest
cis-1,2-DCE	cis-1,2-dichloroethene
CM	corrective measures
CMP	corrective measures plan
DO	dissolved oxygen
ENVIRON	ENVIRON International Corporation
EPA	Environmental Protection Agency, US
FEMA	Federal Emergency Management Agency
FMG	Field Method Guideline
GM	General Motors Corporation
IDEM	Indiana Department of Environmental Management
IM	Interim Measure
MCL	Maximum Contaminant Level
MLC	Motors Liquidation Company
MLK	Martin Luther King Jr.
MNA	natural attenuation parameters
NAVD	North American Vertical Datum
ORP	oxidation reduction potential
POTW	publicly owned treatment works
RCRA	Resource Conservation and recovery Act
RFI	RCRA Facility Investigation
RISC	Risk Integrated System of Closure
TCE	trichloroethene
TCL	target compound list
trans-1,2-DCE	trans-1,2-dichloroethene
US EPA	United States Environmental Protection Agency
VC	vinyl chloride
VOC	Volatile Organic Compound
WWTP	wastewater treatment plan

1 Introduction

This report summarizes the results of groundwater and surface water monitoring conducted during 2009 by Motors Liquidation Company (formerly known as General Motors Corporation), at the Dr. Martin Luther King Jr. (MLK) Boulevard site, located at 2915 MLK Boulevard, Anderson, Indiana. This report is submitted to the Indiana Department of Environmental Management (IDEM) and the U.S. Environmental Protection Agency (US EPA) pursuant to the draft facility *Site-Wide Groundwater Monitoring Plan* (Earth Tech, March 2008), and in support of ongoing Resource Conservation and Recovery Act (RCRA) Corrective Action at the site.

1.1 OBJECTIVES

The site-wide groundwater monitoring program was proposed concurrent to the final corrective measures at the former GM MLK Boulevard site. The objectives of the site-wide groundwater monitoring were to:

1. Evaluate the effectiveness of the proposed in-situ corrective measures (CM) for groundwater.
2. Monitor the stability of the two volatile organic compound (VOC) plumes.

However, the final corrective measures have not been implemented to date. As such, this report has been prepared to present the stability analysis of the VOC plumes only. This report provides analyses, interpretations, and conclusions based on data collected from March 2009 to December 2009. As appropriate, this report supplements findings of the Final RFI Report (Earth Tech, Inc. and ENVIRON, September 28, 2007) and the previous 2006, 2007, and 2008 Annual Groundwater Reports (Earth Tech, Inc. and ENVIRON, January 31, 2007; Earth Tech, Inc., January 31, 2008; AECOM, February 27, 2009).

Monitoring under this site-wide groundwater monitoring program began in February 2008 with the intent of conducting two full years of semiannual monitoring (four events) prior to evaluating the data with respect to the project objectives and providing recommendations to continue, cease or revise the monitoring program. Four semiannual groundwater monitoring events have occurred under the site-wide program. These events occurred in February and December 2008, and April and December 2009.

1.2 REPORT ORGANIZATION

Section 2 of this report provides a general site overview. Section 3 summarizes the work conducted as part of the groundwater monitoring program. Analytical data for the period April 2009 through December 2009 and a risk-based screening of these data are presented in Section 4. Section 5 presents an update regarding the nature and extent of groundwater contamination, including trend analyses of the concentrations of the principal site VOC constituents and ethene in groundwater over time. Conclusions and recommendations for future monitoring are provided in Section 6.

The risk-based data screening presented in Section 4 of this report was prepared by ENVIRON International Corporation (ENVIRON).

2 Groundwater Monitoring Overview

2.1 SITE DESCRIPTION

The MLK Boulevard site is located in the northwest quarter of Section 23, T19N, R7E, on the southwest side of Anderson, Madison County, Indiana (Figure 2-1). Formerly, the site comprised approximately 3,000,000 square feet of manufacturing area situated on 234 acres. MLK Boulevard divides the site in a north-south direction. GM previously conducted automotive parts manufacturing operations in plants on both sides of MLK Boulevard. The former east manufacturing areas (Plants 6 and 9) are bounded by MLK Boulevard on the west, by a railroad on the south, by 29th Street on the north, and by Madison Avenue on the east (Figure 2-2).

The manufacturing facilities west of MLK Boulevard, referred to as the Main Plant, were bounded on the west, south and southeast by railroad tracks, and on the north by 25th Street. Facility parking areas are located west of the westernmost railroad, and north of 25th Street. Formerly developed areas of the property were largely covered with asphalt or concrete. Land use surrounding the site varies from residential and commercial on the north and east, residential and recreational on the south, and agricultural on the west. A small public-access park is located in the northwest part of the property. The Meadowbrook Golf Course is located southeast of the site (Figure 2-2).

Operations at the MLK Boulevard facility began in 1929. Manufacturing plants were expanded several times, generally proceeding from the north end of the Main Plant southward and eastward. East of MLK Boulevard, Plant 9 construction commenced in 1969, and building additions were performed in 1973, 1977, 1981, 1985, 1986 and 1989. Manufacturing operations on the site ceased in 2006. All facilities west of MLK Boulevard were demolished during the period late 2007 to early 2009. The demolition included the removal of all concrete building slabs and many areas of pavement around the immediate Main Plant building area. Following demolition, the area was regarded and covered with varying thicknesses of crushed concrete. A soil and vegetative cover were applied during the summer of 2009. The building site location now is now an open grass field.

GM has divested itself of all of the property. The former Plant 6 and 9 properties and a lot east of Madison Avenue were sold soon after manufacturing operations ceased there in 1997. The remaining portions of the property were held by GM until its bankruptcy in June 2009 and the formation of the new General Motors LLC. As part of the bankruptcy these assets remained the property of "old" GM, which is now known as MLC in the role of debtor-in-possession. Figure 2-2 shows the current MLC property boundary. The term "site", as used throughout this report, refers to the aggregate of current and former GM properties, including former Plants 6 and 9.

2.2 HYDROLOGIC SETTING

2.2.1 Physiography

The site is situated in the New Castle Till Plains and Drainageways Section of the Central Till Plain Region as described by Gray (2000). This area was affected by multiple continental glaciations that deposited a thick blanket of glacial sediments over the bedrock. The New Castle Till Plains and Drainageways Section is primarily underlain by complexly stratified glacial diamict deposits, glaciofluvial sand and gravel deposits and glaciolacustrial silt and clay deposits. The area is characterized by broad plains of low relief crossed by relict glacial meltwater valleys.

2.2.2 Surface Water Drainage

The site area is nearly level with elevations ranging from 860 to 880 feet NAVD 88. East of MLK Boulevard the elevation is lowest, and the surface elevation descends into a relict glacial meltwater

valley. Former Plant 9, Plant 6, and the Meadowbrook Golf Course are all located in the relict meltwater valley, the western border of which roughly follows the alignment of MLK Boulevard (Figure 2-1 and Figure 2-2). This valley trends south-southwest from Anderson, Indiana several miles towards Pendleton, Indiana (Brown and others, 2003). A small channelized stream, Stanley Ditch, occupies the north end of the relict meltwater valley and drains westward along the south boundary of the Meadowbrook Golf Course. Stanley Ditch originally flowed to the north between former Plant 6 and Plant 9 but was diverted southward in 1963 to provide storm water relief for the City of Anderson combined sewer system. As a result, Stanley Ditch is now tributary to Prairie Creek and flows to the south down the trend of the valley to Pendleton, Indiana where it joins Fall Creek, a tributary to the West Fork White River.

Surface water run-off from paved areas of the property is directed to the combined sewer system that discharges north to the City of Anderson POTW on the West Fork White River. The combined sewer system flows northward across the Meadowbrook Golf Course property and beneath former Plant 9 up the trend of the relict meltwater channel. Surface water on the northern portion of the Meadowbrook Golf course property is directed through piping, and discharges to ponds. Surface water in the southern portion of the Meadowbrook property drains southward toward Stanley Ditch that flows along the southern and eastern property boundaries of the golf course.

A drainage divide between Stanley Ditch and Prairie Creek, draining to the south, and the combined sewer system, draining north to West Fork White River, appears to occur near the south side of former Plant 9, perhaps near and along the South Anderson Cutoff railroad embankment. Areas to the south of the railroad embankment, including most of the Meadowbrook golf Course, are floodway and floodway fringe areas subject to flooding (FEMA, February 18, 1994).

2.2.3 Hydrogeology

Figure 2-3 presents a generalized, schematic east-west hydrogeologic cross section of the unconsolidated materials at the site showing monitoring well completion intervals. The unconsolidated deposits range from less than 20 feet to over 160 feet in thickness and overlie an irregular bedrock surface. Bedrock beneath the site consists of carbonate rocks of Silurian age. The bedrock topography beneath the site slopes to the northwest into a pre-glacial bedrock valley. The bedrock is high (above 840 foot elevation) in the southern portion of the former Plant 9 area and at the Meadowbrook Golf Course. Bedrock is generally only about 20 feet deep in this area as a result of both the high bedrock elevation and low ground surface elevation in the relict meltwater valley area east of MLK Boulevard. To the northwest, the bedrock elevation descends to below 730 foot elevation at former groundwater production well 11 (Figure 2-2), and the bedrock in this area is in excess of 158 feet depth.

Detailed hydrogeologic cross sections are presented in both the Stage II RFI Data Report (Earth Tech, March 30,2005) and the RFI Final Report (Earth Tech and ENVIRON, September 28, 2007). Five distinct geologic units are recognized in the unconsolidated surficial soil materials. These units are identified from top to bottom as Units 1 to 5.

Unit 1 is a heterogeneous fill material consisting of silty clay loam, silty clay, sandy clay, sandy clay loam, and loam texture soil intermixed, in places, with debris consisting of wood, brick, glass, brick, concrete, coal fragments, and cinders. The unit consists of fill material placed at various times during the developmental history of the property and is generally no more than a few feet in thickness. In places, the lower portion of the Unit 1 fill is saturated and a localized perched groundwater zone occurs. The clayey diamicts in the underling Unit 2 confining unit cause this perched groundwater condition. Saturated conditions have been observed in the basal portion of Unit 1 in several shallow AOC 1 – South Court Area soil borings.

Unit 2 is a glacial diamict of silty clay loam, silty clay, and loam texture with occasional thin, interbedded sand and gravel deposits. Sand and gravel lithologies make up a small percentage of the unit. Unit 2 is thin in southern and eastern parts of the site, but thickens to the north and west.

Unit 3 consists of stratified sand and gravel and forms the uppermost aquifer beneath the site. In places, a diamict occurs within Unit 3 and is identified as the Unit 3 Confining Bed. At some locations the confining bed is represented by a distinctive silty texture and laminated structure. The confining bed is hydrologically significant because it separates the Unit 3 aquifer into an upper portion (Unit 3S) and lower portion (Unit 3D). Unit 3 is generally only 10 to 20 feet thick in the eastern part of the site beneath the meltwater valley. The unit thickens appreciably in the western part of the area where it forms the major portion of the unconsolidated deposits.

Unit 3 is almost entirely within the phreatic zone and is the uppermost aquifer unit at the Site. Groundwater may exist in the unit under both confined and unconfined conditions. Where the base of Unit 2 is relatively high in elevation, the upper few feet of Unit 3 are unsaturated, and unconfined conditions occur. At locations where the base of Unit 2 is relatively low in elevation the top of Unit 3 is saturated, and confined conditions occur.

Conceptually, Unit 3 may be divided into an upper (Unit 3S) and lower (Unit 3D) part (Figure 2-3). In those places where there is no physical separation between the upper and lower parts of the unit provided by the Unit 3 Confining Bed, the designations 3S and 3D merely provide a convenient way to refer to the upper and lower portions of the Unit 3 aquifer, and the monitoring wells completed therein. Where a physical separation occurs due to the presence of the Unit 3 Confining Bed, Unit 3S refers to that portion of the aquifer above the confining layer and Unit 3D refers to that portion below the confining layer. Locally, the Unit 3 Confining Bed induces a downward vertical gradient within the Unit 3 aquifer. Where the confining bed is absent, water levels in Units 3S and 3D are comparable.

The lateral groundwater gradient in Unit 3S is directed to the northeast in AOC 1 - South Court Area. Locally there are significant variations in the magnitude and direction of the gradient related, in part, to the presence or absence of the Unit 3 Confining Bed. An east-southeast oriented potentiometric trough in Unit 3S persistently occurs in the vicinity MW 40, 42, and 68 where the confining bed is absent. In this area groundwater flow in Unit 3S appears to be is directed easterly into the relict meltwater valley.

The hydraulic gradient for Unit 3D is more consistent and the potentiometric surface for this unit suggests an eastward gradient in the South Court Area and along MLK Boulevard into the relict meltwater valley. The north-northeast / south-southwest oriented relict meltwater valley at former Plant 9 and the Meadowbrook Golf Course appears to induce a hydraulic gradient to the south along its axis. Contaminants in the lower portion of Unit 3 would be expected to move generally eastward and then southward near the former WWTP area.

Unit 4 consists of hard diamict of loam or clay loam texture. The unit forms a confining bed between Unit 3 and Silurian carbonate bedrock. The unit is absent from the eastern part of the area at Plant 9 and portions of the adjacent Meadowbrook Golf Course.

Two deep bedrock borings at the north end of the site (MW 62 and MW 71) encountered a bed of cobbles above the bedrock surface. This zone is referred to as Unit 5. The unit was encountered at no other locations.

2.3 PREVIOUS GROUNDWATER INVESTIGATIONS

The following sections summarize groundwater investigations that have been conducted at the site. Monitoring wells on and adjacent to the MLK site have been installed at various times. There are currently a total of 94 monitoring wells in the area (Figure 2-2). The earliest site wells (MW 1 to MW 17) were installed in 1992 and 1993 for the purposes of evaluating a suspected waste oil leak at Area 1 – Former Waste Oil Tank (SWMU 16) (Figure 2-2). The longest monitoring history exists for these wells. Most of the 1992 – 1993 wells were installed in Unit 3S. No evidence of a significant waste oil leak was found at SWMU 16, but elevated concentrations of VOCs, primarily trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride (VC) were detected in several wells in this area. These wells are now known to be located in and around a source area for the Area 1 – South Court VOC plume, as described later this document.

Work associated with RFI Stage I in 2000 – 2001 included installation of 19 new monitoring wells (MW 18 to MW 37) and collection of 85 groundwater samples from new and existing wells. The new wells were completed in Units 1, 3S, and 3D. The Stage I investigations partially delineated a groundwater VOC plume extending north and east from AOC 1 - South Court. This plume was found to lie underneath several previously-defined AOIs and was referred to as *Area 1*. The Stage I RFI investigations identified concentrations of TCE, cis-1,2-DCE, and VC above screening criteria based on state and federal maximum contaminant levels (MCLs). A Stage I RFI report was completed in 2001, and this report included a work plan for additional ground water delineation work in both on and off-site areas (Earth Tech and ENVIRON, July 31, 2001).

Stage II RFI investigations began in late 2003. Work associated with the Stage II RFI in 2003 – 2005 included installation of 47 monitoring wells (MW 38 to MW 84) and collection of 182 groundwater samples from both new and existing wells. Area 1 was expanded to include Plant 9 as well as off-site areas including Meadowbrook Golf Course. Seven wells (MW-1 to MW-7) were installed on the golf course by others in 2003. Sampling of MW-4 in October 2003 indicated that high concentrations of cis-1,2-DCE and VC were present. Additional wells (MW 56, 57, 58 77, and 85) were installed by GM on the golf course in 2004 and 2007 to delineate the VOC plume southeast of MW-4 (Figure 2-2). These and other RFI Stage II monitoring wells delineated the concentrations of TCE, cis-1,2-DCE, and VC above MCLs both on and off-site (Earth Tech and ENVIRON, September 28, 2007).

From October 2005 until October 2007 GM conducted quarterly monitoring of a selected group of monitoring wells according to an interim site-wide groundwater monitoring plan (Conestoga-Rovers & Associates, September 20, 2005). This work was conducted for nine consecutive quarters ending in October 2007. Summary results from this monitoring have been provided in the previous 2006 and 2007 Annual Groundwater Monitoring Reports (Earth Tech and ENVIRON January 31, 2007, January 31, 2008). An additional round of groundwater monitoring was conducted in February 2008.

The interim monitoring program was replaced by a site-wide groundwater monitoring plan associated with the final Corrective Measures Proposal (CMP) for the facility (Earth Tech, March 31, 2008). This program conducts semiannual sampling at a modified well list with quarterly sampling of two surface water monitoring points. Sampling under this program has been conducted from June 2008 through December 2009. The March 31, 2008 plan calls for the groundwater monitoring data to be evaluated at this time and recommendations made to continue, cease, or revise the monitoring program.

2.4 AREA 1 – SOUTH COURT AND RELATED AREAS

The groundwater contaminate plumes at the MLK site are associated with *Area 1 – South Court and Related Areas*. Previous isoconcentration maps for Unit 3 suggest there are two separate VOC plumes. One plume is associated with Area 1 – South Court. The *AOC 1 – South Court plume* extends in a northeast direction from the South Court beneath several SWMUs in the former Main Plant building area. The predominant VOC contaminants detected in this area are TCE, cis-1,2-DCE, and vinyl chloride. The highest reported concentrations of TCE in this plume are found in the South Court at MW 3 and MW 15 (Unit 3S) and MW 31R (Unit 1). Perched groundwater in Unit 1 appears to serve as a source area for VOC contaminants in Unit 3. These VOC contaminants are present in both the 3S and 3D portions of Unit 3, but concentrations are generally higher in the upper portion of the unit.

An apparent separate plume is located along and east of MLK Boulevard. The primary evidence for separation of this plume from the AOC 1 – South Court plume comes from five Unit 3S wells located between the plumes where VOCs have not been detected, or detected at only very low levels (Figure 2-2, MW 16, 17, 46, 57 and 84). The VOC plume east of MLK Boulevard extends from an apparent source near MW 68 and the former WWTP along MLK Boulevard eastward toward former Plant 9 and the Meadowbrook Golf Course. The plume has migrated to the south to at least MW 85 on the golf course. This plume is referred to as the *former WWTP Area plume*. The predominant VOC constituents detected in this area are cis-1,2-DCE, and VC. TCE is only a minor plume component.

2.5 INTERIM MEASURES

GM has implemented three interim measures (IMs) related to soil and groundwater at the site. One interim measure included the removal of soil at the MW 31 area of AOC 1 – South Court that contained TCE concentrations that were an order of magnitude greater than the soil concentrations in other portions of the area. In addition to removing the soil in this area, perched groundwater in Unit 1 fill was treated with HRC® as a source control measure for TCE, cis-1,2-DCE, and VC in Unit 1 and the underlying Unit 3 groundwater. During the IM, monitoring well MW 31 completed in the fill soil was removed. Following the IM a replacement well (MW 31R) was installed at the former MW 31 well location.

The second interim measure implemented by GM included the abandonment of two potable wells at the Meadowbrook Golf Course and subsequent connection of the golf course to public water supply. In addition, GM and the owners of the Meadowbrook Golf Course have entered into an access agreement that prohibits the use of groundwater under the golf course property. The agreement does allow use of surface water from a pond on the site for irrigation purposes. Samples from this pond are regularly collected and analyzed for VOCs.

The third interim measure implemented by GM included the abandonment and plugging of five former groundwater production wells on site. This work was completed during the period April 30 to September 4, 2007 in accordance with Indiana Department of Natural Resources (IDNR) well abandonment rules (312 IAC 13). Abandonment activities included electrical disconnect, pump motor and pump column removal, and well grouting. The work followed a written work plan for well abandonment (Earth Tech, July 27, 2006) and was conducted by a licensed State of Indiana water well drilling contractor. The work is summarized in an Earth Tech memo dated November 16, 2007.

3 Groundwater and Surface Water Monitoring

3.1 MONITORING WELL SAMPLING

Monitoring locations utilized as part of the site-wide groundwater monitoring network are listed in Table 3-1. A total of 31 monitoring wells and two surface monitoring points (Pond North and Pond Intake) in the irrigation pond at Meadowbrook Golf Course are included. The monitoring list includes MW 37, MW 46, and MW 31R which were added to the monitoring well network based on preliminary comments received from IDEM on the draft Site-Wide Groundwater Monitoring Plan. Wells MW 37 and MW 46 were added to the annual schedule to further evaluate commingling of the Area 1 – South Court and former WWTP Area plumes. MW 31R was added to the semi-annual schedule to evaluate groundwater conditions in Unit 1.

Four site-wide groundwater monitoring events were conducted in 2009. Quarterly monitoring of the Pond and Pond North locations occurred in March, April, July, and December. Wells on the semiannual monitoring list were sampled in April and December. Wells on the annual monitoring list were sampled in December. All monitoring locations were sampled at the designated frequency excepting:

- MW 8 was not sampled in April because it was buried under a large pile of scrap metal during the facility demolition.
- MW 75 and 76 were not sampled in December because they were under water and ice. Water had accumulated in this area as a result of a storm drain being plugged. The accumulated water then froze preventing access to either well. Water level measurements were obtained from both wells prior to the freezing.

3.2 WATER LEVEL MEASUREMENTS

Water level measurements were made during the April (April 28) and December (December 2) events. Groundwater level measurements were made with a direct reading electronic water level indicator at all site-wide groundwater monitoring program wells using the established top of casing or datum elevation for each monitoring location excepting:

- A measurement was not made at MW 82 (bedrock well) on April 28 because the well was inaccessible due to site demolition. An alternative measurement was made at bedrock well MW 62 to provide three points for gradient determination.
- A measurement was not made at MW 68 on December 2 because site grading activities had buried the well and it could not be found.
- Due to building demolition and site grading, an additional riser section had been added to MW 31R on December 2. Measurements were made from the top of this riser section 5.01 feet above the datum elevation.
- Due to building demolition and site grading an additional riser section had been added to MW 82 on December 2. Measurements were made from the top of this riser section 5.12 feet above the datum elevation.

3.3 GROUNDWATER SAMPLING AND ANALYSIS

All monitoring well samples were collected using a low-flow rate purging and sampling strategy employing downhole two-inch submersible pumps in accordance with the draft *Site-Wide Groundwater Monitoring Plan*. Monitoring wells were sampled utilizing dedicated Teflon-lined pump discharge tubing. This tubing was cleaned and stored off-site between sampling events.

Well casings were purged prior to sampling. Geochemical stabilization parameters were recorded after each successive screen volume was removed. Those parameters include pH, temperature, dissolved oxygen content (DO), conductivity, oxidation-reduction potential (ORP), and turbidity. Samples submitted for dissolved metals were field filtered through a 0.45 micron high capacity in-line filter. All field notes were recorded in a field logbook and on a purging and sampling field data form. Samples were shipped to CompuChem Laboratories, Cary, North Carolina or H2M Laboratories, Melville, New York for analysis.

Field and analytical methods used during the site-wide groundwater monitoring program are presented in Table 3-2. All field parameters, with the exception of ferrous iron (Fe^{+2}), were obtained using a multi-parameter meter and flow-through cell. The concentration of ferrous iron was determined in the field using a colorimetric test kit (ChemMets® Kit K-6010). All groundwater samples obtained semi-annually and annually were analyzed for TCL VOCs using U.S. EPA Method 8260B. Groundwater samples obtained semi-annually from wells MW 40 and MW-4 and annually from well MW 57 were analyzed for natural attenuation parameters using the methods presented in Table 3-2. Field sampling sheets are provided in Attachment A.

3.4 SURFACE WATER SAMPLING AND ANALYSIS

Surface water samples were collected quarterly from the irrigation pond located southeast of MW 57 on the Meadowbrook Golf Course. Samples were collected from a location near the irrigation water intake (Pond Intake) and also from a location closest to MW-4 (Pond North). The Pond Intake samples are used for continuing verification that the water is acceptable for irrigation use. Each surface water location was sampled with a clean polyethylene dipper. All surface water samples were analyzed for TCL VOCs using U.S. EPA Method 8260B (Table 3-2).

3.5 SAMPLE IDENTIFICATION

Each sample was assigned a unique field sample identification (ID) number in accordance with the *GM REALM/ENCORE Data Management Program Instructions and Procedures for Simplified Scope of Work (SSOW) and Field Sampling Key, November 2004).* All sample ID numbers and corresponding sample locations were recorded in the field logbook. The ID number allowed "blind" sample submittal to the laboratory.

The ID number was comprised of a unique thirteen character sample name for each sample. The nomenclature for this ID used the following "XX-mmddyy-AA-bbb" format:

XX	=	two-letter acronym designating the sample matrix (e.g. GW – groundwater, SW – surface water and WQ – water quality matrix
mmddyy	=	date in month / day / year
AA	=	sampler's first and last initials
bbb	=	chronological number for event, starting with 001

Examples of the sample ID number for the site-wide monitoring include:

WG-062508-JD-001 (a groundwater monitoring well sample)

WS-062508-JD-002 (a surface water sample)

WQ-062508-JD-003 (a quality assurance blank sample)

3.6 EQUIPMENT DECONTAMINATION

All non-consumable equipment that contacted contaminated groundwater was decontaminated in accordance with the Field Method Guidelines (FMGs) contained in the draft Site-Wide Groundwater Monitoring Plan. All consumable equipment and non-hazardous solid wastes were treated as trash and disposed of off site.

Each monitoring well was assigned a dedicated length of Teflon-lined pump discharge. Tubing was delivered to the site properly decontaminated and sealed in polyethylene wrapping. Decontamination procedures for sampling pumps and reusable sampling equipment are presented in the draft Site-Wide Groundwater Monitoring Plan (Earth Tech, March 31, 2008).

3.7 WASTE MANAGEMENT

Monitoring well purge water and decontamination fluids generated during the interim quarterly site-wide groundwater events were containerized in an on-site bulk polyethylene tank, and are periodically removed from the site for appropriate disposal.

4 Results

This section discusses the results obtained from the site-wide groundwater monitoring program in 2009. A brief discussion regarding data validation is presented in Section 4.1. Section 4.2 presents potentiometric surface mapping results. Groundwater and surface water analytical results are discussed in Section 4.3.

4.1 DATA VALIDATION

External independent validation of analytical data collected during site-wide groundwater monitoring was performed for all samples by Conestoga-Rovers & Associates. Data validation reports are provided in Attachment B.

The validated data are flagged with appropriate external data validation codes. Data were assigned the following codes, as appropriate:

J Estimated value

R Rejected value

U Non-detect at associated value

UJ The analyte was not detected above the sample quantitation limit. The reported quantitation is an estimated quantity.

The data validation codes are included in the analytical data tables and drawings that accompany this report.

4.2 POTENTIOMETRIC SURFACE MAPPING

Water level measurement data for each 2009 monitoring event are summarized in Table 4-1. A dash (-) in Table 4-1 indicates that the water level was not measured during that event. Potentiometric surface maps of Unit 3S, Unit 3D, and the bedrock aquifer for the April and December are shown in Figure 4-1 to Figure 4-6.

Potentiometric surface mapping of the Unit 3S data are provided in Figure 4-1 and Figure 4-4. Both maps suggest a general northeasterly gradient across the site. The gradient steepens and is directed more to the east at the eastern edge of the Unit 3 Confining Bed near MW 68 at the margin of the relict glacial meltwater valley.

One significant Unit 3S potentiometric detail is not captured by the water level measurements in the current monitoring well system. The AOC-1 South Court plume extends beneath the former Main Plant Building and affects several monitoring wells including, from south to north, MW 79, MW 60, and MW 51. In contrast, an arc of Unit 3S monitoring wells to the east of these, including from south to north, MW 46, MW 16, MW 84, MW 59, and MW 29 have not shown any significant VOC contamination, Yet, the mapping shown in both Figure 4-1 and Figure 4-4 indicates that these wells are located downgradient of a portion of the AOC-1 South Court plume. Of all these wells, only MW 51, MW 46, and MW 79 are in the current site-wide groundwater monitoring wells system where water level data are routinely obtained. Data from the other wells are missing.

Figure 4-7 shows hydrograph records for the former Main Plant building monitoring wells referenced above. The time series plots for the unaffected wells (MW 46, MW 16, MW 84, MW 59, and MW 29) are shown using a solid symbol and a dashed line. The affected wells in the plume are

plotted with a solid line and open well symbol. Inspection of the figure indicates that the unaffected wells east of the plume generally have higher water levels than the affected wells to the west. This is particularly evident in the July 2007 monitoring event when the levels in all the wells were measured. The persistent groundwater ridge that occurs between MW 46 and MW 29 is a likely reason why the VOC contamination from the AOC-1 South Court plume to the west has not affected wells MW 46, MW 16, MW 84, MW 59, and MW 29 and is not connected to the former WWTP Area plume as monitored at MW 68 (Figure 4-7).

The demolition of the Main Plant building included the removal of about 2.3 million square feet of impervious concrete floor. The removal of the concrete floor mostly occurred during the period March to November 2008. Both 2009 groundwater monitoring well sampling events occurred after the concrete floor had been removed. The measured water levels in Unit 3S monitoring wells within the building footprint during post-removal 2009 events appear to be within the range of normal seasonal variation (Figure 4-7).

Potentiometric surface mapping of Unit 3D data are shown in Figure 4-2 and Figure 4-5. The Unit D maps are consistent with previous potentiometric surface mapping. Each map indicates an eastward gradient toward former Plant 9 and into the relic meltwater valley east of MLK Boulevard (see Section 2.2.3). Groundwater flow into the meltwater valley also occurs from the east based on water level data from MW-3.

The north-south gradient component within the meltwater valley is very low. Typically, the lowest groundwater level occurs at MW 58 on the Meadowbrook Golf Course. However, irrigation pumping during dry conditions, as occurred in 2007, may result in lower water levels observed in the golf course pond. The higher water levels at MW 66 compared to MW 58 indicate a consistent south gradient within the meltwater valley in the southern part of Plant 9 (Figure 4-8). North of MW 65 the north-south gradient component is very low. Generally, water levels at MW 65 and MW 80 are about the same, but the level at MW 61 to the north is usually higher (Figure 4-9). However, a groundwater divide beneath Plant 9 may exist separating groundwater discharge to the south along Stanley Ditch and Prairie Creek versus discharge to the north toward White River in Anderson. Such a divide would mirror the surface water drainage divided noted in Section 2.2.2.

Water levels at the central irrigation pond at Meadowbrook Golf Course track consistently with water levels in adjacent monitoring wells (Figure 4-8) indicating that the pond is groundwater fed.

There are seven bedrock monitoring wells at the site. Three of these wells (MW 81, MW 82, and MW 83) are included in the site-wide groundwater monitoring program. Bedrock potentiometric mapping is shown in Figure 4-3 for April 28 and Figure 4-6 for December 2. The April 28 mapping utilized MW 62 as a third point for gradient determination because MW 82 was not accessible due to building demolition. Both sets of water level data indicate the east and southeast gradient that is evident in earlier datasets.

4.3 SAMPLING RESULTS

Groundwater analytical results for the 2009 sampling events are presented in Table 4-2 and Table 4-3. Table 4-2 reports TCL VOC sample results from monitoring well (WG) samples. Table 4-3 reports the results of several general water quality parameters that may have significance to the evaluation of monitored natural attenuation of volatile organic compounds. These analyses were performed on a selected group of site monitoring well samples in accordance with the draft Plan. Surface water sampling results are presented in Table 4-4.

Analytical results for VOC constituents are presented in databox form in Figure 4-10a and Figure 4-10b. Data for all sampling events from October 2006 to present for wells in the site-wide groundwater sampling program are included. Excluding chlorobenzene, styrene, and tetrachloroethene, the VOC parameter list shown in Figure 4-10a and Figure 4-10b includes any VOC compound that has exceeded conservative screening criteria at any well or surface water location during any sampling event. The screening criteria are shown in the figure, and sample results that exceed any of the screening criteria are highlighted in green. The screening procedure is further explained in Section 4.3.1

As noted in the 2008 annual report, chlorobenzene, styrene, and tetrachloroethene were detected in one June 2008 groundwater sample at MW 40 (WG-062608-JD-007) at concentrations over the drinking water criteria. Chlorobenzene and styrene have only been detected in this one sample, and the reported concentrations of 0.15 mg/L (with qualifier J) and 0.14 mg/L (with qualifier J), respectively, are only slightly higher than the drinking water criteria of 0.1 mg/L. Both results were well below the sample reporting limit of 1.0 mg/L. Tetrachloroethene has been detected in only 4 of 444 groundwater samples at the site. Only one detected concentration (0.43 mg/L with qualifier J in the June 2008 MW 40 sample) exceeded the drinking water criteria of 0.005 mg/L. Again the reported concentration of 0.43 mg/L was well below the sample reporting limit of 1.0 mg/L. Chlorobenzene, styrene, and tetrachloroethene were not detected in the December 2008 event. For these reasons, chlorobenzene, styrene, and tetrachloroethene are not included in Figure 4-10a and Figure 4-10b. A note of explanation is provided on the figure.

Analytical results for general chemistry and natural attenuation parameters at wells sampled in 2009 are presented in databox form in Figure 4-11.

4.3.1 Risk-Based Screening

A conservative risk-based screening was performed on the groundwater and surface water data collected during the four quarters of the site-wide groundwater monitoring program in 2009. The data were compared to conservative risk-based screening criteria based on potential exposure scenarios that were evaluated in the Final RFI Report even though some of the scenarios, such as potable use of groundwater, do not exist currently and are not reasonably expected in the future. The results of the comparisons are presented in a series of screening summary tables (Table 4-5 to Table 4-10).

The groundwater monitoring data collected from areas where current and reasonably expected future land use is commercial/industrial were screened against the following conservative criteria: 1) state and federal maximum contaminant levels (MCLs) established under the Safe Drinking Water Act and equivalent drinking water limits for constituents without MCLs; 2) occupational and risk-based vapor intrusion criteria for industrial buildings; and 3) risk-based criteria for construction worker contact with groundwater. The equivalent drinking water limits are generic risk-based drinking water concentrations calculated using conservative, standard default exposure factors for estimating high-end exposures through daily drinking water consumption. The groundwater vapor intrusion criteria are calculated using generic industrial building parameters and site-specific soil properties and groundwater depth. The groundwater contact criteria are risk-based criteria calculated using exposure factors for estimating exposure of workers who could contact shallow groundwater during subsurface construction activities. Derivation of these screening criteria is presented in the Final RFI Report. Sampling points screened against these criteria are highlighted in orange in Figure 4-10b.

Groundwater data collected from areas where current and reasonably expected future land use is not commercial/industrial (i.e., AOI 1 and certain areas downgradient of Area 1) were screened against the same drinking water and groundwater contact criteria discussed above, as well as risk-based

groundwater vapor intrusion criteria for residential buildings and risk-based groundwater criteria for non-potable residential use (based on a "kiddie" pool exposure scenario which represents a reasonable worst-case among typical non-potable uses). Derivation of these screening criteria is presented in the Final RFI Report. Sampling points screened against these criteria are highlighted in blue in Figure 4-10a.

All risk-based groundwater screening criteria are based on a target cancer risk of 10^{-5} and noncancer HQ of 1. Derivation of all the screening criteria used to evaluate the 2009 groundwater monitoring data was presented in Section 5 and Attachment C of the Final RFI Report.

As discussed in the Final RFI Report (Earth Tech and ENVIRON, September 28, 2007), a potentially significant release to groundwater is identified when the highest concentrations of constituents detected at each investigative area are higher than any of the screening criteria. The presence of groundwater with constituent concentrations higher than the screening criteria does not mean that the groundwater necessarily poses an unacceptable risk; it only means that the potential for the groundwater to pose an unacceptable risk should be further evaluated considering spatial and temporal distributions of the groundwater data in this area and additional site-specific factors.

Table 4-5 summarizes the 2009 groundwater monitoring data for the areas where current and reasonably expected future land use is commercial/industrial. Table 4-6 summarizes the 2009 groundwater monitoring data for areas where current and reasonably expected future land use is not commercial/industrial. These tables also show the ratios of the highest detected concentrations to the corresponding screening criteria. A potentially significant release to groundwater is identified by ratios of the highest concentrations to the screening criteria that exceed 1. It should be noted that although the screening criteria used for identifying a potentially significant release to groundwater include drinking water criteria, GM had conducted a potable well survey of the area and no off-site potable well impacts were identified (see Section 3 of the Final RFI report).

Table 4-7 lists the concentrations of VOCs in samples collected in 2009 that exceed at least one of the screening criteria for areas where current and reasonably expected future land use is commercial/industrial. Eight VOCs (1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, ethyl benzene, toluene, 1,1,1-TCA, TCE, and VC) have at least one concentration that exceeds the drinking water screening criteria. Two detected concentrations of vinyl chloride in MW-40 in Area 1 (South Court) are also above the construction worker groundwater contact criteria. No constituent has a concentration in groundwater that is higher than the screening criteria based on vapor intrusion.

Table 4-8 lists the VOC concentrations in samples collected in 2009 that exceed at least one of the screening criteria for areas where current and reasonably expected future land use is not commercial/industrial. Five VOCs (1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, TCE, and VC) have at least one concentration that exceeds the drinking water screening criteria. VC is the only chemical with concentrations above the non-potable groundwater use criterion. These VC concentrations were found at MW-4, MW 49, MW 58 and MW 85. No constituent has a concentration in groundwater that is higher than the screening criteria based on vapor intrusion or construction worker groundwater contact.

Generic risk-based screening criteria for evaluating the significance of potential exposure to surface water in man-made ponds are not well established. Therefore, as a conservative approach, the surface water monitoring data collected in 2009 from Meadowbrook Golf Course were compared with the groundwater screening criteria for non-industrial/commercial areas described above. The screening results of the surface water data are presented in Table 4-9 and Table 4-10, and are also shown in Figure 4-10a. VC is the only constituent that had concentrations above the drinking water

screening criteria in 2009. VC was previously detected at concentrations above the MCL in 2005, 2007, and 2008. One VC concentration (0.5 mg/L) in the 2009 Pond North sample exceeded the non-potable groundwater use criterion of 0.046 mg/L based on the kiddie-pool scenario with a target cancer risk of 10^{-5}.

4.3.2 Significant Findings

Significant observations with respect to the 2009 groundwater monitoring data are highlighted in this section. TCE, cis-1,2-DCE and VC remain the primary constituents associated with the VOC plumes. The AOC 1 – South Court plume contains a high proportion of TCE, and most TCE screening exceedences are associated with wells near the AOC 1 – South Court source area (Figure 4-10b). The former WWTP Area plume east of MLK Boulevard is composed predominately of cis-1,2-DCE and vinyl chloride, and the most frequent exceedences of screening criteria occur for these compounds. Sub-attachment C-1 presents time-series plots for TCE, cis-1,2-DCE, and VC for all monitoring locations that were sampled in 2009 (a total of 33).

4.3.2.1 AOC 1 – South Court Plume Wells

MW 12, an intermediate Unit 3 depth monitoring well (Unit 3I), located west of the former Main Plant building, continues to show a long term decline in cis-1,2-DCE concentration, the principal VOC compound in this well. This well is located in an upgradient Unit 3D position (Figure 4-2 and Figure 4-5). VOC contamination was likely mobilized to this upgradient position as a result of historic groundwater production well pumping at PW 11 and PW 12 which acted to reverse the normal eastward gradient. Pumping of these wells ceased in about 1989 when the facility converted to city water. Both production wells were plugged and abandoned in 2007. The decline in cis-1,2-DCE concentration since 1993 is likely attributable to the cessation of pumping.

Results for TCE, cis-1,2-DCE, and VC at MW 8 and MW 14 in December were unusually low compared to past monitoring data. Both of these wells showed evidence of disturbance associated with the plant demolition activities. The flush mount cover and well cap at MW 8 were missing, and the inside top portion of the well riser pipe was stained with soil and grit. MW 8 had been buried under scrap piles and was inaccessible during portions of the plant demolition. It is possible surface water had entered the well casing. MW 14 was also noted to have been disturbed. The surface pavement had been removed from this area and the flush mount cover had been disturbed. The well cap at MW 14 was present, but orange paint was present on the inside of the well riser. Paint had been used to mark the well locations during demolition, and it is apparent that the cap was not present for a portion of the demolition period.

MW 79, a Unit 3S well located within the former footprint of the Main Plant building, was sampled twice in 2009. The concentrations of cis-1,2-DCE, the prominent VOC component at this location, were the highest ever recorded.

4.3.2.2 Former WWTP Area Plume

In 2009, several wells within the tail and marginal areas of the former WWTP area plume had the highest levels of vinyl chloride yet reported. These include the Unit 3D wells MW 28, MW 57, MW 58, MW 64, MW 66, and MW 85 and the Bedrock well MW 81. These wells are all located in the southern part of the Plant 9 area and on the Meadowbrook Golf Course. However, sampling of Unit 3D wells MW 56, MW 61, and MW-2 located farther from the apparent WWTP plume area source area continued to show non-detect vinyl chloride values based on the December 2009 sampling event.

4.3.2.3 SURFACE WATER

A total of eight samples (four quarterly samples) were obtained from surface monitoring points Pond Intake and Pond North at the Meadowbrook Golf Course central irrigation pond in 2009. VC exceeding conservative screening criteria was detected at both locations (Figure 4-10a). Time-series plots for these compounds are provided in Figure 4-12 and Figure 4-13. Cis-1,2-DCE was not detected above any screen criteria in any 2009 sample (Figure 4-12). VC was detected above Criteria A – drinking water at both the Pond Intake and Pond North locations in April 2009 and above both Criteria A - drinking water and Criteria C - residential non-potable groundwater use at Pond North in December 2009 (Figure 4-13). The pond is not used as a source of drinking water.

The concentration of VC at Pond North (0.5 mg/L) in December 2009 was the highest ever recorded. Historical time-series plots indicated that both VC and cis-1,2-DCE appear at higher concentrations during times of high groundwater levels and / or cold weather conditions (Figure 4-13). There is also evidence that groundwater entering the pond via a drainage culvert (Pond Culvert 1) at the Pond North location under these conditions may also contain VC exceeding the screening criteria (see Figure 4-13 sample collected in February 2008). During the December 2009 sample event, the surface of the irrigation pond was frozen except for the immediate vicinity of the Pond Culvert 1 outfall. The Pond North sample was obtained from this unfrozen area. It is therefore likely that the sample was influence by the groundwater discharge from the culvert. The high VC concentration at Pond North appears to have been a localized condition because elevated VC was not present at the Pond Intake location during the December 2009 event.

5 Nature and Extent of Groundwater Contamination

This section presents an update of the nature and extent of groundwater contamination at the MLC MLK site. Updated isoconcentration maps and statistical trends in the data are presented.

5.1 ISOCONCENTRATION MAPS

Figure 5-1 to Figure 5-6 show the concentrations of the principal VOC constituents TCE, cis-1,2-DCE and VC in groundwater for hydrogeologic units 3S and 3D. These isoconcentration maps update those contained in the previous annual reports. Each isoconcentration map also shows the relevant Unit 3S or 3D potentiometric surface as determined from April 28, 2009 water level data. Since the Unit 3S confining unit is absent in the area of former Plant 9 and portions of the Meadowbrook Golf Course, and Unit 3 is relatively thin in these areas, the VOC data from wells in these areas are shown on both the Unit 3S and 3D isoconcentration maps. Combining data in this manner provides a useful portrayal of the former WWTP Area plume from its source in the upper part of Unit 3 near MW 68 to its tail area occurrences in the lower part of Unit 3 at (Figure 5-1 to Figure 5-3)

The data posted on the maps are the most recent analytical data available for each well. Statistical outliers were evident for TCE, cis-1,2-DCE and VC for the most recent December 2009 monitoring event at MW 8 and MW 14. These data are identified on the isoconcentration plots were not considered in the development of the contours.

The current isoconcentration maps continue to suggest that there are two separate VOC plumes (see Section 2.4). One plume is associated with AOC 1 – South Court and the second plume is derived from an apparent source area near MW 68. The plumes are separated by a series of Unit 3S wells where VOCs have not been detected, or have been detected only at very low levels (Figures 5-1, 5-2 and 5-3, MW 16, 17, 37, 46, 59 and 84). A persistent groundwater mound in Unit 3S occurs along this line of wells (Figure 4-7) that appears to serve as a hydraulic barrier separating the two plume areas.

The AOC 1 – South Court plume in Unit 3S extends in a northeast direction from AOC 1 – South Court (Figures 5-1, 5-2, and 5-3). The eastward extent of the plume appears to be limited by the groundwater mound noted in the preceding paragraph. The plume is bounded to the northeast at MW 76 and on the west at MW 11/12.

Although there is little data beneath the former Main Plant building, Unit 3D is also interpreted to contain two VOC plumes (Figure 5-5 and Figure 5-6). The Unit 3D plume originating from AOC 1 – South Court extends west to MW 53 (Figure 5-5), and VOC contamination in this area was likely induced from pumping of former groundwater production well 12. This well was not used after about 1989 and the VOCs in this area are believed to be residual and are decreasing.

The former WWTP Area plume extends eastward from the apparent source area near MW 68 towards former Plant 9 and has migrated to the east to the vicinity of MW 64 and southeast to the vicinity of MW 85. MW 68, located just west of MLK Boulevard has the highest cis-1,2-DCE concentration and is inferred to be closest to the VOC source area. This VOC plume is composed primarily of cis-1,2-DCE and the highest reported concentrations occur at MW 40, MW 41, MW 68, and MW-4 (Figure 5-2 and Figure 5-5). The plume geometry is unusually wide in the north-south direction compared to its length in the east-west direction. This appears to be the result of the very low hydraulic gradients that occur within the central portion of the meltwater valley and the westward gradient that occurs in the eastern part of the valley (Figure 4-5 and Figure 4-6).

Vinyl chloride and TCE are subordinate components of the former WWTP Area plume. TCE is a relatively minor component even in the source area of this plume (Figure 5-1). The highest reported concentrations for VC occur downgradient at MW-4 and MW 40 (Figure 5-3). The east edge of the former WWTP Area plume is marked by persistent occurrences of VC in Plant 9 Unit 3D wells MW 58, 64, 66, and 80.

5.2 STATISTICAL DATA EVALUATION

Pursuant to the *Site-Wide Groundwater Monitoring Plan* (Earth Tech, March 31, 2008) a statistical evaluation was conducted to assist in determining if the VOC contaminant plumes are increasing in size, shrinking, or are stable.

Plume stability may be examined by testing a parameter data set for the presence of a significant increasing or decreasing temporal trend. Statistical trend evaluation was conducted for the three principal constituents of the VOC plumes (TCE, cis-1,2-DCE, and VC) and ethene. Concentrations of TCE, cis-1,2-DCE, and VC may be expected to be interrelated. Cis-1,2-DCE forms as a result of reductive dechlorination of parent TCE. Likewise, VC forms from reductive dechlorination of cis-1,2-DCE. Ethene forms as a breakdown product of vinyl chloride. Ethene was added to the list of chemicals to be evaluated because it is the final degradation product of TCE.

The Mann-Kendall test was utilized in this evaluation. The Mann-Kendall test is frequently used to assess plume stability and long-term trends in monitoring data (Gilbert, 1987; EPA, July 1996), and is the "default" method of data analysis utilized for stability monitoring in the IDEM Risk Integrated System of Closure (RISC) technical guidance document (IDEM, February 15, 2001). The test is non-parametric, tolerates missing values, and does not rely on population distribution assumptions.

The statistical evaluation was conducted as follows:

1. Identification of wells and data sets
2. Examination of data sets for censored data and outliers
3. Statistical testing
4. Interpretation of test results

The statistical analyses are presented in Attachment C. Sub-attachment C-1 presents time-series plots for TCE, cis-1,2-DCE, and VC for all monitoring locations that were sampled in 2009 (a total of 33). The trend analyses for TCE, cis-1,2-DCE, VC, and ethene are presented in Sub-attachment C-2. Sub-attachment C-2 begins with a summary data table that provides the trend analysis results. The summary tables are followed by data plots for parameters at each well or surface water monitoring point sampled in 2009 for which a definite test result (*Increasing, Decreasing, or No Trend*) could be obtained. Trend test results are presented by compound in the order shown in the summary data table.

5.2.1 Identification of Wells and Data Sets

All wells sampled in 2009 for which there are four data points (the minimum necessary for Mann-Kendall analysis) were considered for statistical evaluation. Wells are located in both VOC plume areas. The Mann-Kendall test is most applicable if few non-detect values are present in the dataset (Helsel and Hirsch 1992, Gilbert 1987). Therefore, as outlined in the draft monitoring plan (Earth Tech, March 31, 2008), statistical evaluation of trend was performed only in situations where the frequency of non-detect values was less than 25 percent. For each well, constituent, and data range

the frequency of non-detect values was determined and is shown on the summary table at the beginning of Sub-attachment C-2.

For the purpose of the trend analysis data from MW 31 and its replacement well MW 31R were pooled into a single data set.

5.2.2 Examination of Data Sets

Time-series data plots were examined to identify obvious outlier data points. An outlier test was then conducted to statistically evaluate the data point. To conduct the test, the data were log-transformed and ordered from lowest to highest. Next, an outlier test statistic was calculated by subtracting the sample mean and dividing by the sample standard. The statistic was compared to the critical "t" value at the 5% significance level, and a value of the statistic exceeding the critical "t" value is evidence of an outlier. Outlier test results are provided in Sub-attachment C-2.

Statistical outliers were evident in the TCE and cis-1,2-DCE data for MW 3 collected on October 18, 2005 and for cis-1,2-DCE and VC for the December monitoring event at MW 8 and MW 14. These data were removed and not considered in the statistical evaluation.

5.2.3 Statistical Testing

Statistically significant trend was evaluated using the non-parametric Mann-Kendall test following IDEM RISC guidance (IDEM, February 15, 2001, Appendix C) and employed the non-parametric Sen's Slope Estimator. After removal of statistical outliers (Section 5.2.2), field duplicate values were averaged. Non-detect results ("U"-flag) were set at a constant value less than the lowest detected value in the dataset, including detections below the reporting limit ("J"-flag) (Gilbert, 1987). For this analysis, "U"-flag data were fixed at 0.0001 mg/L for TCE, cis-1,2-DCE, and VC and 0.00001 mg/L for ethene. These values are lower than any reported "J"-flag value, and are the basis of the time series data plots in Sub-attachment C-1. Values flagged "J" were considered detections for the purpose of statistical analysis and the estimated parameter value was utilized. For the example data set: 0.001 U, 0.00015 J, 0.002 U, and 0.003, the values used in trend analysis would be: 0.0001, 0.00015, 0.0001, and 0.003.

The Mann-Kendall trend tests were performed using *WQStat Plus* statistical evaluation software. The *WQStat Plus* software utilizes a two-tailed test to detect either an upward or downward data trend and displays test results in terms of a critical value approach. IDEM RISC technical guidance (IDEM, February 15, 2001) for evaluating plume stability utilizes one-tailed test at an initial significance level of (α) of 0.10. An $\alpha = 0.10$ one-sided significance level is equivalent to a two-sided significance level of 0.2. For consistency with the IDEM RISC guidance, the Mann-Kendall statistic (S) may be compared to the critical S value corresponding to $\alpha = 0.2$ shown on the WQStat test plots in Sub-attachment C-2) to determine the significance of the statistical trend. If the computed S value is equal to or lower than the critical value corresponding to $\alpha = 0.2$ shown in tables on the Attachment C data plots there is no significant trend. If the computed S value is positive and greater than the critical value corresponding to $\alpha = 0.2$ shown in tables on the Attachment C data plots there is evidence of a statistically significant increasing trend.

Alternatively, Mann-Kendall test results may be interpreted in terms of a confidence value expressed as a percentage. The confidence value for each trend test is shown in the summary data table included in Sub-attachment C-2. Confidence in trend is numerically equal to 1-p, where p is upper tail probability for the null distribution of the Mann-Kendall statistic S, expressed as a percentage. Probability values for the Mann-Kendall statistic are given by Hollander and Wolfe (1973).

The test hypotheses at $\alpha = 0.1$ were:

H_o: There is no trend, or a decreasing trend in chemical concentration through time.

H_1: There is an increasing trend in chemical concentration.

5.2.4 Interpretation of Statistical Trend Test Results

A summary of the Mann-Kendall statistical analyses is presented in Table 5-1. This table notes whether there are statistically significant increasing or decreasing trends, or alternatively there is no trend or the trend is not determinable due to the frequency of non-detect values. This list of locations shown in Table 5-1 includes all wells that have been sampled in 2007, 2008, or 2009, and for which a minimum of four independent samples have been collected. The additional data collected in 2009 now provides four independent samples at MW 51, MW 79, and MW 85 and the determination of trend at these additional wells.

The trend analysis results are color-coded on the isoconcentration maps (Figure 5-1 to Figure 5-6). Posted well symbols, designations, and concentration values in red indicate a statistically significant increasing trend (greater than 90 percent confidence), green indicates a statistically significant decreasing trend (greater than 90 percent confidence), and blue indicates that a significant trend does not exit (less than 90 percent confidence). Increasing trends and decreasing trends for TCE, cis-1,2-DCE, and VC are balanced in the dataset (eleven each), but overall "no trend" situations predominate in 22 out of 44 cases where a trend may be determined.

Decreasing trends predominate for wells monitoring the AOC 1 – South Court plume. Decreasing trends are apparent for TCE at MW 3, MW 5, MW 12, and MW 31/31R, for cis-1,2-DCE at MW 8, MW 12, MW 15, and MW 31/31R, and for vinyl chloride at MW 5, MW 15, and MW 31/31R (Table 5-1). There are a few increasing trends in the AOC 1 – South Court plume wells. Increasing treads were noted for cis-1,2-DCE and VC at MW 49 in 2008. These trends continue with both compounds present above screening levels (Figure 4-10a). An increasing trend for cis-1,2-DCE is also noted at the Unit 3S monitoring well MW 79. Five samples have now been collected from this well since 2005 and each sample has shown an increasing cis-1,2-DCE concentration. This well is located in the middle portion of the AOC 1 – South Court plume and is the only indication that a portion of the plume may not be stable. No trend is apparent in the next downgradient Unit 3S well MW 51.

Several increasing trends are apparent in wells monitoring the former WWTP Area plume. All but one of these increasing trends relate to cis-1.2-DCE and VC. Increasing trends for cis-1,2-DCE are noted at MW-4 and MW 41. Increasing trends for VC are noted at MW 40, MW 41, MW 42, MW 66, and MW 81. The only increasing trend for TCE is at MW 68. All of these increasing trends except cis-1,2-DCE at MW 41 have been previously noted.

5.3 PLUME STABILITY

The preceding analysis provides an evaluation of statistical trends associated with the principal plume contaminants. The analysis was conducted in a manner consistent with the statistical testing protocols of the IDEM RISC default closure by stability monitoring process and may be used to make inferences regarding plume stability.

5.3.1 AOC 1 – South Court Plume

There are significant long term decreasing trends for several wells in and around the AOC 1 – South Court source area (MW 3, 5, 8, 14, and 15). There are also significant decreasing trends associated

with the western margin of this plume monitored at MW 12. The only significant increasing trends associated with any well monitoring the AOC 1 – South Court plume are at MW 49 and MW 79. MW 49 is located in a Unit 3S downgradient position from the southern part of AOC 1 – South Court and has shown increasing concentrations of cis-1,2-DCE and VC since 2004. This indicates a slight expansion of the plume off site. The increasing trend at MW 79 is apparent only this year. The trend is based on only five sample events, all but one of which have occurred during and after the plant demolition. This well should continue to be monitored for trend to determine if changed hydrologic conditions since the plant demolition are causing the increasing concentrations.

5.3.2 Former WWTP Area Plume

There are increasing trends for cis-1,2-DCE and VC for several wells monitoring the former WWTP Area plume. There are no decreasing treads. All wells with increasing trends (MW 40, MW 41, MW 42, MW 66, MW 68, MW 81, and MW-4) are located in the southeastern part of the plume. Further evidence that the plume is expanding to the southeast are the VC data from MW 58. Although these data were not tested for the presence of trend due the frequency of non-detect values, an increase is apparent in the time series plot in Attachment C.

On the other hand, no significant trend is apparent at wells monitoring the north part of the plume (MW 28, MW 64, and MW 80). Overall, the pattern of increasing and stable data trends suggests that the plume is expanding in a southeast direction. The plume expansion may be facilitated by irrigation pumping on the Meadowbrook Golf Course.

East of MLK Boulevard, the former WWTP Area plume occupies an area characterized by a low and variable hydraulic gradient in the glacial meltwater valley. The low gradient likely accounts for the unusual width of the plume compared to its length. The eastern boundary of the plume occurs near the hydraulic axis of the meltwater valley and roughly along a north-south line from just east of MW 58 and just east of MW 64. East of this line, the natural gradient is directed back to the west. The gradient reversal across the width of the valley may effectively control further significant eastward migration of the plume (Figure 5-6).

Hydrographs of monitoring wells MW 58, MW 66, MW 68, MW-4, and surface water level in the central irrigation pond at Meadowbrook Golf Course are shown in Figure 4-8. The water levels show seasonal variation with lows in the summer and fall and highs in the spring. Generally, the lowest water levels are seen at MW 58 indicating that the plume should be migrating most rapidly in that direction from the MW 68 source area.

During the summer and early fall of 2007, the water levels in the area were very low due to drought conditions. Monthly water levels measurements were being made at monitoring wells and at the central irrigation pond during that time. All monitoring wells exhibited a similar decline (Figure 4-8). However, well levels in the central irrigation pond declined the most due to pumping for irrigation. During this time, the pond water level, which is normally above the level of MW 58, was lowered to a level below MW 58. Pumping thus has the effect of directing the hydraulic gradient, and likely the plume migration, southeast of MW 58, which may explain the pattern of increasing and stable trends within the plume.

6 Summary and Conclusions

6.1 GROUNDWATER MONITORING

Significant conclusions from the 2009 site-wide groundwater monitoring are outlined in the following.

1. Unit 3 and bedrock potentiometric surface mapping in 2009 is consistent with previous maps generated for the Final RFI report and the 2006, 2007, and 2008 annual monitoring reports. Unit 3S maps indicate a general northeasterly gradient across the site. The gradient steepens and is directed more to the east at the eastern edge of the Unit 3 Confining Bed near MW 68 at the margin of the relict glacial meltwater valley.

   An arc of Unit 3S monitoring wells, including from south to north MW 46, MW 16, MW 84, MW 59, and MW 29, have not shown any significant VOC contamination and appear to define a boundary between the two VOC plume areas. The time series plots suggest that these wells generally have higher water levels than those located in the plume areas to the east and west. The presence of this groundwater ridge that occurs between MW 46 and MW 29 is a likely reason why the VOC contamination from the AOC-1 South Court plume to the west has not affected wells MW 46, MW 16, MW 84, MW 59, and MW 29 and is not connected to the former WWTP Area plume as monitored at MW 68.

3. The measured water levels in Unit 3S monitoring wells within the former Main Plant building footprint are within the range of normal seasonal variation and do not appear to indicate a significant impact from the demolition of the Main Plant building and removal of the concrete floor area which occurred during the period March to November 2008.
4. The Unit 3D potentiometric surface mapping indicates an eastward gradient toward former Plant 9 and into the relic meltwater valley east of MLK Boulevard. Groundwater flow into the meltwater valley also occurs from the east based on water level data from MW-3. This eastward gradient may act to control significant eastward migration of the former WWTP area plume. At the same time, the north-south gradient component within the meltwater valley is very low resulting in a plume which is unusually wide compared to its length.
5. MW 12, a Unit 3I monitoring well located west of the former Main Plant building, continues to show a long term decline in cis-1,2-DCE concentration. The decline in cis-1,2-DCE concentration since 1993 is likely attributable to the cessation of pumping from on-site groundwater production wells in about 1989.
6. MW 46, a Unit 3S well located between the former WWTP plume and the AOC 1 South Court plume continues to show a separation of the two main VOC plume areas. Only a trace level of TCE below the reporting limit was detected at this well in December 2009.
7. MW 49, a Unit 3S well located adjacent to the AOC 1 – South Court area had a significant increase in cis-1,2-DCE concentration in December 2009.
8. MW 79, a Unit 3S well located within the footprint of the former Main Plant building former was sampled twice in 2009. The concentrations of cis-1,2-DCE, the prominent VOC component at this location, were the highest ever recorded.
9. Several wells within the tail and marginal areas of the former WWTP area plume had the highest levels of vinyl chloride yet reported in 2009. These include the Unit 3D wells MW 28, MW 57, MW 58, MW 64, MW 66, and MW 85 and the Bedrock well MW 81. These wells are all located in the southern part of the Plant 9 area and on the Meadowbrook Golf Course. However, sampling of Unit 3D wells MW 56, MW 61, and MW-2 located

farther from the apparent WWTP plume area source area continued to show non-detect vinyl chloride values based on the December 2009 sampling event.

10. MW 68, a Unit 3S well located near the apparent source area of the former WWTP area plume continues to show stable levels of the most prominent VOC component, cis-1,2-DCE, based on two 2009 sampling events.

11. There are significant long term decreasing trends for several wells in, and around, the AOC 1 – South Court source area (MW 3, 5, 8, 14, and 15). There are also significant decreasing trends associated with the western margin of this plume monitored at MW 12. The only significant increasing trends associated with any wells monitoring the AOC 1 – South Court plume are at MW 49 and MW 79.

12. There are increasing trends for cis-1,2-DCE and VC for several wells monitoring the former WWTP Area plume. There are no decreasing treads. All wells with increasing trends (MW 40, MW 41, MW 42, MW 66, MW 68, MW 81, and MW-4) are located in the southwestern part of the plume. no significant trend is apparent at wells monitoring the north part of the plume (MW 28, MW 64, and MW 80). Overall, the pattern of increasing and stable data trends suggests that the plume is expanding in a southeast direction. The plume expansion may be facilitated by irrigation pumping on the Meadowbrook Golf Course.

6.2 SURFACE WATER MONITORING

Significant findings from the 2009 surface water monitoring at the Meadowbrook Golf Course are outlined in the following.

1. Water levels at the central irrigation pond at Meadowbrook Golf Course track consistently with water levels in adjacent monitoring wells indicating that the pond is groundwater fed.

2. Based on the 2009 monitoring at adjacent monitoring well MW 85, the golf course irrigation pond appears to be within the former WWTP Area plume and the plume is expanding in the direction of the pond.

3. The concentration of VC at Pond North (0.5 mg/L) in December 2009 was the highest ever recorded. Historical time-series plots indicate that both VC and cis-1,2-DCE appear at higher concentrations during times of high groundwater levels and / or cold weather conditions. There is also evidence that groundwater enters the pond via a drainage culvert (Pond Culvert 1) at the Pond North location. It is likely that the high VC concentration at Pond North in December 2009 is a localized condition related to the culvert discharge because elevated VC was not present at the Pond Intake location during the December 2009 event.

7 Recommendations

Monitoring under this site-wide groundwater monitoring program began in February 2008 with the intend of conducting two full years of semiannual monitoring (four events) prior to a evaluating the data with respect to the project objectives and providing recommendations to continue, cease or revise the monitoring program. Two full years have now been conducted. The following recommendations are provided with respect to ongoing monitoring.

1. The draft Site-Wide Groundwater Monitoring Plan serving as the basis for groundwater monitoring at the site was submitted to the IDEM on April 3, 2008. IDEM provided informal review comments on June 9, 2008. In correspondence dated March 16, 2010, IDEM noted that their reviews of subsequent groundwater monitoring data indicate that the June 9, 2008 comments had been incorporated into the monitoring program. A final revised plan was requested, including provisions for sampling approximately 20 wells for metals parameters. It is recommended that a finalized plan now be submitted to IDEM. A submittal date of August 15, 2010 is proposed.

   More existing monitoring wells in the former Main Plant Building area should be utilized for Unit 3S hydraulic gradient mapping to capture gradient details that act to isolate the two VOC plume areas on site (see Section 4.2). Level measurements should be made during each monitoring event at additional wells that define the eastern boundary of the AOC 1 – South Court Plume. These additional wells are MW 16, MW 29 MW 59, and MW 84. Monitoring of these wells will also provide additional data to evaluate any future affects of the building demolition and concrete pad removal. It is recommended that that these wells be included in the final plan. Pending site access, an installation date of September 15 is proposed.

2. Three additional monitoring wells are recommended in the areas north, northeast, and southeast of former Plant 9 to evaluate hydraulic gradients and plume boundaries along the north and east margins of the former WWTP area plume. A one-time sampling of these wells for VOCs in 2010 is recommended during the next groundwater sampling event. The next groundwater monitoring event should occur after the three additional wells are installed.
3. Perform a one-time water level monitoring event at all accessible monitoring wells to determine the updated site-wide potentiometric surface following building demolition. This is proposed during the next sampling event in October 2010.
4. Discontinue winter sampling of the central irrigation pond at Meadowbrook Golf Course as there are no potential receptors during the winter months.
5. Since increasing trends for the principal VOC compounds are noted in both the AOC 1-South Court plume, and the former WWTP Area plume, groundwater and surface water monitoring should continue. Following the one-time VOC sampling proposed at three new monitoring wells, one-time sampling for metals, and site-wide hydraulic monitoring event, a revised Groundwater Monitoring Plan will be prepared to provide an updated list of annual and/or semi-annual monitoring locations to adequately characterize trends associated with the South Court and WWTP Area plumes.

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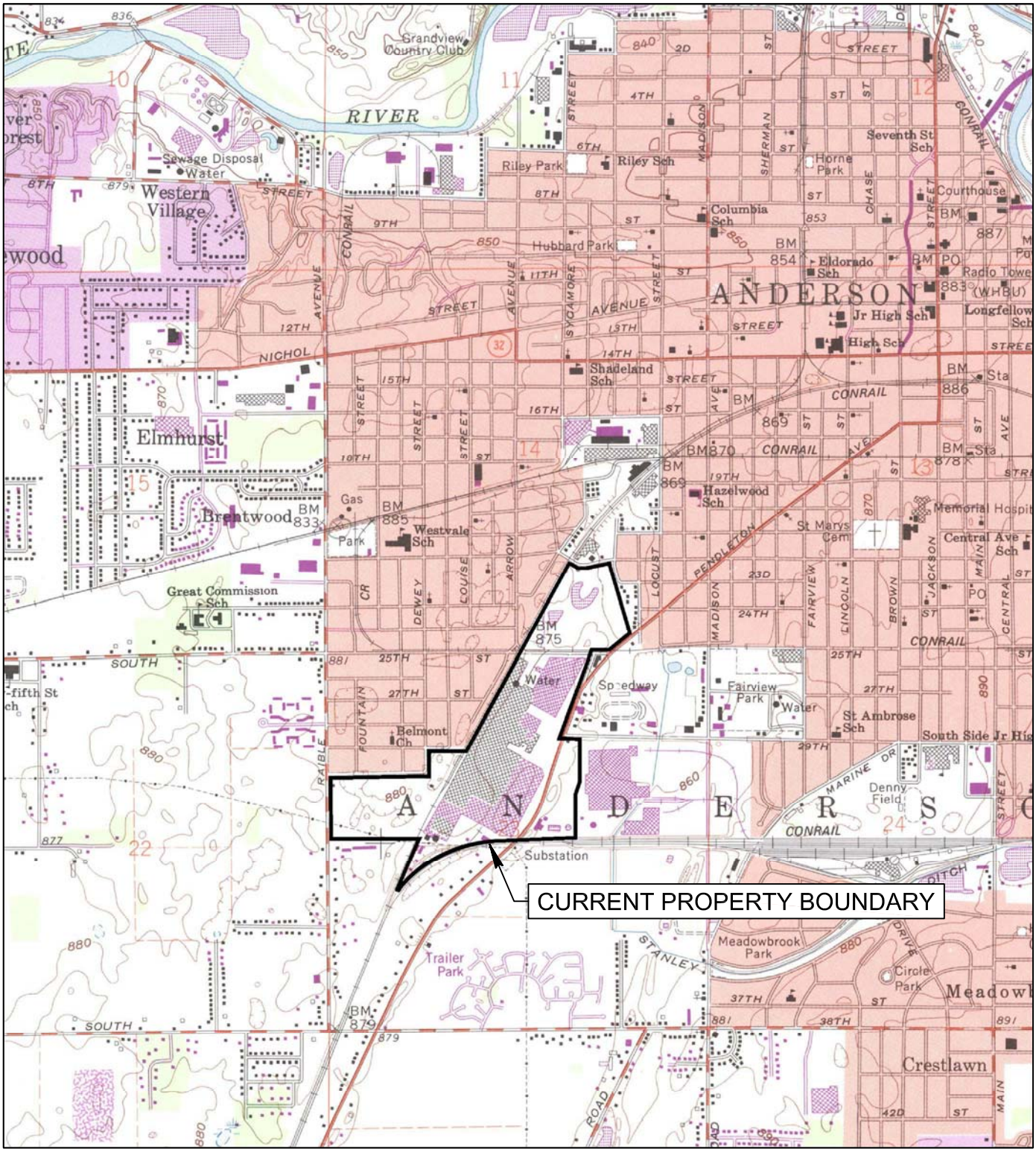

BASE TAKEN FROM USGS ANDERSON SOUTH, IND. 7.5' TOPOGRAPHIC QUADRANGLE.

NORTH

0 2000

FEET

SITE LOCATION MAP

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 2-1
Project No. 60135322		

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NORTH

EXPLANATION

PROPERTY BOUNDARY

FENCE LINE

RAILROAD

MONITORING WELL

0 400 800

FEET

ARROW AVENUE

MLK BLVD.

MADISON AVENUE

RAIBLE AVENUE

29th STREET

30TH ST.

33RD ST.

WEST IMPOUNDMENT AREA
AOC 5

FORMER MAIN BUILDING (DEMOLISHED)

WALKING TRACK AREA (WTA)
AOC 4

EAST STORAGE AREA
SWMU 22
AREA 3

BACKGROUND EAST AREA

NALCO AREA
SWMU 26
AREA 4

NALCO AREA
SWMU 25
AREA 4

FORMER PLANT 9

PLANT 6

FORMER HAZARDOUS WASTE STORAGE – EAST
AREA 3

EAST STORAGE AREA
SWMU 21
AREA 3

309 PLATING AREA
SWMU 3
AREA 2

ACID CAUSTIC
STRIP TANK AREA
SWMU 7
AREA 2

352 PLATING AREA
SWMU 2
AREA 2

1002 PREPLATE AREA
SWMU 4

400 PLATING AREA
AOC 7

NICKEL RECOVERY AREA
SWMU 6

CHROMIUM RECOVERY UNIT
AOI 2

FORMER WASTEWATER TREATMENT FACILITY (DEMOLISHED)

PRODUCTION WELL 11 (ABANDONED)

PRODUCTION WELL 12 (ABANDONED)

RAIBLE AVENUE PARKING AREA
AREA 1

BACKGROUND WEST AREA

USED OIL AREA
SWMU 16
AREA 1

WEST CHROMIUM WASTEWATER RELEASE AREA (WCA)
AREA 1

EAST CHROMIUM WASTEWATER RELEASE AREA (ECA)
AOC 3

PUMP HOUSE

FORMER FIRE TRAINING AREA (FFTA)
AOC 2

FIRE PROTECTION TANK

SOUTH COURT
AREA 1

CONRAIL DITCH AREA
SWMU 17
AREA 1

POND

POND

POND

MEADOWBROOK GOLF COURSE

STANLEY DITCH

MW 1 MW 2 MW 2R MW 3 MW 4 MW 5 MW 6 MW 7 MW 8 MW 9 MW 10 MW 11 MW 12 MW 13 MW 14 MW 15 MW 16 MW 17 MW 18 MW 19 MW 20 MW 21 MW 22 MW 23 MW 24 MW 25 MW 28 MW 29 MW 30 MW 31/31R MW 32 MW 33 MW 34 MW 35 MW 36 MW 37 MW 38 (ABANDONED) MW 39 MW 40 MW 41 MW 42 MW 43 MW 44 MW 45 MW 46 MW 47 MW 48 MW 49 MW 50 MW 51 MW 52 MW 53 MW 54 MW 55 MW 56 MW 57 MW 58 MW 59 MW 60 MW 61 MW 62 MW 63 MW 64 MW 65 MW 66 MW 67 MW 68 MW 69 MW 70 MW 71 MW 72 MW 73 MW 74 MW 75 MW 76 MW 77 MW 78 MW 79 MW 80 MW 81 MW 82 MW 83 MW 84 MW 85

MW-ER-1 MW-ER-2 MW-ER-3

MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7

SITE PLAN SHOWING LOCATIONS OF MONITORING WELLS AND AREAS OF INTEREST

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date	Project No.	Figure
03-10	60135322	2-2

AECOM

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WEST

EAST

BURIED BEDROCK VALLEY

UNIT 2

UNIT 1

UNIT 2

RELICT MELTWATER VALLEY

3S

3S

3S

UNIT 3S

3S

UNIT 3

3

B

UNIT 3 CONFINING BED

UNIT 3

3D

2'

1'

SILURIAN CARBONATE BEDROCK

UNIT 3D

UNIT 4

UNIT 4

UNIT 5

B

3D

B

B

SILURIAN CARBONATE BEDROCK

3D

Explanation

5' OR 10' WELL SCREEN

GROUND WATER SURFACE

GENERALIZED HYDROGEOLOGIC CROSS SECTION SHOWING WELL COMPLETION ZONES

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 2-3
Project No. 60135322		

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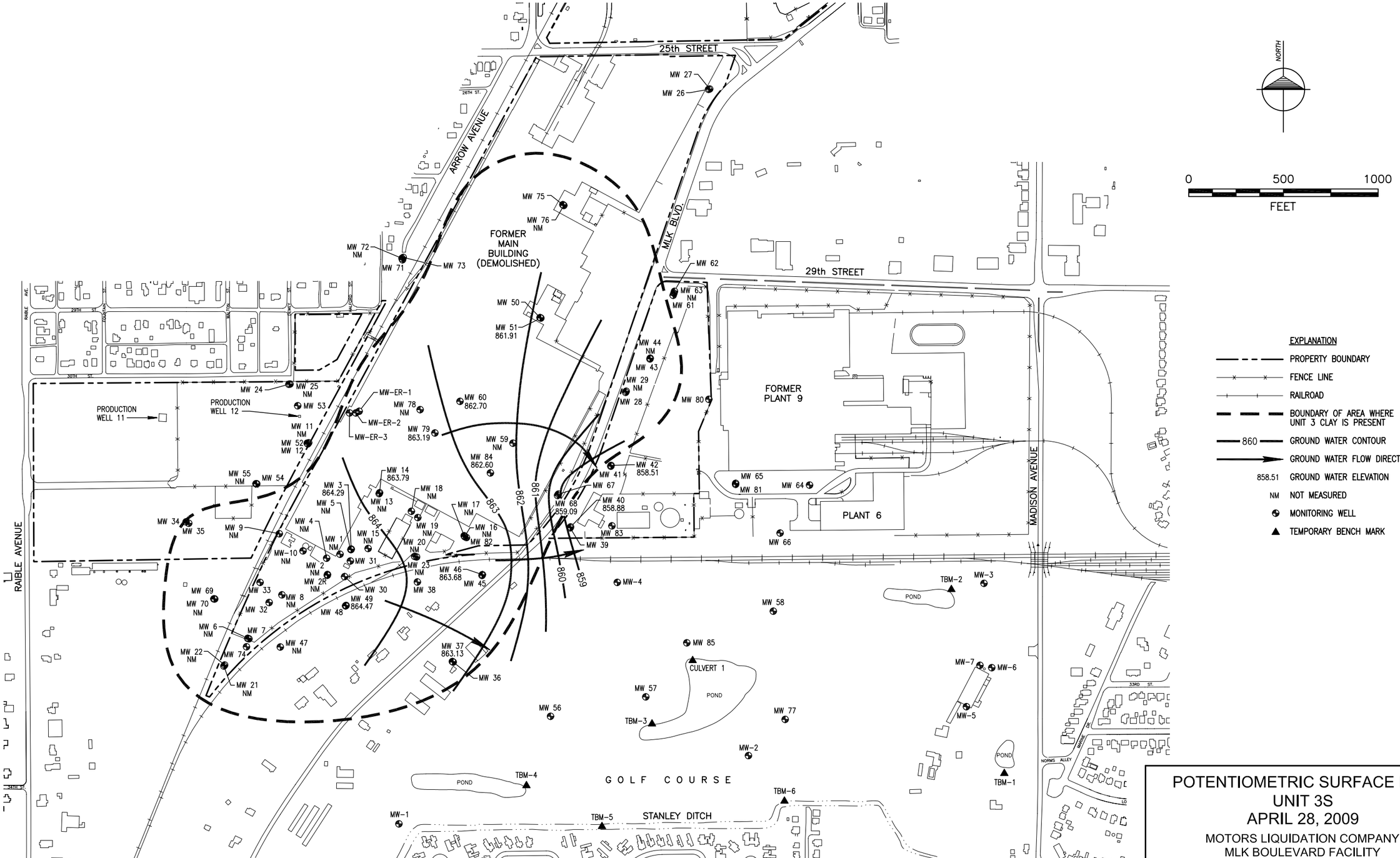

POTENTIOMETRIC SURFACE MAP
UNIT 3S
APRIL 28, 2009

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10		Figure
Project No. 60135322	AECOM	4-1

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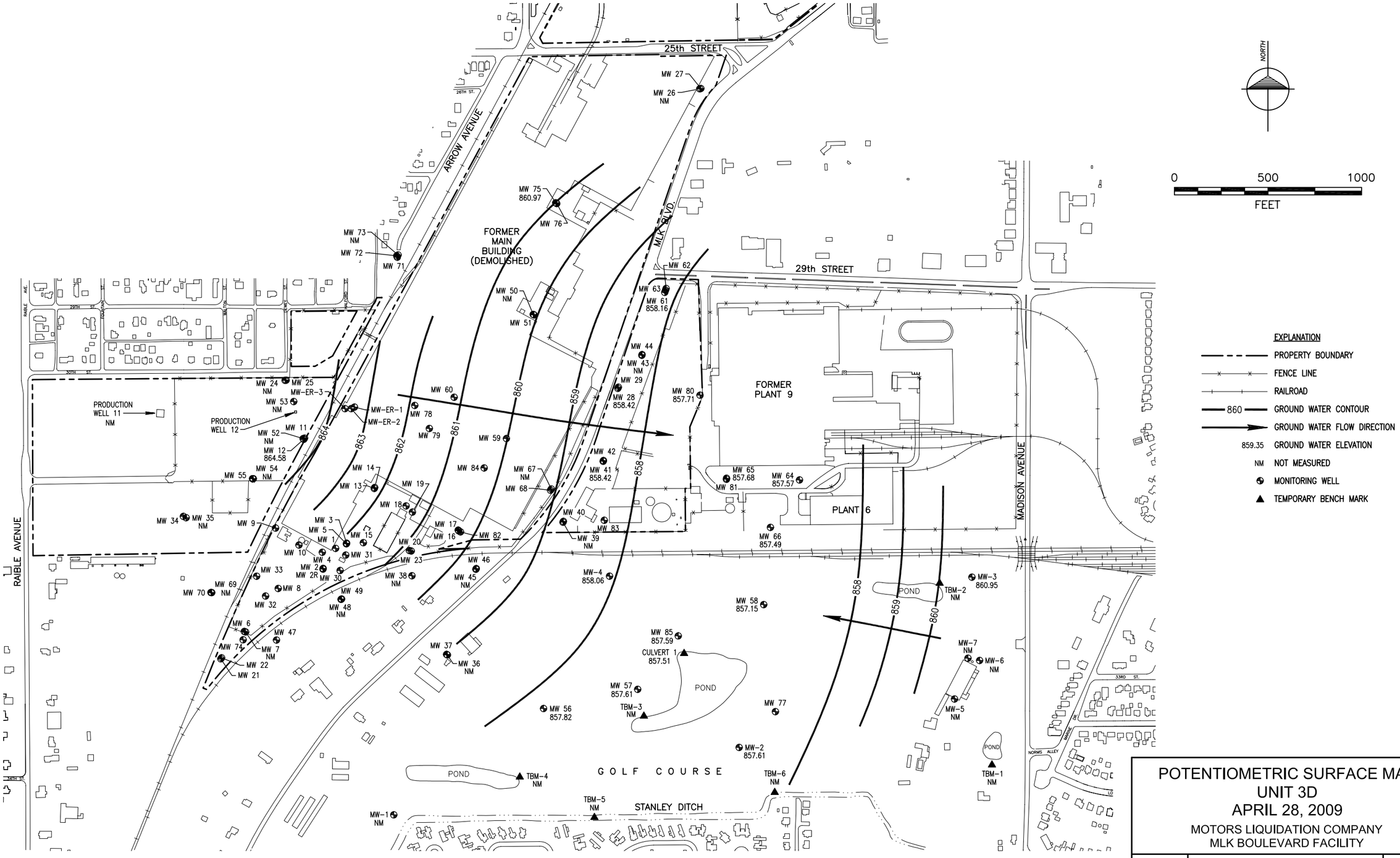

POTENTIOMETRIC SURFACE MAP
UNIT 3D
APRIL 28, 2009

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 4-2
Project No. 60135322		

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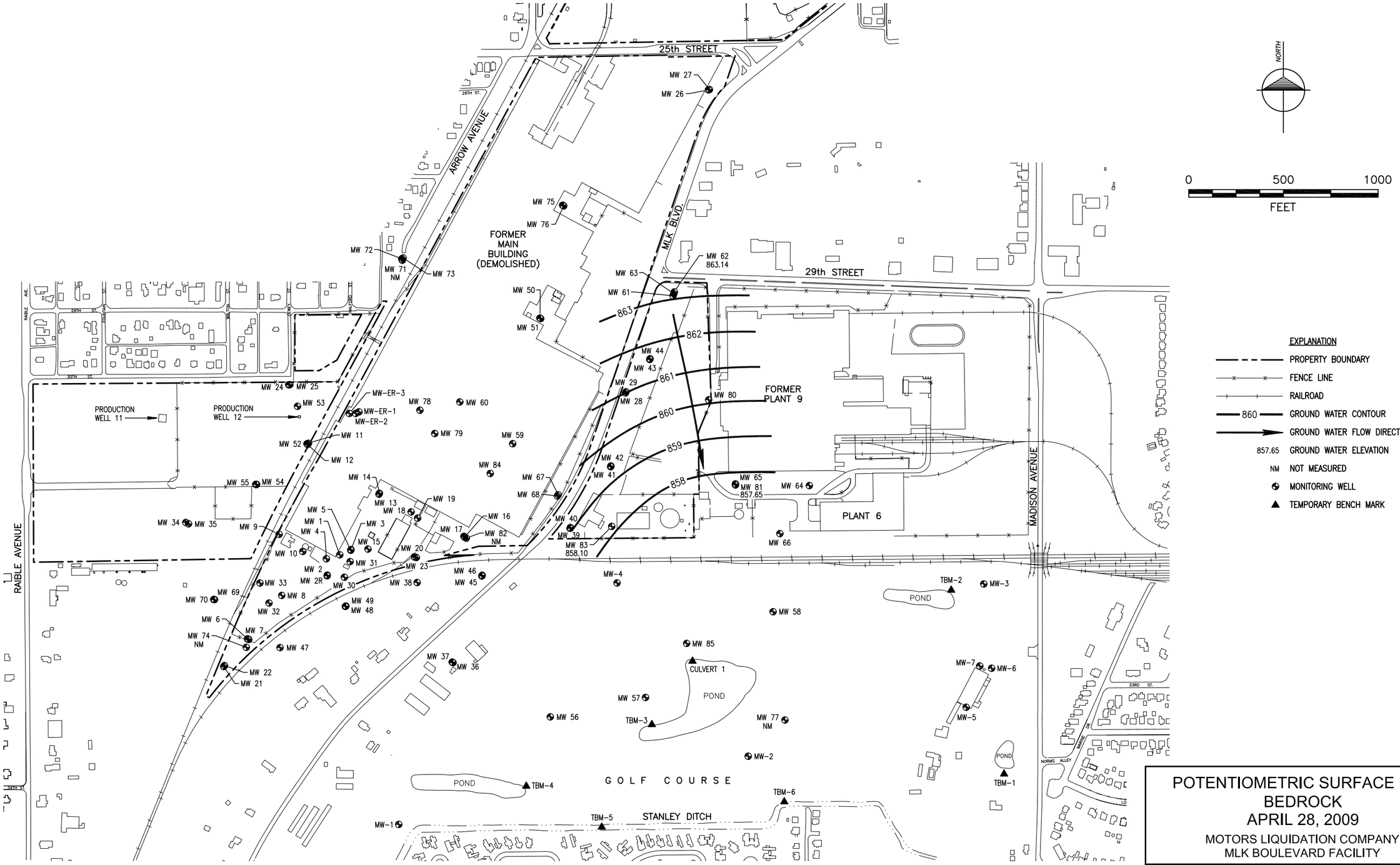

POTENTIOMETRIC SURFACE MAP
BEDROCK
APRIL 28, 2009

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 4-3
Project No. 60135322		

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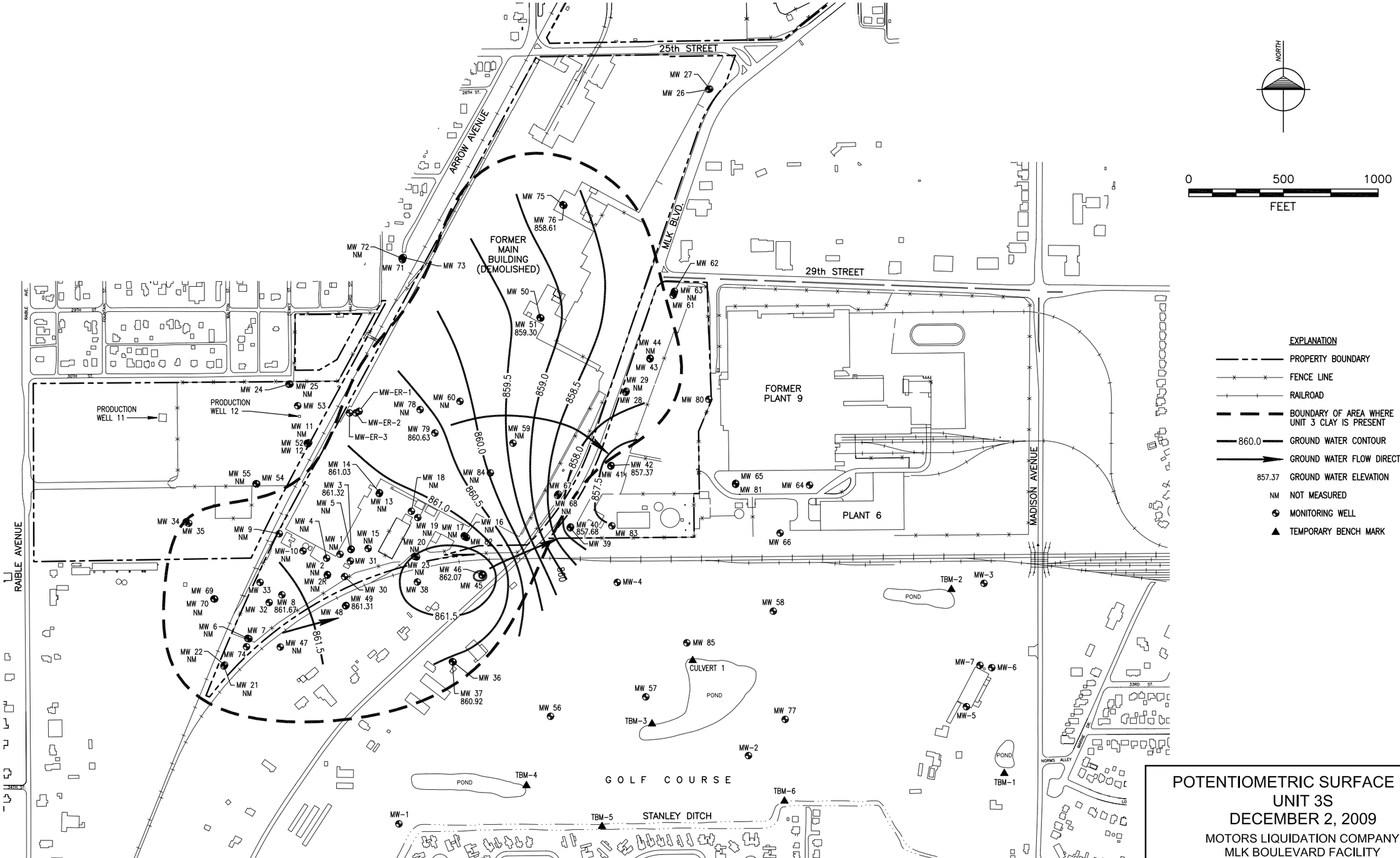

POTENTIOMETRIC SURFACE MAP UNIT 3S DECEMBER 2, 2009

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 4-4
Project No. 60135322		

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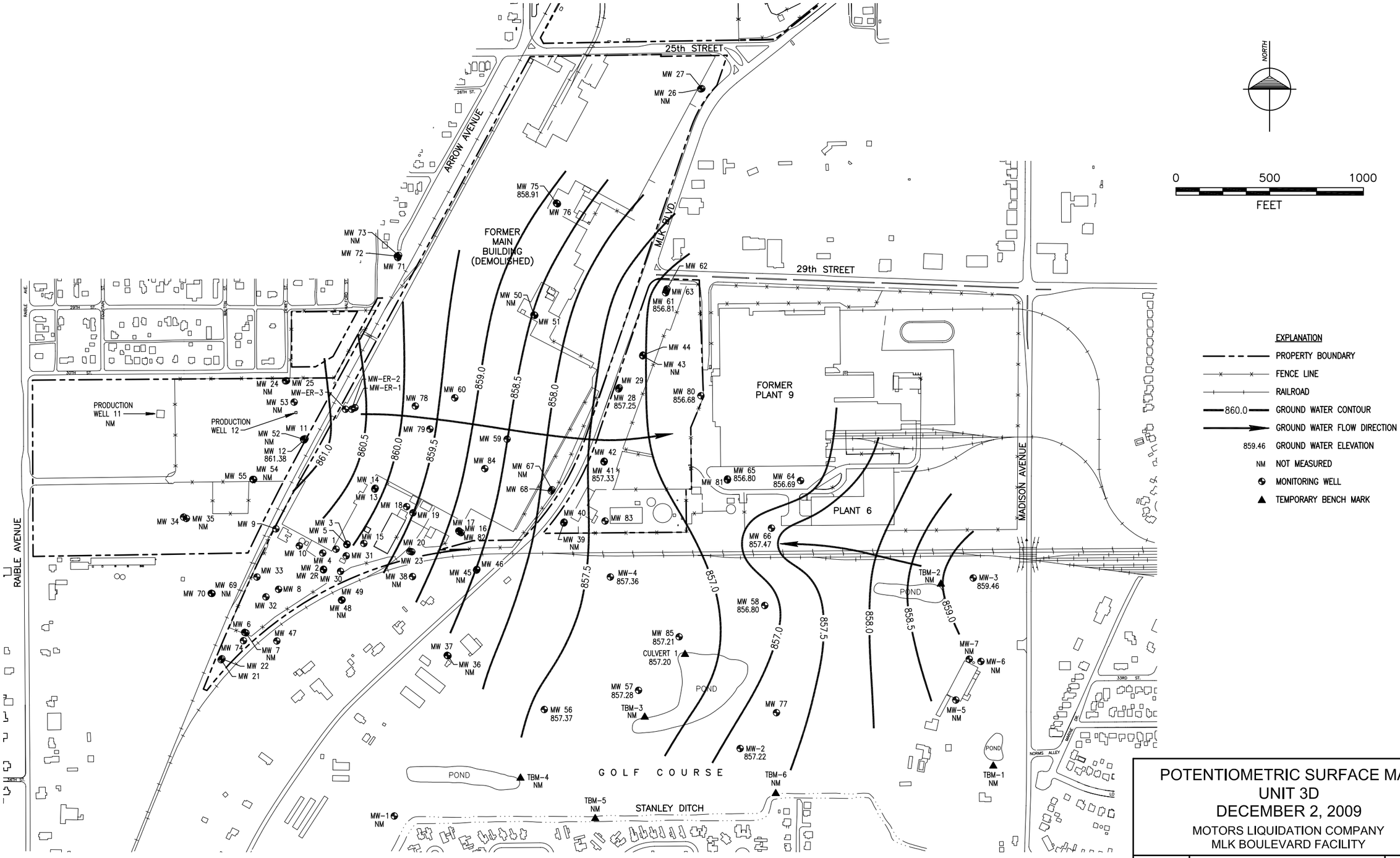

POTENTIOMETRIC SURFACE MAP
UNIT 3D
DECEMBER 2, 2009

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 4-5
Project No. 60135322		

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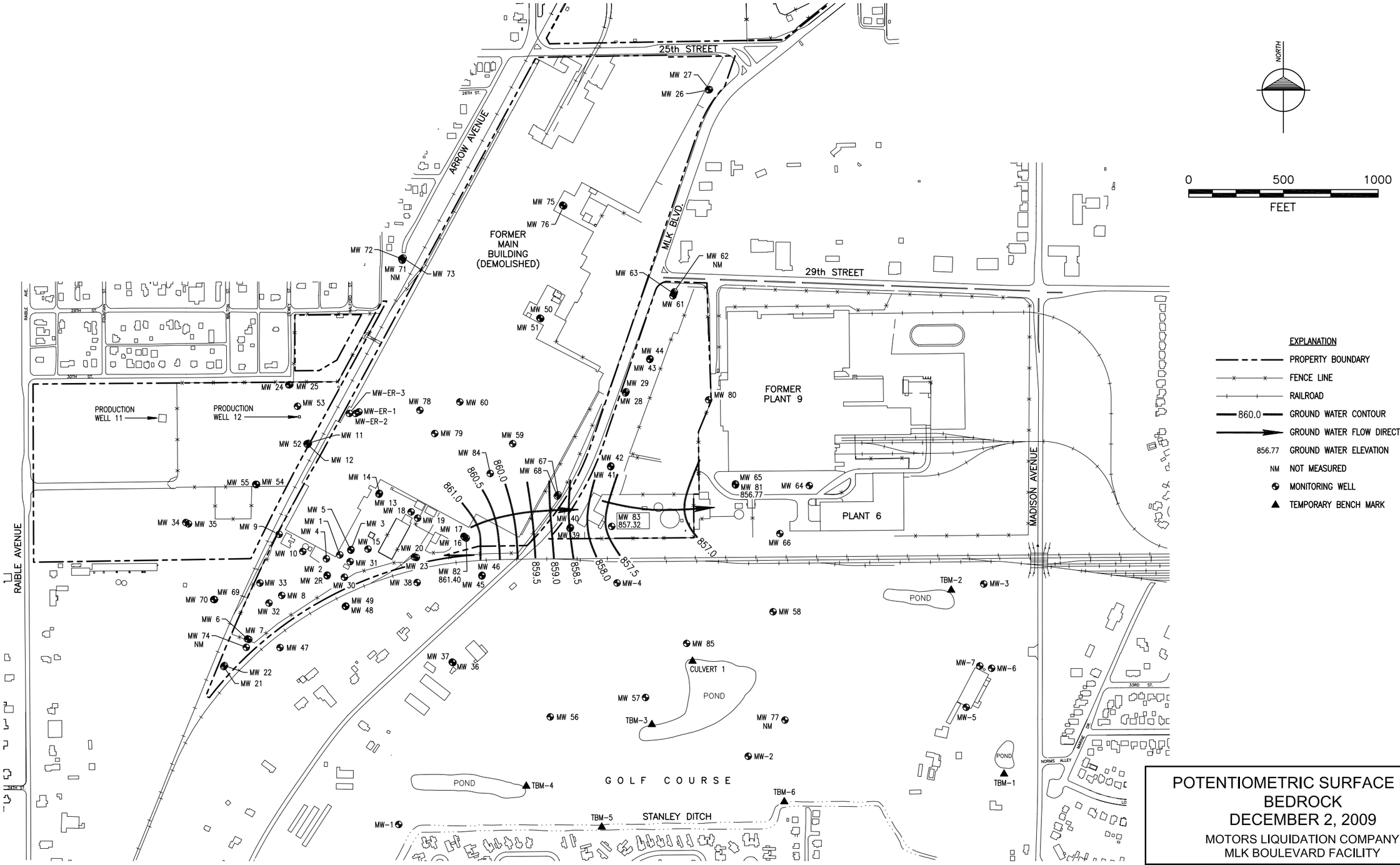

POTENTIOMETRIC SURFACE MAP
BEDROCK
DECEMBER 2, 2009

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 4-6
Project No. 60135322		

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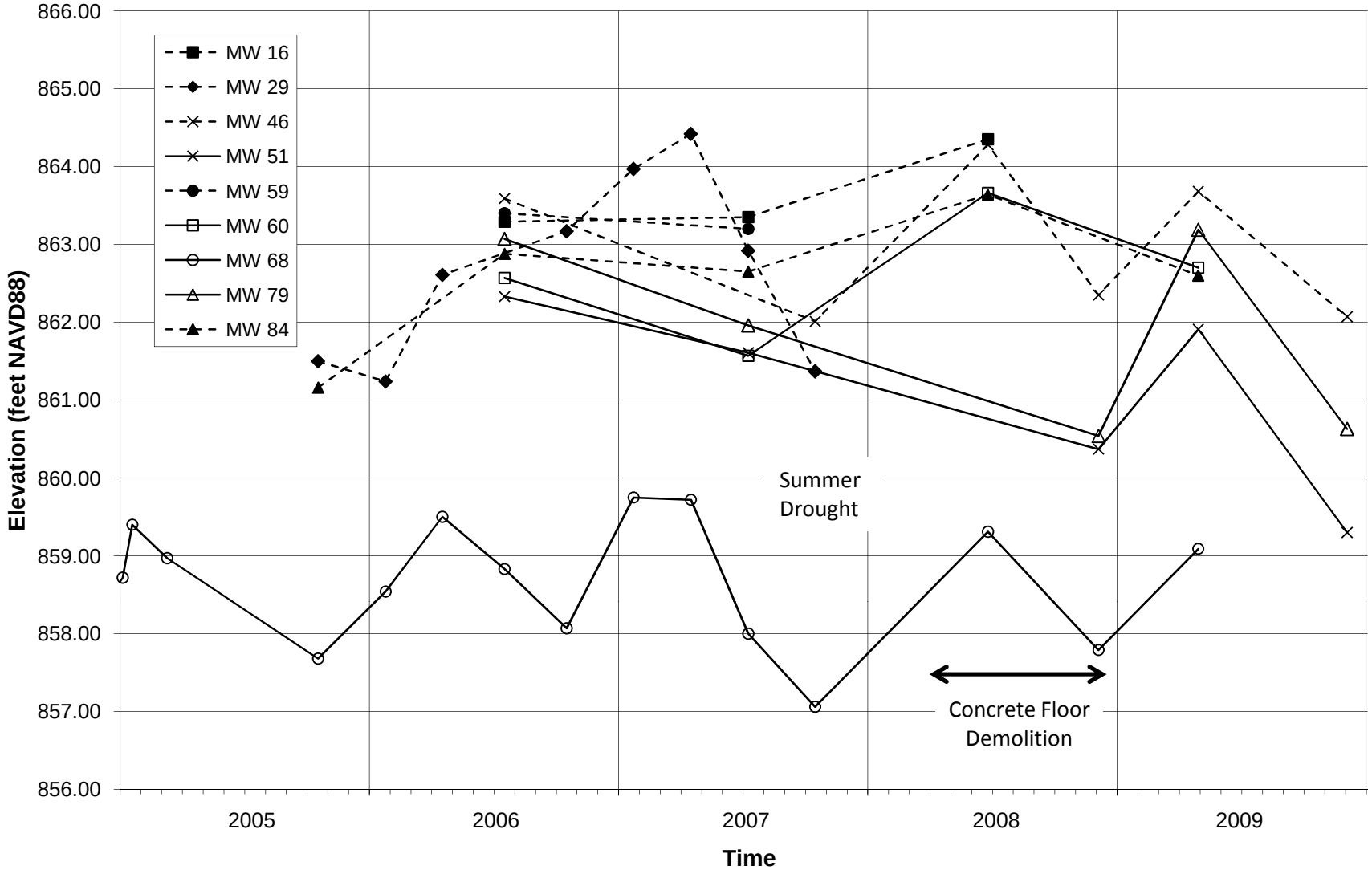


Figure 4-7: Former Main Plant Building Unit 3s Monitoring Point Hydrographs

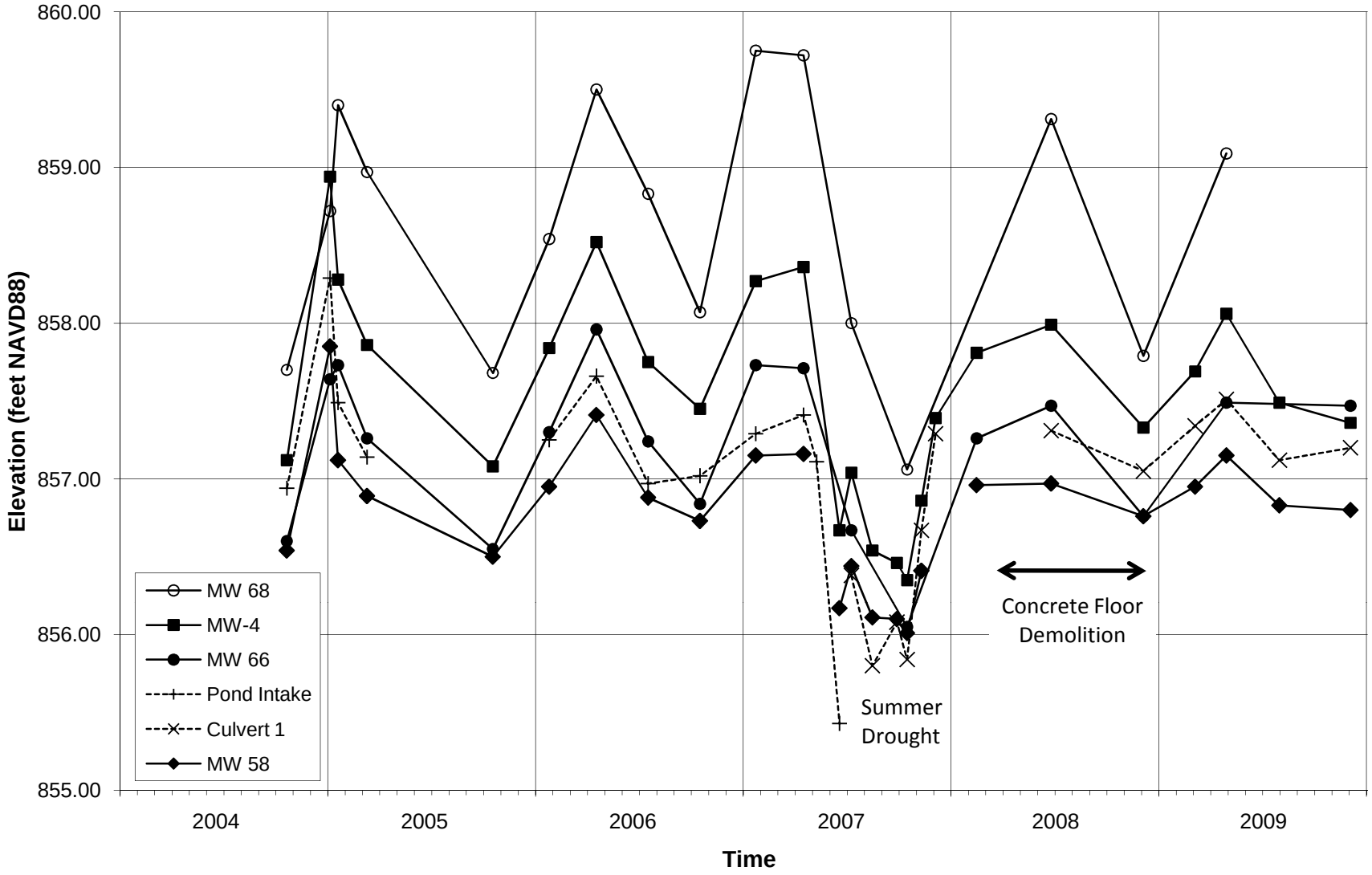


Figure 4-8: Former WWTP Area Plume Monitoring Point Hydrographs

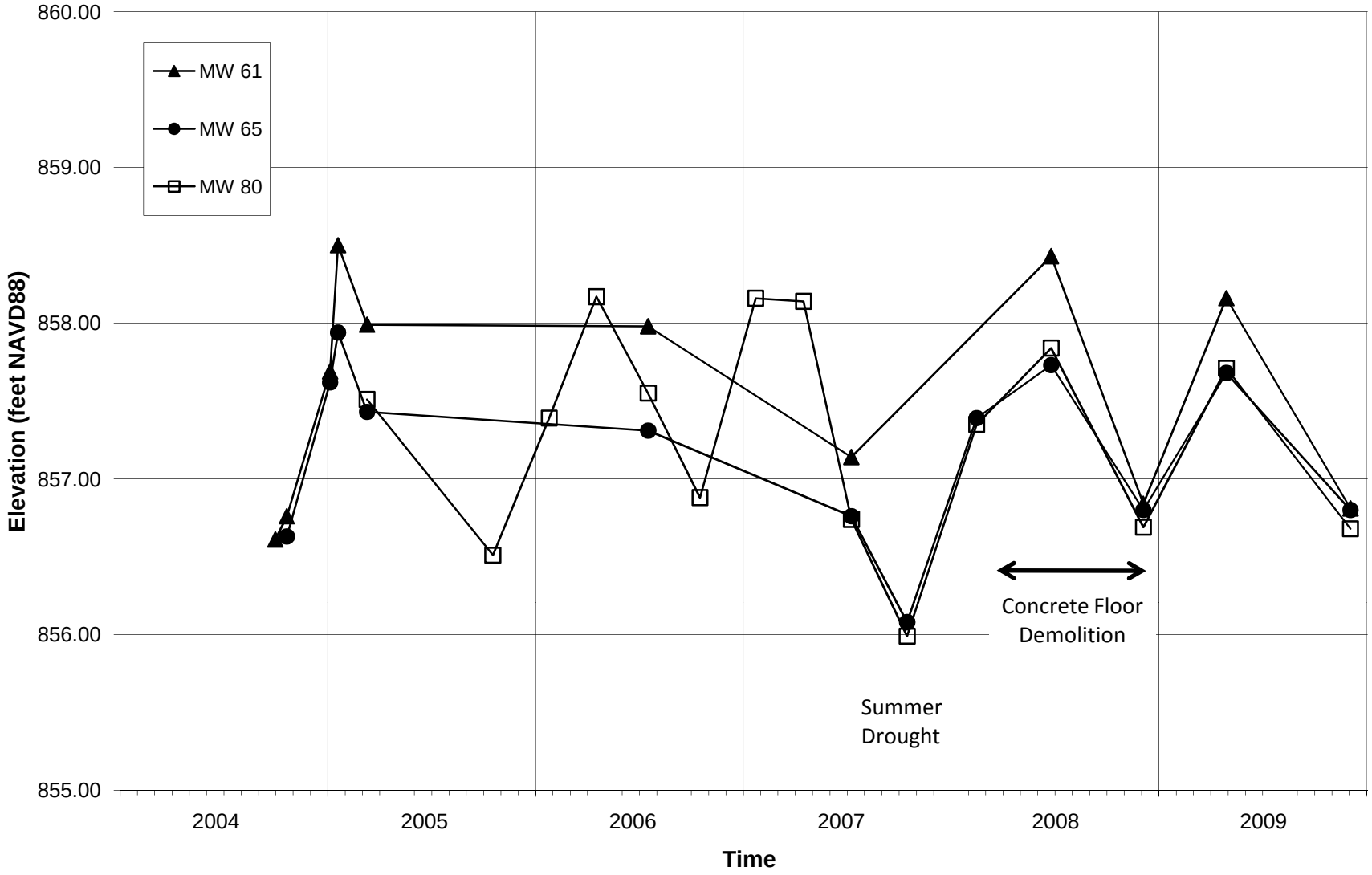
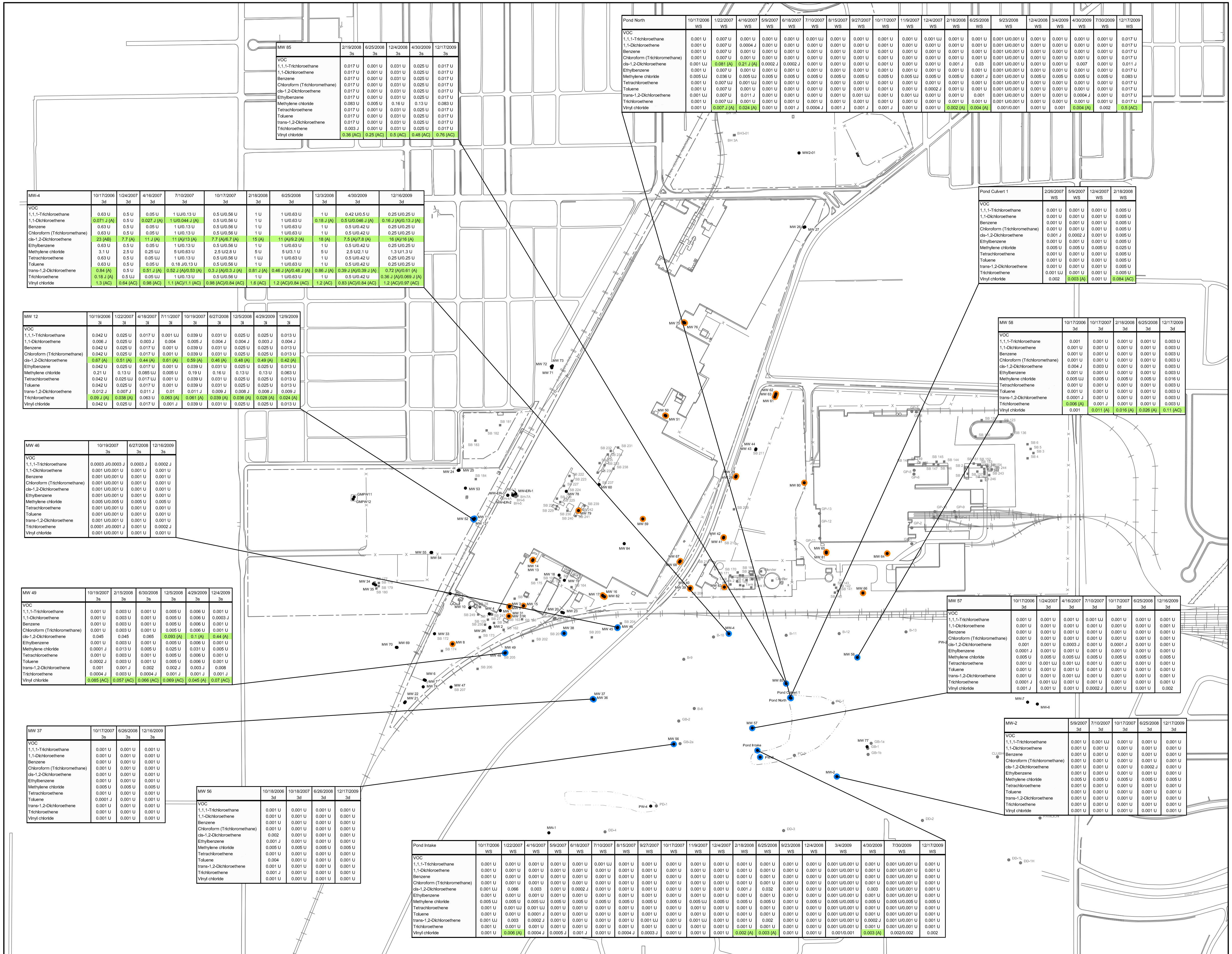


Figure 4-9: Plant 9 Area Monitoring Point Hydrographs



MW 85	2/19/2008 3s	6/25/2008 3s	12/4/2008 3s	4/30/2009 3s	12/17/2009 3s
VOC					
1,1,1-Trichloroethane	0.017 U	0.001 U	0.031 U	0.025 U	0.017 U
1,1-Dichloroethene	0.017 U	0.001 U	0.031 U	0.025 U	0.017 U
Benzene	0.017 U	0.001 U	0.031 U	0.025 U	0.017 U
Chloroform (Trichloromethane)	0.017 U	0.001 U	0.031 U	0.025 U	0.017 U
cis-1,2-Dichloroethene	0.017 U	0.001 U	0.031 U	0.025 U	0.017 U
Ethylbenzene	0.017 U	0.001 U	0.031 U	0.025 U	0.017 U
Methylene chloride	0.083 U	0.005 U	0.16 U	0.13 U	0.083 U
Tetrachloroethene	0.017 U	0.001 U	0.031 U	0.025 U	0.017 U
Toluene	0.017 U	0.001 U	0.031 U	0.025 U	0.017 U
trans-1,2-Dichloroethene	0.017 U	0.001 U	0.031 U	0.025 U	0.017 U
Trichloroethene	0.003 J	0.001 U	0.031 U	0.025 U	0.017 U
Vinyl chloride	0.36 {AC}	0.25 {AC}	0.5 {AC}	0.48 {AC}	0.76 {AC}

Pond North	10/17/2006 WS	1/22/2007 WS	4/16/2007 WS	5/9/2007 WS	6/18/2007 WS	7/10/2007 WS	8/15/2007 WS	9/27/2007 WS	10/17/2007 WS	11/9/2007 WS	12/4/2007 WS	2/18/2008 WS	6/25/2008 WS	9/23/2008 WS	12/4/2008 WS	3/4/2009 WS	4/30/2009 WS	7/30/2009 WS	12/17/2009 WS
VOC																			
1,1,1-Trichloroethane	0.001 U	0.007 U	0.001 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.017 U
1,1-Dichloroethene	0.001 U	0.007 U	0.0004 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.017 U
Benzene	0.001 U	0.007 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.017 U
Chloroform (Trichloromethane)	0.001 U	0.007 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.017 U
cis-1,2-Dichloroethene	0.001 UJ	0.081 {A}	0.21 J {A}	0.0002 J	0.0002 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 J	0.03	0.001 U/0.001 U	0.001 U	0.001 U	0.007	0.001 U	0.011 J
Ethylbenzene	0.001 U	0.007 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.017 U
Methylene chloride	0.005 UJ	0.036 U	0.005 UJ	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 UJ	0.005 U	0.005 U	0.0001 J	0.001 U/0.001 U	0.005 U	0.005 U	0.005 U	0.005 U	0.083 U
Tetrachloroethene	0.001 U	0.007 UJ	0.001 UJ	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.017 U
Toluene	0.001 U	0.007 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0002 J	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.017 U
trans-1,2-Dichloroethene	0.001 UJ	0.007 U	0.011 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U	0.001 U	0.001	0.001 U/0.001 U	0.001 U	0.001 U	0.0004 J	0.001 U	0.017 U
Trichloroethene	0.001 U	0.007 UJ	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.017 U
Vinyl chloride	0.001 U	0.007 J {A}	0.024 {A}	0.001 U	0.001 J	0.0004 J	0.001 J	0.001 J	0.001 J	0.001 U	0.001 U	0.002 {A}	0.004 {A}	0.001/0.001	0.001 U	0.001	0.004 {A}	0.002	0.5 {AC}

MW-4	10/17/2006 3d	1/24/2007 3d	4/16/2007 3d	7/10/2007 3d	10/17/2007 3d	2/18/2008 3d	6/25/2008 3d	12/3/2008 3d	4/30/2009 3d	12/16/2009 3d
VOC										
1,1,1-Trichloroethane	0.63 U	0.5 U	0.05 U	1 UJ/0.13 U	0.5 U/0.56 U	1 U	1 U/0.63 U	1 U	0.42 U/0.5 U	0.25 U/0.25 U
1,1-Dichloroethene	0.071 J {A}	0.5 U	0.027 J {A}	1 U/0.044 J {A}	0.5 U/0.56 U	1 U	1 U/0.63 U	0.18 J {A}	0.5 U/0.046 J {A}	0.16 J {A}/0.13 J {A}
Benzene	0.63 U	0.5 U	0.05 U	1 U/0.13 U	0.5 U/0.56 U	1 U	1 U/0.63 U	1 U	0.5 U/0.42 U	0.25 U/0.25 U
Chloroform (Trichloromethane)	0.63 U	0.5 U	0.05 U	1 U/0.13 U	0.5 U/0.56 U	1 U	1 U/0.63 U	1 U	0.5 U/0.42 U	0.25 U/0.25 U
cis-1,2-Dichloroethene	23 {AB}	7.7 {A}	11 J {A}	11 {A}/13 {A}	7.7 {A}/6.7 {A}	15 {A}	11 {A}/9.2 {A}	18 {A}	7.5 {A}/7.8 {A}	16 {A}/16 {A}
Ethylbenzene	0.63 U	0.5 U	0.05 U	1 U/0.13 U	0.5 U/0.56 U	1 U	1 U/0.63 U	1 U	0.5 U/0.42 U	0.25 U/0.25 U
Methylene chloride	3.1 U	2.5 U	0.25 UJ	5 U/0.63 U	2.5 U/2.8 U	5 U	5 U/3.1 U	5 U	2.5 U/2.1 U	1.3 U/1.3 U
Tetrachloroethene	0.63 U	0.5 U	0.05 UJ	1 U/0.13 U	0.5 U/0.56 U	1 UJ	1 U/0.63 U	1 U	0.5 U/0.42 U	0.25 U/0.25 U
Toluene	0.63 U	0.5 U	0.05 U	0.18 J/0.13 U	0.5 U/0.56 U	1 U	1 U/0.63 U	1 U	0.5 U/0.42 U	0.25 U/0.25 U
trans-1,2-Dichloroethene	0.84 {A}	0.5 U	0.51 J {A}	0.52 J {A}/0.53 {A}	0.3 J {A}/0.3 J {A}	0.81 J {A}	0.46 J {A}/0.48 J {A}	0.86 J {A}	0.39 J {A}/0.39 J {A}	0.72 {A}/0.61 {A}
Trichloroethene	0.18 J {A}	0.5 UJ	0.05 UJ	1 U/0.13 U	0.5 U/0.56 U	1 U	1 U/0.63 U	1 U	0.5 U/0.42 U	0.36 J {A}/0.069 J {A}
Vinyl chloride	1.3 {AC}	0.64 {AC}	0.98 {AC}	1.1 {AC}/1.1 {AC}	0.98 {AC}/0.84 {AC}	1.6 {AC}	1.2 {AC}/0.84 {AC}	1.2 {AC}	0.83 {AC}/0.84 {AC}	1.2 {AC}/0.97 {AC}

MW 12	10/19/2006 3i	1/22/2007 3i	4/18/2007 3i	7/11/2007 3i	10/19/2007 3i	6/27/2008 3i	12/5/2008 3i	4/29/2009 3i	12/9/2009 3i
VOC									
1,1,1-Trichloroethane	0.042 U	0.025 U	0.017 U	0.001 UJ	0.039 U	0.031 U	0.025 U	0.025 U	0.013 U
1,1-Dichloroethene	0.006 J	0.025 U	0.003 J	0.004	0.005 J	0.004 J	0.004 J	0.003 J	0.004 J
Benzene	0.042 U	0.025 U	0.017 U	0.001 U	0.039 U	0.031 U	0.025 U	0.025 U	0.013 U
Chloroform (Trichloromethane)	0.042 U	0.025 U	0.017 U	0.001 U	0.039 U	0.031 U	0.025 U	0.025 U	0.013 U
cis-1,2-Dichloroethene	0.67 {A}	0.51 {A}	0.44 {A}	0.61 {A}	0.59 {A}	0.46 {A}	0.48 {A}	0.49 {A}	0.42 {A}
Ethylbenzene	0.042 U	0.025 U	0.017 U	0.001 U	0.039 U	0.031 U	0.025 U	0.025 U	0.013 U
Methylene chloride	0.21 U	0.13 U	0.085 UJ	0.005 U	0.19 U	0.16 U	0.13 U	0.13 U	0.063 U
Tetrachloroethene	0.042 U	0.025 UJ	0.017 UJ	0.001 U	0.039 U	0.031 U	0.025 U	0.025 U	0.013 U
Toluene	0.042 U	0.025 U	0.017 U	0.001 U	0.039 U	0.031 U	0.025 U	0.025 U	0.013 U
trans-1,2-Dichloroethene	0.012 J	0.007 J	0.011 J	0.01	0.011 J	0.009 J	0.008 J	0.008 J	0.009 J
Trichloroethene	0.09 J {A}	0.038 {A}	0.063 U	0.063 {A}	0.061 {A}	0.039 {A}	0.036 {A}	0.028 {A}	0.024 {A}
Vinyl chloride	0.042 U	0.025 U	0.017 U	0.001 J	0.039 U	0.031 U	0.025 U	0.025 U	0.013 U

MW 46	10/19/2007 3s	6/27/2008 3s	12/16/2009 3s
VOC			
1,1,1-Trichloroethane	0.0003 J/0.0003 J	0.0003 J	0.0002 J
1,1-Dichloroethene	0.001 U/0.001 U	0.001 U	0.001 U
Benzene	0.001 U/0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U/0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 U/0.001 U	0.001 U	0.001 U
Ethylbenzene	0.001 U/0.001 U	0.001 U	0.001 U
Methylene chloride	0.005 U/0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.001 U/0.001 U	0.001 U	0.001 U
Toluene	0.001 U/0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U/0.001 U	0.001 U	0.001 U
Trichloroethene	0.0001 J/0.0001 J	0.001 U	0.0002 J
Vinyl chloride	0.001 U/0.001 U	0.001 U	0.001 U

MW 49	10/19/2007 3s	2/15/2008 3s	6/30/2008 3s	12/5/2008 3s	4/29/2009 3s	12/4/2009 3s
VOC						
1,1,1-Trichloroethane	0.001 U	0.003 U	0.001 U	0.005 U	0.006 U	0.001 U
1,1-Dichloroethene	0.001 U	0.003 U	0.001 U	0.005 U	0.006 U	0.0003 J
Benzene	0.001 U	0.003 U	0.001 U	0.005 U	0.006 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.003 U	0.001 U	0.005 U	0.006 U	0.001 U
cis-1,2-Dichloroethene	0.045	0.045	0.065	0.093 {A}	0.1 {A}	0.44 {A}
Ethylbenzene	0.001 U	0.003 U	0.001 U	0.005 U	0.006 U	0.001 U
Methylene chloride	0.0001 J	0.013 U	0.005 U	0.025 U	0.031 U	0.005 U
Tetrachloroethene	0.001 U	0.003 U	0.001 U	0.005 U	0.006 U	0.001 U
Toluene	0.0002 J	0.003 U	0.001 U	0.005 U	0.006 U	0.001 U
trans-1,2-Dichloroethene	0.001	0.001 J	0.002	0.002 J	0.003 J	0.008
Trichloroethene	0.0004 J	0.003 U	0.0004 J	0.001 J	0.001 J	0.001 J
Vinyl chloride	0.085 {AC}	0.057 {AC}	0.066 {AC}	0.069 {AC}	0.045 {A}	0.07 {AC}

MW 37	10/17/2007 3s	6/26/2008 3s	12/16/2009 3s
VOC			
1,1,1-Trichloroethane	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U
Ethylbenzene	0.001 U	0.001 U	0.001 U
Methylene chloride	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U	0.001 U
Toluene	0.0001 J	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U	0.001 U

MW 56	10/18/2006 3d	10/18/2007 3d	6/26/2008 3d	12/17/2009 3d
VOC				
1,1,1-Trichloroethane	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.002	0.001 U	0.001 U	0.001 U
Ethylbenzene	0.001 J	0.001 U	0.001 U	0.001 U
Methylene chloride	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Toluene	0.004	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	0.001 J	0.001 U	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U	0.001 U	0.001 U

Pond Intake	10/17/2006 WS	1/22/2007 WS	4/16/2007 WS	5/9/2007 WS	6/18/2007 WS	7/10/2007 WS	8/15/2007 WS	9/27/2007 WS	10/17/2007 WS	11/9/2007 WS	12/4/2007 WS	2/18/2008 WS	6/25/2008 WS	9/23/2008 WS	12/4/2008 WS	3/4/2009 WS	4/30/2009 WS	7/30/2009 WS	12/17/2009 WS
VOC																			
1,1,1-Trichloroethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 UJ	0.066	0.003	0.001 U	0.0002 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 J	0.032	0.001 U	0.001 U	0.001 U/0.001 U	0.003	0.001 U/0.001 U	0.001 U
Ethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
Methylene chloride	0.005 UJ	0.005 U	0.005 UJ	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 UJ	0.005 U	0.005 U	0.005 U	0.001 U	0.005 U	0.005 U/0.005 U	0.005 U	0.005 U/0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 UJ	0.001 UJ	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
Toluene	0.001 U	0.001 U	0.0001 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 UJ	0.003	0.0002 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U	0.001 U	0.002	0.001 U	0.001 U	0.001 U/0.001 U	0.0002 J	0.001 U/0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
Vinyl chloride	0.001 U	0.006 {A}	0.0004 J	0.0005 J	0.001 J	0.001 U	0.0004 J	0.0003 J	0.001 U	0.001 U	0.001 U	0.002 {A}	0.003 {A}	0.001 U	0.001 U	0.001/0.001	0.003 {A}	0.002/0.002	0.002

Pond Culvert 1	2/26/2007 WS	5/9/2007 WS	12/4/2007 WS	2/18/2008 WS
VOC				
1,1,1-Trichloroethane	0.001 U	0.001 U	0.001 U	0.005 U
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U	0.005 U
Benzene	0.001 U	0.001 U	0.001 U	0.005 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.001 U	0.005 U
cis-1,2-Dichloroethene	0.001 J	0.0002 J	0.001 U	0.005 U
Ethylbenzene	0.001 U	0.001 U	0.001 U	0.005 U
Methylene chloride	0.005 U	0.005 U	0.005 U	0.025 U
Tetrachloroethene	0.001 U	0.001 U	0.001 U	0.005 U
Toluene	0.001 U	0.001 U	0.001 U	0.005 U
trans-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.005 U
Trichloroethene	0.001 UJ	0.001 U	0.001 U	0.005 U
Vinyl chloride	0.002	0.003 {A}	0.001 U	0.084 {AC}

MW 58	10/17/2006 3d	10/17/2007 3d	2/18/2008 3d	6/25/2008 3d	12/17/2009 3d
VOC					
1,1,1-Trichloroethane	0.001	0.001 U	0.001 U	0.001 U	0.003 U
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U
Benzene	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U
cis-1,2-Dichloroethene	0.004 J	0.003 U	0.001 U	0.001 U	0.003 U
Ethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U
Methylene chloride	0.005 UJ	0.005 U	0.005 U	0.005 U	0.016 U
Tetrachloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U
Toluene	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U
trans-1,2-Dichloroethene	0.0001 J	0.001 U	0.001 U	0.001 U	0.003 U
Trichloroethene	0.006 {A}	0.001 J	0.001 U	0.001 U	0.003 U
Vinyl chloride	0.001	0.011 {A}	0.016 {A}	0.026 {A}	0.11 {AC}

MW 57	10/17/2006 3d	1/24/2007 3d	4/16/2007 3d	7/10/2007 3d	10/17/2007 3d	6/25/2008 3d	12/16/2009 3d
VOC							
1,1,1-Trichloroethane	0.001 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001	0.001 U	0.0003 J	0.001 U	0.0001 J	0.001 U	0.001 U
Ethylbenzene	0.0001 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Methylene chloride	0.005 U	0.005 U	0.005 UJ	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 UJ	0.001 UJ	0.001 U	0.001 U	0.001 U	0.001 U
Toluene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	0.0001 J	0.001 UJ	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Vinyl chloride	0.001 J	0.001 U	0.001 U	0.0002 J	0.001 U	0.001 U	0.002

MW-2	5/9/2007 3d	7/10/2007 3d	10/17/2007 3d	6/25/2008 3d	12/17/2009 3d
VOC					
1,1,1-Trichloroethane	0.001 U	0.001 UJ	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.0002 J	0.001 U
Ethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Methylene chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Toluene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U

LEGEND

- PROPERTY BOUNDARY
- LOT LINE
- RAILROAD
- FENCE LINE
- BUILDING

0 100 300ft

MW 61	6/24/2008 3d
VOAs	
1,1,1-Trichloroethane	0.001 U
1,1-Dichloroethene	0.001 U
Benzene	0.001 U
Chloroform (Trichloromethane)	0.001 U
cis-1,2-Dichloroethene	0.001 U
Ethylbenzene	0.001 U
Methylene chloride	0.005 U
Toluene	0.001 U
trans-1,2-Dichloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

SAMPLE LOCATION
SAMPLE DATE
GEOLOGIC UNIT

- WS - SURFACE WATER
- 1 - UNIT 1, PERCHED GROUNDWATER IN FILL
- 3S - UNIT 3, SHALLOW GROUNDWATER IN UPPERMOST AQUIFER
- 3I - UNIT 3, INTERMEDIATE GROUNDWATER IN UPPERMOST AQUIFER
- 3D - UNIT 3, DEEP GROUNDWATER IN UPPERMOST AQUIFER
- B - BEDROCK, GROUNDWATER IN BEDROCK AQUIFER

CONCENTRATION (mg/L)

PARAMETER

0.24 {A} EXCEEDANCE

SAMPLE RESULTS COMPARED TO CRITERIA A, B, E, AND F

SAMPLE RESULTS COMPARED TO CRITERIA A, B, C, AND D

Chemical name	A	B	C	D	E	F
1,1,1-Trichloroethane	2.00E-01	1.37E+03	7.47E+02	1.33E+04	3.14E+04	1.86E+07
1,1-Dichloroethene	7.00E-03	1.16E+02	1.69E+02	8.90E+02	2.10E+03	1.42E+05
Benzene	5.00E-03	4.55E+00	1.22E+00	3.36E+01	9.02E+01	5.50E+04
Chloroform (Trichloromethane)	8.00E-02	2.12E+00	4.85E+01	1.53E+01	3.97E+01	1.09E+06
cis-1,2-Dichloroethene	7.00E-02	2.12E+01	4.70E+01	4.76E+02	1.06E+03	1.64E+07
Ethylbenzene	7.00E-01	4.19E+02	8.85E+01	9.83E+03	2.28E+04	6.79E+06
Methylene chloride	5.00E-03	8.31E+01	2.48E+01	1.10E+03	2.76E+03	2.76E+06
Toluene	1.00E+00	2.27E+02	2.76E+02	4.17E+03	9.47E+03	1.22E+07
trans-1,2-Dichloroethene	1.00E-01	4.13E+01	7.65E+01	5.26E+02	1.22E+03	9.43E+06
Trichloroethene	5.00E-03	2.51E+01	4.23E+00	1.08E+02	3.00E+02	6.70E+06
Vinyl chloride	2.00E-03	1.95E+00	4.63E-02	5.97E+01	1.85E+02	1.41E+06

- A Drinking Water Criteria
- B Site-Specific Construction Worker Groundwater Contact Criteria
- C Site-Specific Residential Non-Potable GW Use Criteria
- D Site-Specific Residential GW Volatilization to Indoor Air Criteria
- E Site-Specific Industrial GW Volatilization to Indoor Air Criteria
- F Site-Specific Occupational GW Volatilization to Indoor Air Criteria Based on Occupational Limits

NOTES:
1. Parameters that do not appear in the databox for a particular sample were not analyzed.
2. Sample results rounded to three decimal places.
3. Screening criteria and sample results are compared to two significant digits. Results equal to screening criteria are not highlighted as exceedances.
4. MW 51, MW 76, and MW 79 were not sampled during the June 2008 event.
5. The concentrations of chlorobenzene (0.15 mg/L J), tetrachloroethene (0.43 mg/L J), and styrene (0.14 mg/L J) in the June 2008 sample from monitoring well MW-40 exceed the drinking water criteria. However, these VOCs were not detected at MW-40 in December 2008, and have been either not detected (chlorobenzene and styrene) or detected sporadically (tetrachloroethene) at other wells in the groundwater monitoring network. Because these VOCs have been detected so sporadically, they have essentially no spatial or temporal distribution, and as such, they have not been added to the databoxes

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

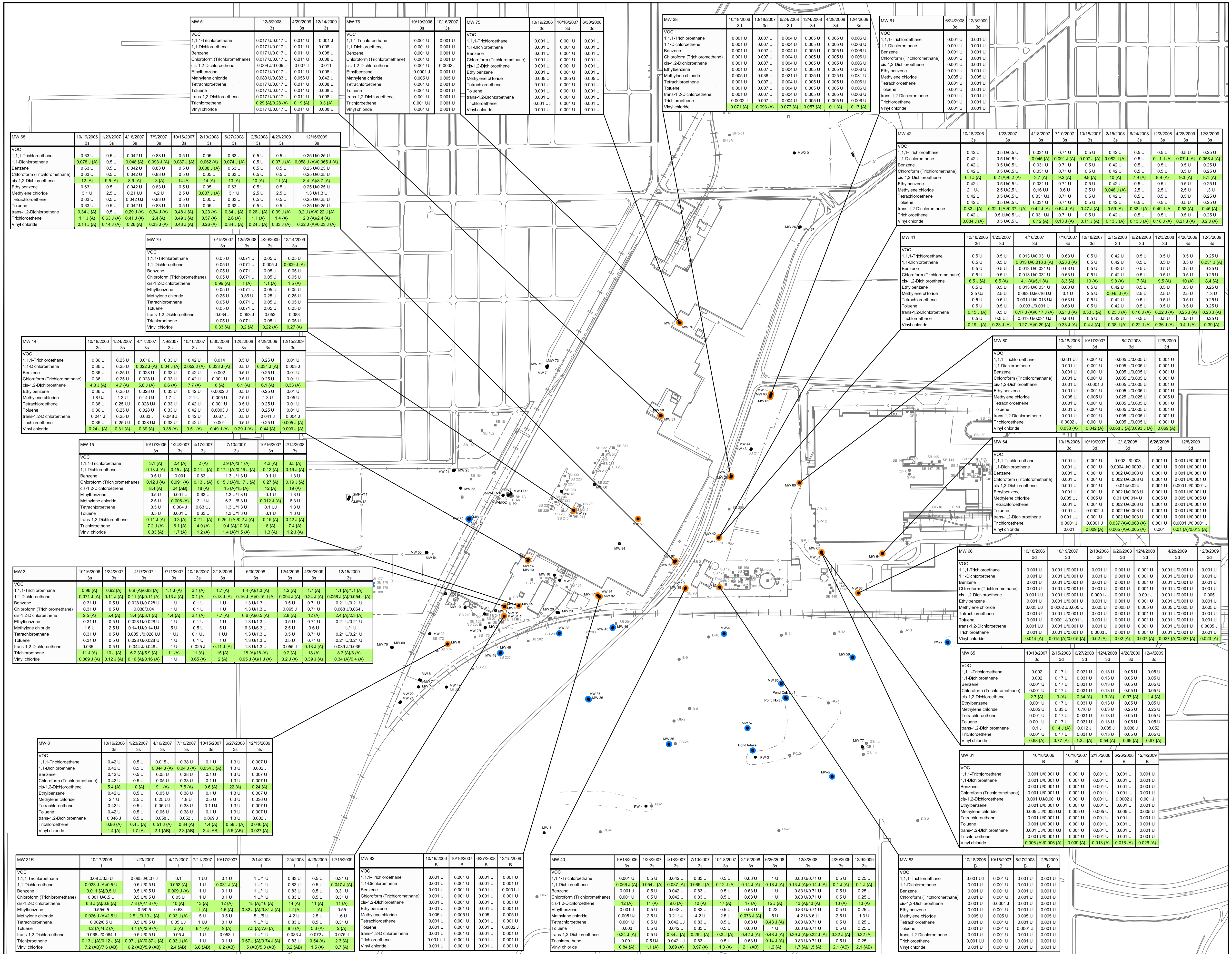
PENDLETON/MLK AVENUE SITE

GROUNDWATER/SURFACE WATER RESULTS VOCs - OCTOBER 2006 - DECEMBER 2009

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: S. RICHARDSON	Reviewed By: J. BERGSMA	Date: MARCH 2010	
Scale: 1"=300'	Project Nº: 017302-02	Report Nº: PRES022	Drawing Nº: 4-10A



MW 51	12/5/2008 3s	4/29/2009 3s	12/14/2009 3s
VOC			
1,1,1-Trichloroethane	0.017 U/0.017 U	0.011 U	0.001 J
1,1-Dichloroethene	0.017 U/0.017 U	0.011 U	0.008 U
Benzene	0.017 U/0.017 U	0.011 U	0.008 U
Chloroform (Trichloromethane)	0.017 U/0.017 U	0.011 U	0.008 U
cis-1,2-Dichloroethene	0.009 J/0.009 J	0.007 J	0.011
Ethylbenzene	0.017 U/0.017 U	0.011 U	0.008 U
Methylene chloride	0.083 U/0.083 U	0.056 U	0.042 U
Tetrachloroethene	0.017 U/0.017 U	0.011 U	0.008 U
Toluene	0.017 U/0.017 U	0.011 U	0.008 U
trans-1,2-Dichloroethene	0.017 U/0.017 U	0.011 U	0.008 U
Trichloroethene	0.29 {A}/0.28 {A}	0.19 {A}	0.3 {A}
Vinyl chloride	0.017 U/0.017 U	0.011 U	0.008 U

MW 76	10/19/2006 3s	10/16/2007 3s
VOC		
1,1,1-Trichloroethane	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U
Benzene	0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 U	0.0002 J
Ethylbenzene	0.0001 J	0.001 U
Methylene chloride	0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U
Toluene	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U
Trichloroethene	0.001 UJ	0.001 U
Vinyl chloride	0.001 U	0.001 U

MW 75	10/19/2006 3d	10/16/2007 3d	6/30/2008 3d
VOC			
1,1,1-Trichloroethane	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U
Ethylbenzene	0.001 U	0.001 U	0.001 U
Methylene chloride	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U	0.001 U
Toluene	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U
Trichloroethene	0.001 UJ	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U	0.001 U

MW 28	10/19/2006 3d	10/18/2007 3d	6/24/2008 3d	12/4/2008 3d	4/29/2009 3d	12/4/2009 3d
VOC						
1,1,1-Trichloroethane	0.001 U	0.007 U	0.004 U	0.005 U	0.005 U	0.006 U
1,1-Dichloroethene	0.001 U	0.007 U	0.004 U	0.005 U	0.005 U	0.006 U
Benzene	0.001 U	0.007 U	0.004 U	0.005 U	0.005 U	0.006 U
Chloroform (Trichloromethane)	0.001 U	0.007 U	0.004 U	0.005 U	0.005 U	0.006 U
cis-1,2-Dichloroethene	0.001 U	0.007 U	0.004 U	0.005 U	0.005 U	0.006 U
Ethylbenzene	0.001 U	0.007 U	0.004 U	0.005 U	0.005 U	0.006 U
Methylene chloride	0.005 U	0.036 U	0.021 U	0.025 U	0.025 U	0.031 U
Tetrachloroethene	0.001 U	0.007 U	0.004 U	0.005 U	0.005 U	0.006 U
Toluene	0.001 U	0.007 U	0.004 U	0.005 U	0.005 U	0.006 U
trans-1,2-Dichloroethene	0.001 U	0.007 U	0.004 U	0.005 U	0.005 U	0.006 U
Trichloroethene	0.0002 J	0.007 U	0.004 U	0.005 U	0.005 U	0.006 U
Vinyl chloride	0.071 {A}	0.093 {A}	0.077 {A}	0.057 {A}	0.1 {A}	0.17 {A}

MW 61	6/24/2008 3d	12/3/2009 3d
VOC		
1,1,1-Trichloroethane	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U
Benzene	0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 U	0.001 U
Ethylbenzene	0.001 U	0.001 U
Methylene chloride	0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U
Toluene	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U

MW 68	10/19/2006 3s	1/23/2007 3s	4/18/2007 3s	7/9/2007 3s	10/16/2007 3s	2/19/2008 3s	6/27/2008 3s	12/5/2008 3s	4/29/2009 3s	12/16/2009 3s
VOC										
1,1,1-Trichloroethane	0.63 U	0.5 U	0.042 U	0.83 U	0.5 U	0.05 U	0.63 U	0.5 U	0.5 U	0.25 U/0.25 U
1,1-Dichloroethene	0.078 J {A}	0.5 U	0.048 {A}	0.093 J {A}	0.087 J {A}	0.062 {A}	0.074 J {A}	0.5 U	0.07 J {A}	0.058 J {A}/0.065 J {A}
Benzene	0.63 U	0.5 U	0.042 U	0.83 U	0.5 U	0.008 J {A}	0.63 U	0.5 U	0.5 U	0.25 U/0.25 U
Chloroform (Trichloromethane)	0.63 U	0.5 U	0.042 U	0.83 U	0.5 U	0.05 U	0.63 U	0.5 U	0.5 U	0.25 U/0.25 U
cis-1,2-Dichloroethene	12 {A}	9.5 {A}	8.9 {A}	13 {A}	14 {A}	14 {A}	13 {A}	10 {A}	11 {A}	8.4 {A}/8.7 {A}
Ethylbenzene	0.63 U	0.5 U	0.042 U	0.83 U	0.5 U	0.05 U	0.63 U	0.5 U	0.5 U	0.25 U/0.25 U
Methylene chloride	3.1 U	2.5 U	0.21 UJ	4.2 U	2.5 U	0.007 J {A}	3.1 U	2.5 U	2.5 U	1.3 U/1.3 U
Tetrachloroethene	0.63 U	0.5 U	0.042 UJ	0.83 U	0.5 U	0.05 U	0.63 U	0.5 U	0.5 U	0.25 U/0.25 U
Toluene	0.63 U	0.5 U	0.042 U	0.83 U	0.5 U	0.05 U	0.63 U	0.5 U	0.5 U	0.25 U/0.25 U
trans-1,2-Dichloroethene	0.34 J {A}	0.5 U	0.29 J {A}	0.34 J {A}	0.48 J {A}	0.23 {A}	0.34 J {A}	0.26 J {A}	0.39 J {A}	0.2 J {A}/0.22 J {A}
Trichloroethene	1.1 J {A}	0.63 J {A}	0.41 J {A}	2.4 {A}	0.49 J {A}	0.57 {A}	2.6 {A}	1.1 {A}	1.4 {A}	2.3 {A}/2.4 {A}
Vinyl chloride	0.14 J {A}	0.14 J {A}	0.26 {A}	0.33 J {A}	0.43 J {A}	0.26 {A}	0.34 J {A}	0.24 J {A}	0.33 J {A}	0.22 J {A}/0.23 J {A}

MW 42	10/18/2006 3s	1/23/2007 3s	4/18/2007 3s	7/10/2007 3s	10/18/2007 3s	2/15/2008 3s	6/24/2008 3s	12/3/2008 3s	4/28/2009 3s	12/3/2009 3s
VOC										
1,1,1-Trichloroethane	0.42 U	0.5 U/0.5 U	0.031 U	0.71 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
1,1-Dichloroethene	0.42 U	0.5 U/0.5 U	0.045 {A}	0.091 J {A}	0.097 J {A}	0.082 J {A}	0.5 U	0.11 J {A}	0.07 J {A}	0.056 J {A}
Benzene	0.42 U	0.5 U/0.5 U	0.031 U	0.71 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
Chloroform (Trichloromethane)	0.42 U	0.5 U/0.5 U	0.031 U	0.71 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
cis-1,2-Dichloroethene	6.4 J {A}	6.2 {A}/6.2 {A}	3.7 {A}	9.2 {A}	9.8 {A}	10 {A}	7.9 {A}	8.9 {A}	9.3 {A}	8.1 {A}
Ethylbenzene	0.42 U	0.5 U/0.5 U	0.031 U	0.71 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
Methylene chloride	2.1 UJ	2.5 U/2.5 U	0.16 UJ	3.6 U	2.5 U	0.048 J {A}	2.5 U	2.5 U	2.5 U	1.3 U
Tetrachloroethene	0.42 U	0.5 U/0.5 U	0.031 UJ	0.71 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
Toluene	0.42 U	0.5 U/0.5 U	0.031 U	0.71 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
trans-1,2-Dichloroethene	0.33 J {A}	0.32 J {A}/0.37 J {A}	0.42 J {A}	0.54 J {A}	0.47 J {A}	0.59 {A}	0.38 J {A}	0.49 J {A}	0.52 {A}	0.45 {A}
Trichloroethene	0.42 U	0.5 UJ/0.5 UJ	0.031 UJ	0.71 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
Vinyl chloride	0.084 J {A}	0.5 U/0.5 U	0.12 {A}	0.13 J {A}	0.11 J {A}	0.13 J {A}	0.13 J {A}	0.18 J {A}	0.21 J {A}	0.2 J {A}

MW 79	10/15/2007 3s	12/5/2008 3s	4/29/2009 3s	12/14/2009 3s
VOC				
1,1,1-Trichloroethane	0.05 U	0.071 U	0.05 U	0.05 U
1,1-Dichloroethene	0.05 U	0.071 U	0.005 J	0.009 J {A}
Benzene	0.05 U	0.071 U	0.05 U	0.05 U
Chloroform (Trichloromethane)	0.05 U	0.071 U	0.05 U	0.05 U
cis-1,2-Dichloroethene	0.99 {A}	1 {A}	1.1 {A}	1.5 {A}
Ethylbenzene	0.05 U	0.071 U	0.05 U	0.05 U
Methylene chloride	0.25 U	0.36 U	0.25 U	0.25 U
Tetrachloroethene	0.05 U	0.071 U	0.05 U	0.05 U
Toluene	0.05 U	0.071 U	0.05 U	0.05 U
trans-1,2-Dichloroethene	0.034 J	0.053 J	0.052	0.083
Trichloroethene	0.05 U	0.071 U	0.05 U	0.05 U
Vinyl chloride	0.33 {A}	0.2 {A}	0.22 {A}	0.27 {A}

MW 41	10/18/2006 3d	1/23/2007 3d	4/18/2007 3d	7/10/2007 3d	10/18/2007 3d	2/15/2008 3d	6/24/2008 3d	12/3/2008 3d	4/28/2009 3d	12/3/2009 3d
VOC										
1,1,1-Trichloroethane	0.5 U	0.5 U	0.013 U/0.031 U	0.63 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
1,1-Dichloroethene	0.5 U	0.5 U	0.013 U/0.018 J {A}	0.23 J {A}	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.031 J {A}
Benzene	0.5 U	0.5 U	0.013 U/0.031 U	0.63 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
Chloroform (Trichloromethane)	0.5 U	0.5 U	0.013 U/0.031 U	0.63 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
cis-1,2-Dichloroethene	6.5 J {A}	6.5 {A}	4.1 {A}/5.1 {A}	8.3 {A}	10 {A}	9.8 {A}	7 {A}	9.5 {A}	10 {A}	8.4 {A}
Ethylbenzene	0.5 U	0.5 U	0.013 U/0.031 U	0.63 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
Methylene chloride	2.5 UJ	2.5 U	0.063 UJ/0.16 UJ	3.1 U	2.5 U	0.045 J {A}	2.5 U	2.5 U	2.5 U	1.3 U
Tetrachloroethene	0.5 U	0.5 U	0.031 UJ/0.013 UJ	0.63 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
Toluene	0.5 U	0.5 U	0.003 J/0.031 U	0.63 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
trans-1,2-Dichloroethene	0.15 J {A}	0.5 U	0.17 J {A}/0.17 J {A}	0.21 J {A}	0.33 J {A}	0.23 J {A}	0.16 J {A}	0.22 J {A}	0.25 J {A}	0.23 J {A}
Trichloroethene	0.5 U	0.5 UJ	0.013 U/0.031 UJ	0.63 U	0.5 U	0.42 U	0.5 U	0.5 U	0.5 U	0.25 U
Vinyl chloride	0.19 J {A}	0.23 J {A}	0.27 {A}/0.29 {A}	0.33 J {A}	0.4 J {A}	0.38 J {A}	0.22 J {A}	0.36 J {A}	0.4 J {A}	0.39 {A}

MW 14	10/18/2006 3s	1/24/2007 3s	4/17/2007 3s	7/9/2007 3s	10/16/2007 3s	6/30/2008 3s	12/5/2008 3s	4/29/2009 3s	12/15/2009 3s
VOC									
1,1,1-Trichloroethane	0.36 U	0.25 U	0.016 J	0.33 U	0.42 U	0.014	0.5 U	0.25 U	0.01 U
1,1-Dichloroethene	0.36 U	0.25 U	0.022 J {A}	0.04 J {A}	0.052 J {A}	0.033 J {A}	0.5 U	0.034 J {A}	0.003 J
Benzene	0.36 U	0.25 U	0.028 U	0.33 U	0.42 U	0.002	0.5 U	0.25 U	0.01 U
Chloroform (Trichloromethane)	0.36 U	0.25 U	0.028 U	0.33 U	0.42 U	0.001 U	0.5 U	0.25 U	0.01 U
cis-1,2-Dichloroethene	4.3 J {A}	4.7 {A}	5.8 J {A}	6.6 {A}	7.7 {A}	6 {A}	6.1 {A}	6.1 {A}	0.33 {A}
Ethylbenzene	0.36 U	0.25 U	0.028 U	0.33 U	0.42 U	0.0002 J	0.5 U	0.25 U	0.01 U
Methylene chloride	1.8 UJ	1.3 U	0.14 UJ	1.7 U	2.1 U	0.005 U	2.5 U	1.3 U	0.05 U
Tetrachloroethene	0.36 U	0.25 UJ	0.028 UJ	0.33 U	0.42 U	0.001 U	0.5 U	0.25 U	0.01 U
Toluene	0.36 U	0.25 U	0.028 U	0.33 U	0.42 U	0.0003 J	0.5 U	0.25 U	0.01 U
trans-1,2-Dichloroethene	0.041 J	0.25 U	0.033 J	0.048 J	0.42 U	0.067 J	0.5 U	0.041 J	0.004 J
Trichloroethene	0.36 U	0.25 UJ	0.028 UJ	0.33 U	0.42 U	0.001	0.5 U	0.25 U	0.005 J {A}
Vinyl chloride	0.24 J {A}	0.31 {A}	0.39 {A}	0.38 {A}	0.51 {A}	0.49 J {A}	0.29 J {A}	0.44 {A}	0.009 J {A}

MW 80	10/18/2006 3d	10/17/2007 3d	6/27/2008 3d	12/8/2009 3d
VOC				
1,1,1-Trichloroethane	0.001 UJ	0.001 U	0.005 U/0.005 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.005 U/0.005 U	0.001 U
Benzene	0.001 U	0.001 U	0.005 U/0.005 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.005 U/0.005 U	0.001 U
cis-1,2-Dichloroethene	0.001 U	0.0001 J	0.005 U/0.005 U	0.001 U
Ethylbenzene	0.001 U	0.001 U	0.005 U/0.005 U	0.001 U
Methylene chloride	0.005 U	0.005 U	0.025 U/0.025 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U	0.005 U/0.005 U	0.001 U
Toluene	0.001 U	0.001 U	0.005 U/0.005 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U	0.005 U/0.005 U	0.001 U
Trichloroethene	0.0002 J	0.001 U	0.005 U/0.005 U	0.001 U
Vinyl chloride	0.033 {A}	0.042 {A}	0.068 J {A}/0.093 J {A}	0.069 {A}

MW 15	10/17/2006 3s	1/24/2007 3s	4/17/2007 3s	7/10/2007 3s	10/16/2007 3s	2/14/2008 3s
VOC						
1,1,1-Trichloroethane	3.1 {A}	2.4 {A}	2 {A}	2.9 {A}/3.1 {A}	4.2 {A}	3.5 {A}
1,1-Dichloroethene	0.13 J {A}	0.15 J {A}	0.11 J {A}	0.17 J {A}/0.19 J {A}	0.13 {A}	0.19 J {A}
Benzene	0.5 U	0.001	0.63 U	1.3 U/1.3 U	0.1 U	1.3 U
Chloroform (Trichloromethane)	0.12 J {A}	0.091 {A}	0.13 J {A}	0.15 J {A}/0.17 J {A}	0.27 {A}	0.19 J {A}
cis-1,2-Dichloroethene	8.4 {A}	24 {AB}	18 {A}	15 {A}/15 {A}	12 {A}	19 {A}
Ethylbenzene	0.5 U	0.001 U	0.63 U	1.3 U/1.3 U	0.1 U	1.3 U
Methylene chloride	2.5 U	0.006 {A}	3.1 UJ	6.3 U/6.3 U	0.012 J {A}	6.3 U
Tetrachloroethene	0.5 U	0.004 J	0.63 UJ	1.3 U/1.3 U	0.1 UJ	1.3 U
Toluene	0.5 U	0.001 U	0.63 U	1.3 U/1.3 U	0.1 U	1.3 U
trans-1,2-Dichloroethene	0.11 J {A}	0.3 {A}	0.21 J {A}	0.26 J {A}/0.2 J {A}	0.15 {A}	0.42 J {A}
Trichloroethene	7.2 J {A}	6.1 {A}	4.9 {A}	9.4 {A}/10 {A}	8 {A}	7.4 {A}
Vinyl chloride	0.83 {A}	1.7 {A}	1.2 {A}	1.4 {A}/1.5 {A}	1.3 {A}	1.2 J {A}

MW 64	10/18/2006 3d	10/19/2007 3d	2/18/2008 3d	6/26/2008 3d	12/8/2009 3d
VOC					
1,1,1-Trichloroethane	0.001 U	0.001 U	0.002 J/0.003	0.001 U	0.001 U/0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.0004 J/0.0003 J	0.001 U	0.001 U/0.001 U
Benzene	0.001 U	0.001 U	0.002 U/0.003 U	0.001 U	0.001 U/0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.002 U/0.003 U	0.001 U	0.001 U/0.001 U
cis-1,2-Dichloroethene	0.001 U	0.001 U	0.014/0.024	0.001 U	0.0001 J/0.0001 J
Ethylbenzene	0.001 U	0.001 U	0.002 U/0.003 U	0.001 U	0.001 U/0.001 U
Methylene chloride	0.005 UJ	0.005 U	0.01 U/0.014 U	0.005 U	0.005 U/0.005 U
Tetrachloroethene	0.001 U	0.001 U	0.002 U/0.003 U	0.001 U	0.001 U/0.001 U
Toluene	0.001 U	0.0002 J	0.002 U/0.003 U	0.001 U	0.001 U/0.001 U
trans-1,2-Dichloroethene	0.001 UJ	0.001 U	0.002 U/0.003 U	0.001 U	0.001 U/0.001 U
Trichloroethene	0.0001 J	0.0001 J	0.037 {A}/0.063 {A}	0.001 U	0.0001 J/0.0001 J
Vinyl chloride	0.001	0.009 {A}	0.005 {A}/0.005 {A}	0.001	0.01 {A}/0.013 {A}

MW 3	10/16/2006 3s	1/24/2007 3s	4/17/2007 3s	7/11/2007 3s	10/16/2007 3s	2/18/2008 3s	6/30/2008 3s	12/4/2008 3s	4/30/2009 3s	12/15/2009 3s
VOC										
1,1,1-Trichloroethane	0.96 {A}	0.92 {A}	0.9 {A}/0.83 {A}	1.1 J {A}	2.1 {A}	1.7 {A}	1.4 {A}/1.3 {A}	1.2 {A}	1.7 {A}	1.1 {A}/1.1 {A}
1,1-Dichloroethene	0.071 J {A}	0.11 J {A}	0.11 {A}/0.11 {A}	0.13 J {A}	0.1 {A}	0.18 J {A}	0.16 J {A}/0.15 J {A}	0.094 J {A}	0.24 J {A}	0.056 J {A}/0.054 J {A}
Benzene	0.31 U	0.5 U	0.028 U/0.028 U	1 U	0.1 U	1 U	1.3 U/1.3 U	0.5 U	0.71 U	0.21 U/0.21 U
Chloroform (Trichloromethane)	0.31 U	0.5 U	0.038/0.04	1 U	0.1 U	1 U	1.3 U/1.3 U	0.065 J	0.71 U	0.068 J/0.064 J
cis-1,2-Dichloroethene	2.5 {A}	5.4 {A}	3.4 {A}/3.1 {A}	4.4 {A}	2.1 {A}	7.7 {A}	6.6 {A}/6.5 {A}	2.8 {A}	12 {A}	2.4 {A}/2.3 {A}
Ethylbenzene	0.31 U	0.5 U	0.028 U/0.028 U	1 U	0.1 U	1 U	1.3 U/1.3 U	0.5 U	0.71 U	0.21 U/0.21 U
Methylene chloride	1.6 U	2.5 U	0.14 UJ/0.14 UJ	5 U	0.5 U	5 U	6.3 U/6.3 U	2.5 U	3.6 U	1 U/1 U
Tetrachloroethene	0.31 U	0.5 U	0.005 J/0.028 UJ	1 UJ	0.1 UJ	1 UJ	1.3 U/1.3 U	0.5 U	0.71 U	0.21 U/0.21 U
Toluene	0.31 U	0.5 U	0.028 U/0.028 U	1 U	0.1 U	1 U	1.3 U/1.3 U	0.5 U	0.71 U	0.21 U/0.21 U
trans-1,2-Dichloroethene	0.035 J	0.5 U	0.044 J/0.046 J	1 U	0.025 J	0.11 J {A}	1.3 U/1.3 U	0.055 J	0.13 J {A}	0.039 J/0.036 J
Trichloroethene	11 J {A}	10 J {A}	6.2 {A}/5.9 {A}	11 {A}	11 {A}	15 {A}	18 {A}/18 {A}	9.2 {A}	18 {A}	8.3 {A}/8 {A}
Vinyl chloride	0.069 J {A}	0.12 J {A}	0.16 {A}/0.16 {A}	1 U	0.65 {A}	2 {A}	0.95 J {A}/1 J {A}	0.2 J {A}	0.39 J {A}	0.34 {A}/0.4 {A}

MW 66	10/18/2006 3d	10/19/2007 3d	2/18/2008 3d	6/26/2008 3d	12/4/2008 3d	4/28/2009 3d	12/8/2009 3d
VOC							
1,1,1-Trichloroethane	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
Benzene	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 UJ	0.001 U/0.001 U	0.0001 J	0.001 U	0.001 J	0.001 U/0.001 U	0.005
Ethylbenzene	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
Methylene chloride	0.005 UJ	0.0002 J/0.005 U	0.005 U	0.005 U	0.005 U	0.005 U/0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
Toluene	0.001 U	0.0001 J/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 UJ	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.0005 J
Trichloroethene	0.001 U	0.001 U/0.001 U	0.0003 J	0.001 U	0.001 U	0.001 U/0.001 U	0.001 U
Vinyl chloride	0.014 {A}	0.015 {A}/0.015 {A}	0.02 {A}	0.02 {A}	0.007 {A}	0.027 {A}/0.027 {A}	0.023 {A}

MW 65	10/18/2007 3d	2/15/2008 3d	6/27/2008 3d	12/4/2008 3d	4/28/2009 3d	12/4/2009 3d
VOC						
1,1,1-Trichloroethane	0.002	0.17 U	0.031 U	0.13 U	0.05 U	0.05 U
1,1-Dichloroethene	0.002	0.17 U	0.031 U	0.13 U	0.05 U	0.05 U
Benzene	0.001 U	0.17 U	0.031 U	0.13 U	0.05 U	0.05 U
Chloroform (Trichloromethane)	0.001 U	0.17 U	0.031 U	0.13 U	0.05 U	0.05 U
cis-1,2-Dichloroethene	2.7 {A}	3 {A}	0.34 {A}	1.9 {A}	0.97 {A}	1.4 {A}
Ethylbenzene	0.001 U	0.17 U	0.031 U	0.13 U	0.05 U	0.05 U
Methylene chloride	0.005 U	0.83 U	0.16 U	0.63 U	0.25 U	0.25 U
Tetrachloroethene	0.001 U	0.17 U	0.031 U	0.13 U	0.05 U	0.05 U
Toluene	0.001 U	0.17 U	0.031 U	0.13 U	0.05 U	0.05 U
trans-1,2-Dichloroethene	0.1 J	0.14 J {A}	0.012 J	0.085 J	0.038 J	0.052
Trichloroethene	0.001 U	0.17 U	0.031 U	0.13 U	0.05 U	0.05 U
Vinyl chloride	0.68 {A}	0.77 {A}	1.2 J {A}	0.54 {A}	0.69 {A}	0.67 {A}

MW 8	10/16/2006 3s	1/23/2007 3s	4/16/2007 3s	7/10/2007 3s	10/15/2007 3s	6/27/2008 3s	12/15/2009 3s
VOC							
1,1,1-Trichloroethane	0.42 U	0.5 U	0.015 J	0.38 U	0.1 U	1.3 U	0.007 U
1,1-Dichloroethene	0.42 U	0.5 U	0.044 J {A}	0.04 J {A}	0.054 J {A}	1.3 U	0.002 J
Benzene	0.42 U	0.5 U	0.05 U	0.38 U	0.1 U	1.3 U	0.007 U
Chloroform (Trichloromethane)	0.42 U	0.5 U	0.05 U	0.38 U	0.1 U	1.3 U	0.007 U
cis-1,2-Dichloroethene	5.4 {A}	10 {A}	9.1 {A}	7.5 {A}	9.6 {A}	22 {A}	0.24 {A}
Ethylbenzene	0.42 U	0.5 U	0.05 U	0.38 U	0.1 U	1.3 U	0.007 U
Methylene chloride	2.1 U	2.5 U	0.25 UJ	1.9 U	0.5 U	6.3 U	0.036 U
Tetrachloroethene	0.42 U	0.5 U	0.05 UJ	0.38 U	0.1 UJ	1.3 U	0.007 U
Toluene	0.42 U	0.5 U	0.05 U	0.38 U	0.1 U	1.3 U	0.007 U
trans-1,2-Dichloroethene	0.046 J	0.5 U	0.058 J	0.052 J	0.069 J	1.3 U	0.002 J
Trichloroethene	0.86 {A}	0.4 J {A}	0.51 J {A}	0.84 {A}	1.4 {A}	0.58 J {A}	0.046 {A}
Vinyl chloride	1.4 {A}	1.7 {A}	2.1 {AB}	2.3 {AB}	2.4 {AB}	5.5 {AB}	0.027 {A}

MW 81	10/18/2006 B	10/18/2007 B	2/15/2008 B	6/26/2008 B	12/4/2009 B
VOC					
1,1,1-Trichloroethane	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzene	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 UJ/0.001 U	0.001 U	0.001 U	0.0002 J	0.001 J
Ethylbenzene	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Methylene chloride	0.005 UJ/0.005 UJ	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Toluene	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 UJ/0.001 UJ	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	0.001 U/0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Vinyl chloride	0.006 {A}/0.006 {A}	0.009 {A}	0.013 {A}	0.016 {A}	0.026 {A}

MW 31R	10/17/2006 1	1/23/2007 1	4/17/2007 1	7/11/2007 1	10/17/2007 1	2/14/2008 1	12/4/2008 1	4/29/2009 1	12/15/2009 1
VOC									
1,1,1-Trichloroethane	0.09 J/0.5 U	0.065 J/0.07 J	0.1	1 UJ	0.1 U	1 U/1 U	0.83 U	0.5 U	0.31 U
1,1-Dichloroethene	0.033 J {A}/0.5 U	0.5 U/0.5 U	0.052 {A}	1 U	0.031 J {A}	1 U/1 U	0.83 U	0.5 U	0.047 J {A}
Benzene	0.011 {A}/0.5 U	0.5 U/0.5 U	0.009 J {A}	1 U	0.1 U	1 U/1 U	0.83 U	0.5 U	0.31 U
Chloroform (Trichloromethane)	0.001 U/0.5 U	0.5 U/0.5 U	0.05 U	1 U	0.1 U	1 U/1 U	0.83 U	0.5 U	0.31 U
cis-1,2-Dichloroethene	6.3 J {A}/6.8 {A}	7.8 {A}/7.3 {A}	10 {A}	13 {A}	12 {A}	15 {A}/16 {A}	14 {A}	11 {A}	11 {A}
Ethylbenzene	0.55/0.5	0.5/0.5	0.53	1 {A}	1.5 {A}	0.82 J {A}/0.81 J {A}	1.2 {A}	1 {A}	0.55
Methylene chloride	0.026 J {A}/2.5 U	2.5 U/0.13 J {A}	0.03 J {A}	5 U	0.5 U	5 U/5 U	4.2 U	2.5 U	1.6 U
Tetrachloroethene	0.002/0.5 U	0.5 U/0.5 U	0.05 UJ	1 UJ	0.1 U	1 U/1 U	0.83 U	0.5 U	0.31 U
Toluene	4.2 {A}/4.2 {A}	4.1 {A}/3.9 {A}	2 {A}	8.1 {A}	9 {A}	7.5 {A}/7.6 {A}	8.3 {A}	5.8 {A}	2 {A}
trans-1,2-Dichloroethene	0.068 J/0.064 J	0.5 U/0.5 U	0.05 J	1 U	0.053 J	1 U/1 U	0.083 J	0.072 J	0.075 J
Trichloroethene	0.13 J {A}/0.12 J {A}	0.97 J {A}/0.87 J {A}	0.93 J {A}	1 U	0.1 U	0.67 J {A}/0.74 J {A}	0.83 U	0.54 {A}	2.3 {A}
Vinyl chloride	7.2 {AB}/7.6 {AB}	6.2 {AB}/5.9 {AB}	2.4 {AB}	6.6 {AB}	6.2 {AB}	5 {AB}/5.3 {AB}	3.2 {AB}	1.5 {A}	0.7 {A}

MW 82	10/19/2006 B	10/16/2007 B	6/27/2008 B	12/15/2009 B
VOC				
1,1,1-Trichloroethane	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U	0.0001 J
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U
Methylene chloride	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Toluene	0.001 U	0.001 U	0.001 U	0.0002 J
trans-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	0.001 UJ	0.001 U	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U	0.001 U	0.001 U

MW 40	10/18/2006 3s	1/23/2007 3s	4/18/2007 3s	7/10/2007 3s	10/18/2007 3s	2/15/2008 3s	6/26/2008 3s	12/3/2008 3s	4/30/2009 3s	12/9/2009 3s
VOC										
1,1,1-Trichloroethane	0.001 U	0.5 U	0.042 U	0.83 U	0.5 U	0.63 U	1 U	0.83 U/0.71 U	0.5 U	0.25 U
1,1-Dichloroethene	0.066 J {A}	0.054 J {A}	0.087 {A}	0.085 J {A}	0.12 J {A}	0.14 J {A}	0.18 J {A}	0.13 J {A}/0.14 J {A}	0.1 J {A}	0.1 J {A}
Benzene	0.001 J	0.5 U	0.042 U	0.83 U	0.5 U	0.63 U	1 U	0.83 U/0.71 U	0.5 U	0.25 U
Chloroform (Trichloromethane)	0.001 U	0.5 U	0.042 U	0.83 U	0.5 U	0.63 U	1 U	0.83 U/0.71 U	0.5 U	0.25 U
cis-1,2-Dichloroethene	12 {A}	11 {A}	9.6 {A}	10 {A}	17 {A}	17 {A}	15 J {A}	13 {A}/13 {A}	13 {A}	13 {A}
Ethylbenzene	0.001 J	0.5 U	0.042 U	0.83 U	0.5 U	0.63 U	0.22 J	0.83 U/0.71 U	0.5 U	0.25 U
Methylene chloride	0.005 UJ	2.5 U	0.21 UJ	4.2 U	2.5 U	0.073 J {A}	5 U	4.2 U/3.6 U	2.5 U	1.3 U
Tetrachloroethene	0.001 U	0.5 U	0.042 UJ	0.83 U	0.5 U	0.63 U	0.43 J {A}	0.83 U/0.71 U	0.5 U	0.25 U
Toluene	0.003	0.5 U	0.042 U	0.83 U	0.5 U	0.63 U	1 U	0.83 U/0.71 U	0.5 U	0.25 U
trans-1,2-Dichloroethene	0.24 J {A}	0.5 U	0.34 J {A}	0.26 J {A}	0.3 J {A}	0.42 J {A}	0.48 J {A}	0.29 J {A}/0.32 J {A}	0.32 J {A}	0.32 {A}
Trichloroethene	0.001	0.5 UJ	0.042 UJ	0.83 U	0.5 U	0.63 U	0.14 J {A}	0.83 U/0.71 U	0.5 U	0.25 U
Vinyl chloride	0.84 {A}	1.1 {A}	0.89 {A}	0.97 {A}	1.3 {A}	2.1 {AB}	1.2 {A}	1.7 {A}/1.5 {A}	2.1 {AB}	2.1 {AB}

MW 83	10/18/2006 B	10/18/2007 B	6/27/2008 B	12/8/2009 B
VOC				
1,1,1-Trichloroethane	0.001 UJ	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	0.001 U	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 U	0.0004 J	0.001 U	0.001 U
Ethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U
Methylene chloride	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Toluene	0.001 U	0.001 U	0.0001 J	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	0.001 UJ	0.001 U	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U	0.001 U	0.001 U

LEGEND

PROPERTY BOUNDARY
LOT LINE
RAILROAD
FENCE LINE
BUILDING

0 100 300ft

MW 61	6/24/2008 3d
VOAs	
1,1,1-Trichloroethane	0.001 U
1,1-Dichloroethene	0.001 U
Benzene	0.001 U
Chloroform (Trichloromethane)	0.001 U
cis-1,2-Dichloroethene	0.001 U
Ethylbenzene	0.001 U
Methylene chloride	0.005 U
Toluene	0.001 U
trans-1,2-Dichloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

SAMPLE LOCATION
SAMPLE DATE
GEOLOGIC UNIT
- WS - SURFACE WATER
- 1 - UNIT 1, PERCHED GROUNDWATER IN FILL
- 3S - UNIT 3, SHALLOW GROUNDWATER IN UPPERMOST AQUIFER
- 3I - UNIT 3, INTERMEDIATE GROUNDWATER IN UPPERMOST AQUIFER
- 3D - UNIT 3, DEEP GROUNDWATER IN UPPERMOST AQUIFER
- B - BEDROCK, GROUNDWATER IN BEDROCK AQUIFER

CONCENTRATION (mg/L)
PARAMETER
0.24 {A} EXCEEDANCE
SAMPLE RESULTS COMPARED TO CRITERIA A, B, E, AND F
SAMPLE RESULTS COMPARED TO CRITERIA A, B, C, AND D

Chemical name	A	B	C	D	E	F
1,1,1-Trichloroethane	2.00E-01	1.37E+03	7.47E+02	1.33E+04	3.14E+04	1.86E+07
1,1-Dichloroethene	7.00E-03	1.16E+02	1.69E+02	8.90E+02	2.10E+03	1.42E+05
Benzene	5.00E-03	4.55E+00	1.22E+00	3.36E+01	9.02E+01	5.50E+04
Chloroform (Trichloromethane)	8.00E-02	2.12E+00	4.85E+01	1.53E+01	3.97E+01	1.09E+06
cis-1,2-Dichloroethene	7.00E-02	2.12E+01	4.70E+01	4.76E+02	1.06E+03	1.64E+07
Ethylbenzene	7.00E-01	4.19E+02	8.85E+01	9.83E+03	2.28E+04	6.79E+06
Methylene chloride	5.00E-03	8.31E+01	2.48E+01	1.10E+03	2.76E+03	2.76E+06
Toluene	1.00E+00	2.27E+02	2.76E+02	4.17E+03	9.47E+03	1.22E+07
trans-1,2-Dichloroethene	1.00E-01	4.13E+01	7.65E+01	5.26E+02	1.22E+03	9.43E+06
Trichloroethene	5.00E-03	2.51E+01	4.23E+00	1.08E+02	3.00E+02	6.70E+06
Vinyl chloride	2.00E-03	1.95E+00	4.63E-02	5.97E+01	1.85E+02	1.41E+06

- A Drinking Water Criteria
- B Site-Specific Construction Worker Groundwater Contact Criteria
- C Site-Specific Residential Non-Potable GW Use Criteria
- D Site-Specific Residential GW Volatilization to Indoor Air Criteria
- E Site-Specific Industrial GW Volatilization to Indoor Air Criteria
- F Site-Specific Occupational GW Volatilization to Indoor Air Criteria Based on Occupational Limits

NOTES:
1. Parameters that do not appear in the databox for a particular sample were not analyzed.
2. Sample results rounded to three decimal places.
3. Screening criteria and sample results are compared to two significant digits. Results equal to screening criteria are not highlighted as exceedances.
4. MW 51, MW 76, and MW 79 were not sampled during the June 2008 event.
5. The concentrations of chlorobenzene (0.15 mg/L J), tetrachloroethene (0.43 mg/L J), and styrene (0.14 mg/L J) in the June 2008 sample from monitoring well MW-40 exceed the drinking water criteria. However, these VOCs were not detected at MW-40 in December 2008, and have been either not detected (chlorobenzene and styrene) or detected sporadically (tetrachloroethene) at other wells in the groundwater monitoring network. Because these VOCs have been detected so sporadically, they have essentially no spatial or temporal distribution, and as such, they have not been added to the databoxes

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

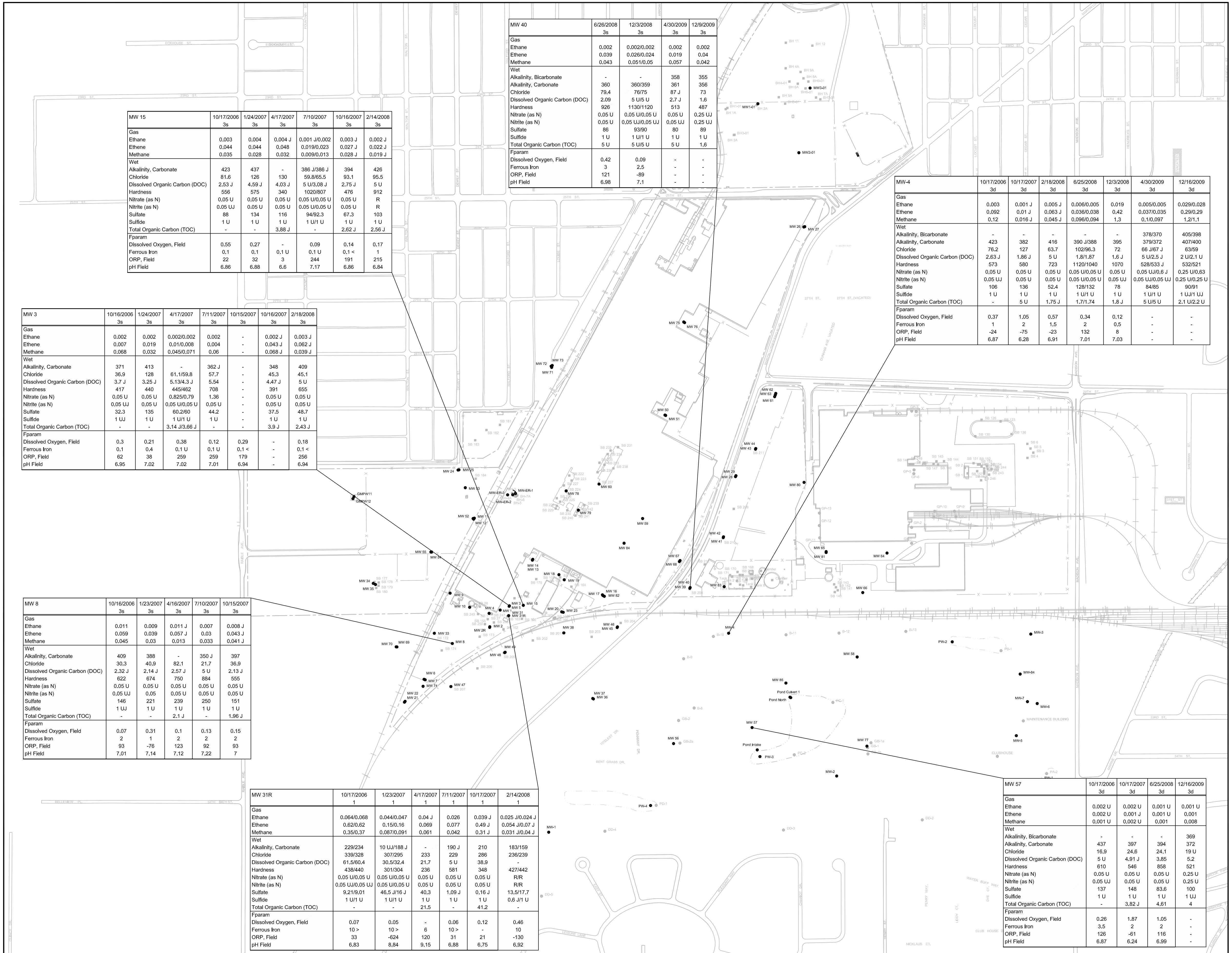
PENDLETON/MLK AVENUE SITE

GROUNDWATER/SURFACE WATER RESULTS
VOCs - OCTOBER 2006 - DECEMBER 2009

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: S. RICHARDSON	Reviewed By: J. BERGSMA	Date: MARCH 2010
Scale: 1"=300'	Project Nº: 017302-02	Report Nº: PRES022 / Drawing Nº: 4-10B



MW 40	6/26/2008 3s	12/3/2008 3s	4/30/2009 3s	12/9/2009 3s
Gas				
Ethane	0.002	0.002/0.002	0.002	0.002
Ethene	0.039	0.026/0.024	0.019	0.04
Methane	0.043	0.051/0.05	0.057	0.042
Wet				
Alkalinity, Bicarbonate	-	-	358	355
Alkalinity, Carbonate	360	360/359	361	356
Chloride	79.4	76/75	87 J	73
Dissolved Organic Carbon (DOC)	2.09	5 U/5 U	2.7 J	1.6
Hardness	926	1130/1120	513	487
Nitrate (as N)	0.05 U	0.05 U/0.05 U	0.05 U	0.25 UJ
Nitrite (as N)	0.05 U	0.05 UJ/0.05 UJ	0.05 UJ	0.25 UJ
Sulfate	86	93/90	80	89
Sulfide	1 U	1 U/1 U	1 U	1 U
Total Organic Carbon (TOC)	5 U	5 U/5 U	5 U	1.6
Fparam				
Dissolved Oxygen, Field	0.42	0.09	-	-
Ferrous Iron	3	2.5	-	-
ORP, Field	121	-89	-	-
pH Field	6.98	7.1	-	-

MW 15	10/17/2006 3s	1/24/2007 3s	4/17/2007 3s	7/10/2007 3s	10/16/2007 3s	2/14/2008 3s
Gas						
Ethane	0.003	0.004	0.004 J	0.001 J/0.002	0.003 J	0.002 J
Ethene	0.044	0.044	0.048	0.019/0.023	0.027 J	0.022 J
Methane	0.035	0.028	0.032	0.009/0.013	0.028 J	0.019 J
Wet						
Alkalinity, Carbonate	423	437	-	386 J/386 J	394	426
Chloride	81.6	126	130	59.8/65.5	93.1	95.5
Dissolved Organic Carbon (DOC)	2.53 J	4.59 J	4.03 J	5 U/3.08 J	2.75 J	5 U
Hardness	556	575	340	1020/807	476	912
Nitrate (as N)	0.05 U	0.05 U	0.05 U	0.05 U/0.05 U	0.05 U	R
Nitrite (as N)	0.05 UJ	0.05 U	0.05 U	0.05 U/0.05 U	0.05 U	R
Sulfate	88	134	116	94/92.3	67.3	103
Sulfide	1 U	1 U	1 U	1 U/1 U	1 U	1 U
Total Organic Carbon (TOC)	-	-	3.88 J	-	2.62 J	2.56 J
Fparam						
Dissolved Oxygen, Field	0.55	0.27	-	0.09	0.14	0.17
Ferrous Iron	0.1	0.1	0.1 U	0.1 U	0.1 <	1
ORP, Field	22	32	3	244	191	215
pH Field	6.86	6.88	6.6	7.17	6.86	6.84

MW-4	10/17/2006 3d	10/17/2007 3d	2/18/2008 3d	6/25/2008 3d	12/3/2008 3d	4/30/2009 3d	12/16/2009 3d
Gas							
Ethane	0.003	0.001 J	0.005 J	0.006/0.005	0.019	0.005/0.005	0.029/0.028
Ethene	0.092	0.01 J	0.063 J	0.036/0.038	0.42	0.037/0.035	0.29/0.29
Methane	0.12	0.016 J	0.045 J	0.096/0.094	1.3	0.1/0.097	1.2/1.1
Wet							
Alkalinity, Bicarbonate	-	-	-	-	-	378/370	405/398
Alkalinity, Carbonate	423	382	416	390 J/388	395	379/372	407/400
Chloride	76.2	127	63.7	102/96.3	72	66 J/67 J	63/59
Dissolved Organic Carbon (DOC)	2.63 J	1.86 J	5 U	1.8/1.87	1.6 J	5 U/2.5 J	2 U/2.1 U
Hardness	573	580	723	1120/1040	1070	528/533 J	532/521
Nitrate (as N)	0.05 U	0.05 U	0.05 U	0.05 U/0.05 U	0.05 U	0.05 UJ/0.6 J	0.25 U/0.63
Nitrite (as N)	0.05 UJ	0.05 U	0.05 U	0.05 U/0.05 U	0.05 UJ	0.05 UJ/0.05 UJ	0.25 U/0.25 U
Sulfate	106	136	52.4	128/132	78	84/85	90/91
Sulfide	1 U	1 U	1 U	1 U/1 U	1 U	1 U/1 U	1 UJ/1 UJ
Total Organic Carbon (TOC)	-	5 U	1.75 J	1.7/1.74	1.8 J	5 U/5 U	2.1 U/2.2 U
Fparam							
Dissolved Oxygen, Field	0.37	1.05	0.57	0.34	0.12	-	-
Ferrous Iron	1	2	1.5	2	0.5	-	-
ORP, Field	-24	-75	-23	132	8	-	-
pH Field	6.87	6.28	6.91	7.01	7.03	-	-

MW 3	10/16/2006 3s	1/24/2007 3s	4/17/2007 3s	7/11/2007 3s	10/15/2007 3s	10/16/2007 3s	2/18/2008 3s
Gas							
Ethane	0.002	0.002	0.002/0.002	0.002	-	0.002 J	0.003 J
Ethene	0.007	0.019	0.01/0.008	0.004	-	0.043 J	0.062 J
Methane	0.068	0.032	0.045/0.071	0.06	-	0.068 J	0.039 J
Wet							
Alkalinity, Carbonate	371	413	-	362 J	-	348	409
Chloride	36.9	128	61.1/59.8	57.7	-	45.3	45.1
Dissolved Organic Carbon (DOC)	3.7 J	3.25 J	5.13/4.3 J	5.54	-	4.47 J	5 U
Hardness	417	440	445/462	708	-	391	655
Nitrate (as N)	0.05 U	0.05 U	0.825/0.79	1.36	-	0.05 U	0.05 U
Nitrite (as N)	0.05 UJ	0.05 U	0.05 U/0.05 U	0.05 U	-	0.05 U	0.05 U
Sulfate	32.3	135	60.2/60	44.2	-	37.5	48.7
Sulfide	1 UJ	1 U	1 U/1 U	1 U	-	1 U	1 U
Total Organic Carbon (TOC)	-	-	3.14 J/3.66 J	-	-	3.9 J	2.43 J
Fparam							
Dissolved Oxygen, Field	0.3	0.21	0.38	0.12	0.29	-	0.18
Ferrous Iron	0.1	0.4	0.1 U	0.1 U	0.1 <	-	0.1 <
ORP, Field	62	38	259	259	179	-	256
pH Field	6.95	7.02	7.02	7.01	6.94	-	6.94

MW 8	10/16/2006 3s	1/23/2007 3s	4/16/2007 3s	7/10/2007 3s	10/15/2007 3s
Gas					
Ethane	0.011	0.009	0.011 J	0.007	0.008 J
Ethene	0.059	0.039	0.057 J	0.03	0.043 J
Methane	0.045	0.03	0.013	0.033	0.041 J
Wet					
Alkalinity, Carbonate	409	388	-	350 J	397
Chloride	30.3	40.9	82.1	21.7	36.9
Dissolved Organic Carbon (DOC)	2.32 J	2.14 J	2.57 J	5 U	2.13 J
Hardness	622	674	750	884	555
Nitrate (as N)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Nitrite (as N)	0.05 UJ	0.05	0.05 U	0.05 U	0.05 U
Sulfate	146	221	239	250	151
Sulfide	1 UJ	1 U	1 U	1 U	1 U
Total Organic Carbon (TOC)	-	-	2.1 J	-	1.96 J
Fparam					
Dissolved Oxygen, Field	0.07	0.31	0.1	0.13	0.15
Ferrous Iron	2	1	2	2	2
ORP, Field	93	-76	123	92	93
pH Field	7.01	7.14	7.12	7.22	7

MW 31R	10/17/2006 1	1/23/2007 1	4/17/2007 1	7/11/2007 1	10/17/2007 1	2/14/2008 1
Gas						
Ethane	0.064/0.068	0.044/0.047	0.04 J	0.026	0.039 J	0.025 J/0.024 J
Ethene	0.62/0.62	0.15/0.16	0.069	0.077	0.49 J	0.054 J/0.07 J
Methane	0.35/0.37	0.087/0.091	0.061	0.042	0.31 J	0.031 J/0.04 J
Wet						
Alkalinity, Carbonate	229/234	10 UJ/188 J	-	190 J	210	183/159
Chloride	339/328	307/295	233	229	286	236/239
Dissolved Organic Carbon (DOC)	61.5/60.4	30.5/32.4	21.7	5 U	38.9	-
Hardness	438/440	301/304	236	581	348	427/442
Nitrate (as N)	0.05 U/0.05 U	0.05 U/0.05 U	0.05 U	0.05 U	0.05 U	R/R
Nitrite (as N)	0.05 UJ/0.05 UJ	0.05 U/0.05 U	0.05 U	0.05 U	0.05 U	R/R
Sulfate	9.21/9.01	46.5 J/16 J	40.3	1.09 J	0.16 J	13.5/17.7
Sulfide	1 U/1 U	1 U/1 U	1 U	1 U	1 U	0.6 J/1 U
Total Organic Carbon (TOC)	-	-	21.5	-	41.2	-
Fparam						
Dissolved Oxygen, Field	0.07	0.05	-	0.06	0.12	0.46
Ferrous Iron	10 >	10 >	6	10 >	-	10
ORP, Field	33	-624	120	31	21	-130
pH Field	6.83	8.84	9.15	6.88	6.75	6.92

MW 57	10/17/2006 3d	10/17/2007 3d	6/25/2008 3d	12/16/2009 3d
Gas				
Ethane	0.002 U	0.002 U	0.001 U	0.001 U
Ethene	0.002 U	0.001 J	0.001 U	0.001
Methane	0.001 U	0.002 U	0.001	0.008
Wet				
Alkalinity, Bicarbonate	-	-	-	369
Alkalinity, Carbonate	437	397	394	372
Chloride	16.9	24.6	24.1	19 U
Dissolved Organic Carbon (DOC)	5 U	4.91 J	3.85	5.2
Hardness	610	546	858	521
Nitrate (as N)	0.05 U	0.05 U	0.05 U	0.25 U
Nitrite (as N)	0.05 UJ	0.05 U	0.05 U	0.25 U
Sulfate	137	148	83.6	100
Sulfide	1 U	1 U	1 U	1 UJ
Total Organic Carbon (TOC)	-	3.82 J	4.61	4
Fparam				
Dissolved Oxygen, Field	0.26	1.87	1.05	-
Ferrous Iron	3.5	2	2	-
ORP, Field	126	-61	116	-
pH Field	6.87	6.24	6.99	-

LEGEND

PROPERTY BOUNDARY

LOT LINE

RAILROAD

FENCE LINE

BUILDING

N

0 100 300ft

SAMPLE LOCATION

SAMPLE DATE

GEOLOGIC UNIT

MW-4	10/17/2006 3d
Gas	
Ethane	0.003
Ethene	0.092
Methane	0.12
Wet	
Alkalinity, Bicarbonate	-
Alkalinity, Carbonate	423
Chloride	76.2
Dissolved Organic Carbon (DOC)	2.63 J
Hardness	573
Nitrate (as N)	0.05 U
Nitrite (as N)	0.05 UJ
Sulfate	106
Sulfide	1 U
Total Organic Carbon (TOC)	-
Fparam	
Dissolved Oxygen, Field	0.37
Ferrous Iron	1
ORP, Field	-24
pH Field	6.87

WS - SURFACE WATER
1 - UNIT 1, PERCHED GROUNDWATER IN FILL
3S - UNIT 3, SHALLOW GROUNDWATER IN UPPERMOST AQUIFER
3I - UNIT 3, INTERMEDIATE GROUNDWATER IN UPPERMOST AQUIFER
3D - UNIT 3, DEEP GROUNDWATER IN UPPERMOST AQUIFER
B - BEDROCK, GROUNDWATER IN BEDROCK AQUIFER

CONCENTRATION (mg/L)

PARAMETER

NOTES:
1. Results are shown in mg/L, except for pH (Field) (s.u.), and ORP (millivolts).
2. Parameters that do not appear in the databox for a particular sample were not analyzed.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

PENDLETON/MLK AVENUE SITE

GROUNDWATER RESULTS
MNA PARAMETERS - OCT. 2006 - DEC. 2009

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
J. BERGSMA	S. RICHARDSON	MARCH 2010	
Scale: 1"=300'	Project Nº: 017302-02	Report Nº: PRES022	Drawing Nº: 4-11

017302-02(PRES022)GN-SC002 APR 01/2010

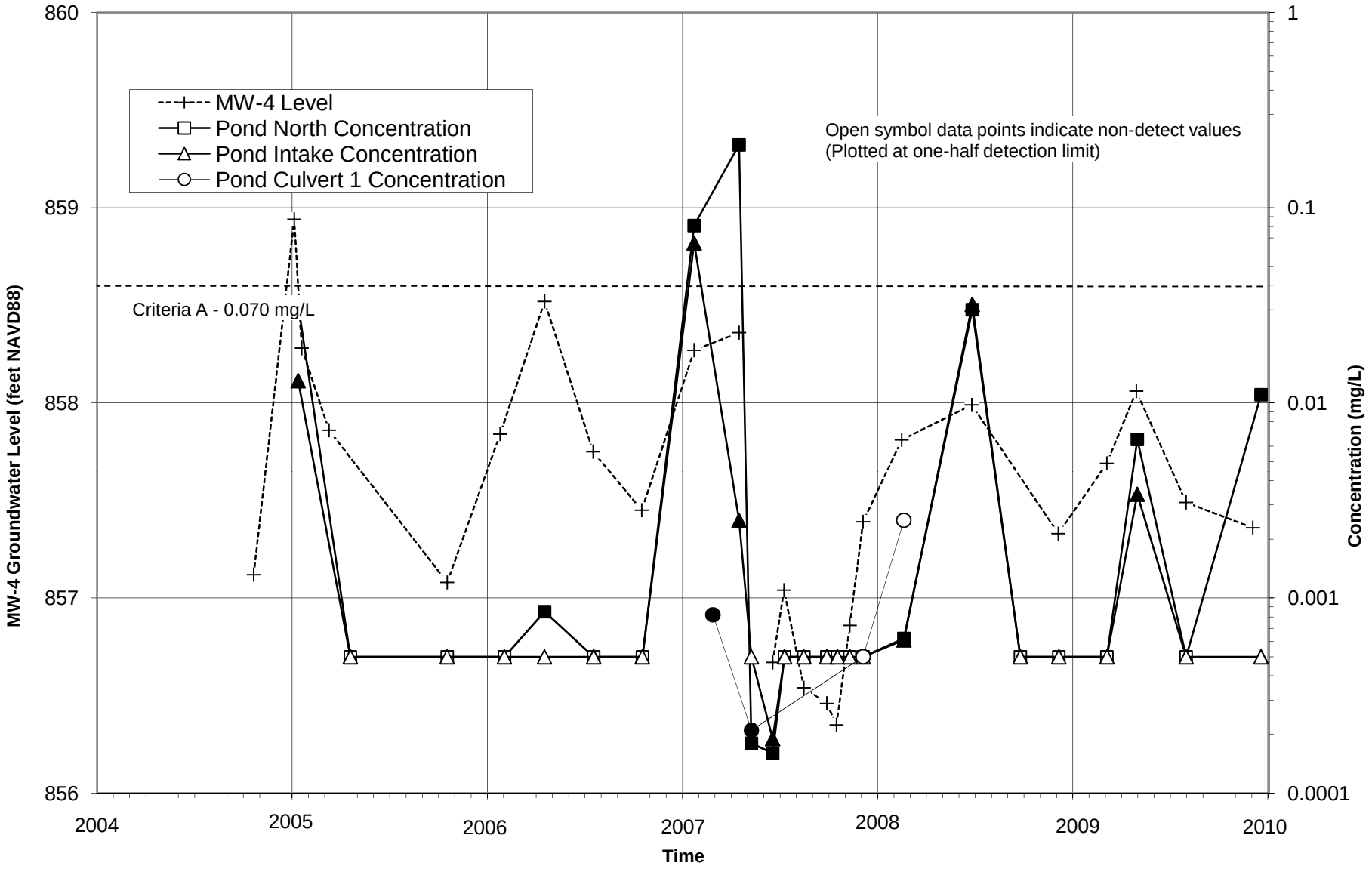


Figure 4-12. Time Series Plots of Cis-1,2-Dichloroethene Concentrations at Pond Sample Locations and Groundwater Level at MW-4.

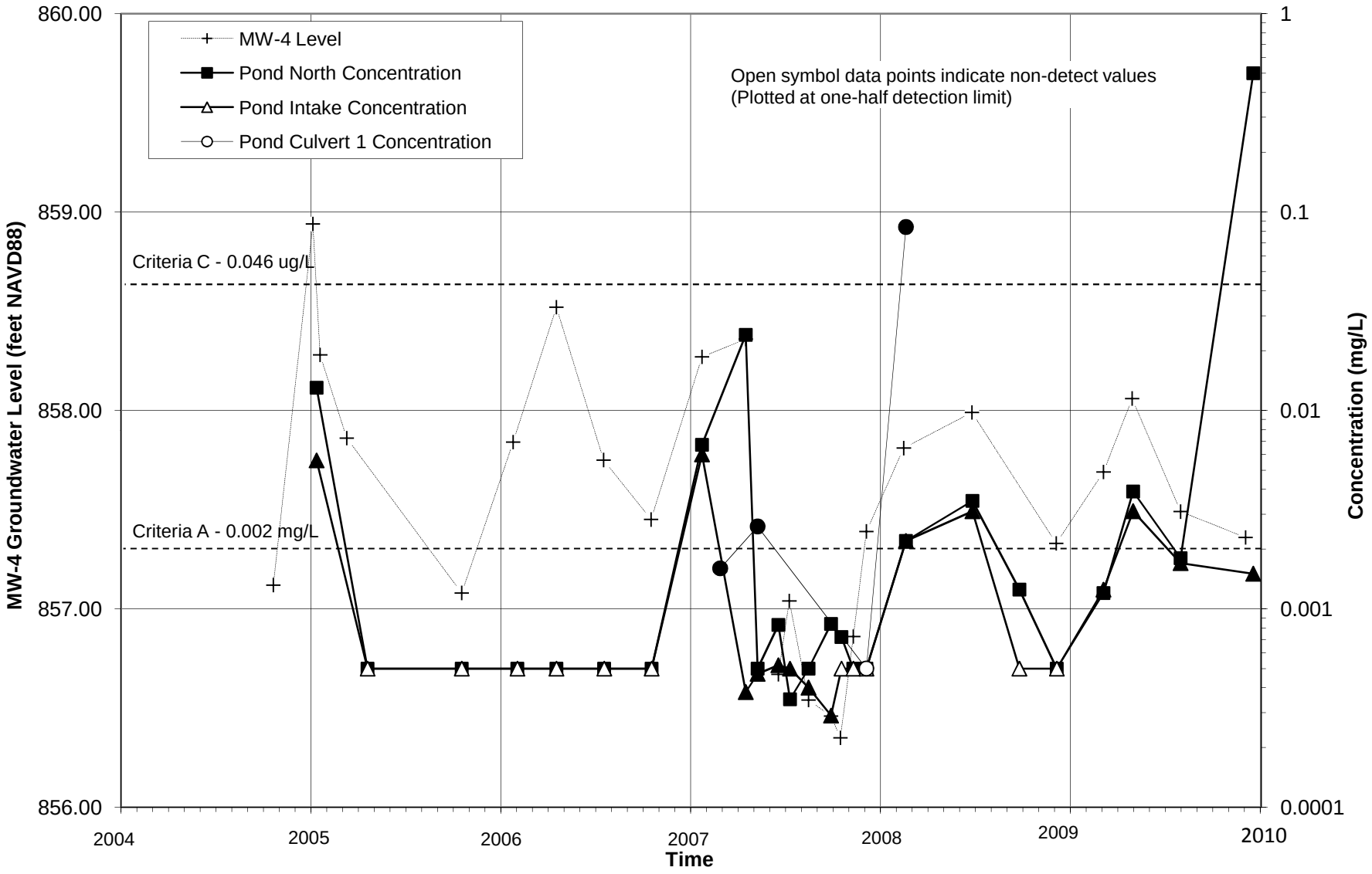
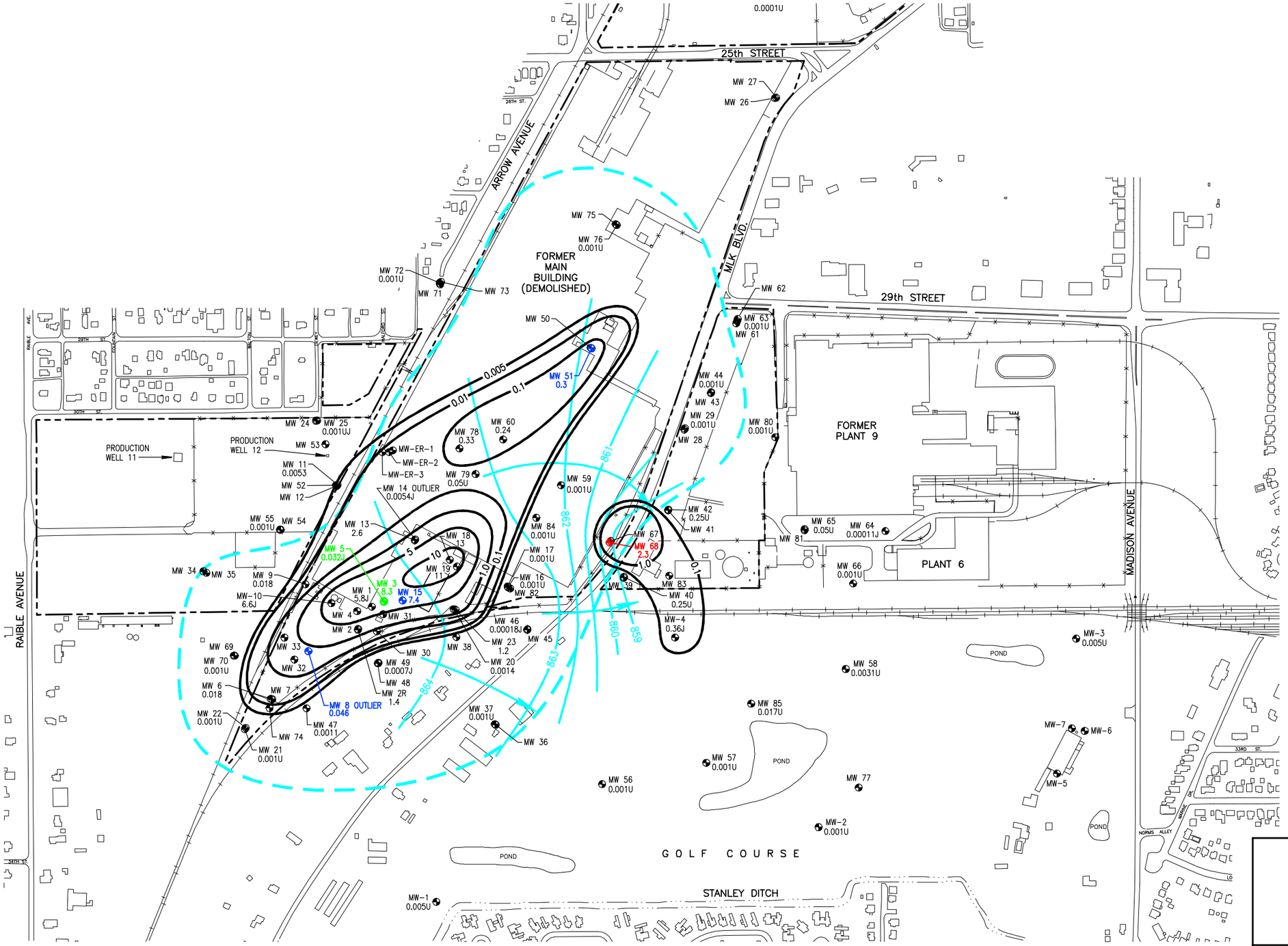


Figure 4-13. Time Series Plots of Vinyl Chloride Concentrations at Pond Sample Locations and Groundwater Level at MW-4.



CONCENTRATION OF TRICHLOROETHENE IN GROUNDWATER - UNIT 3S

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 5-1
Project No. 60135322		

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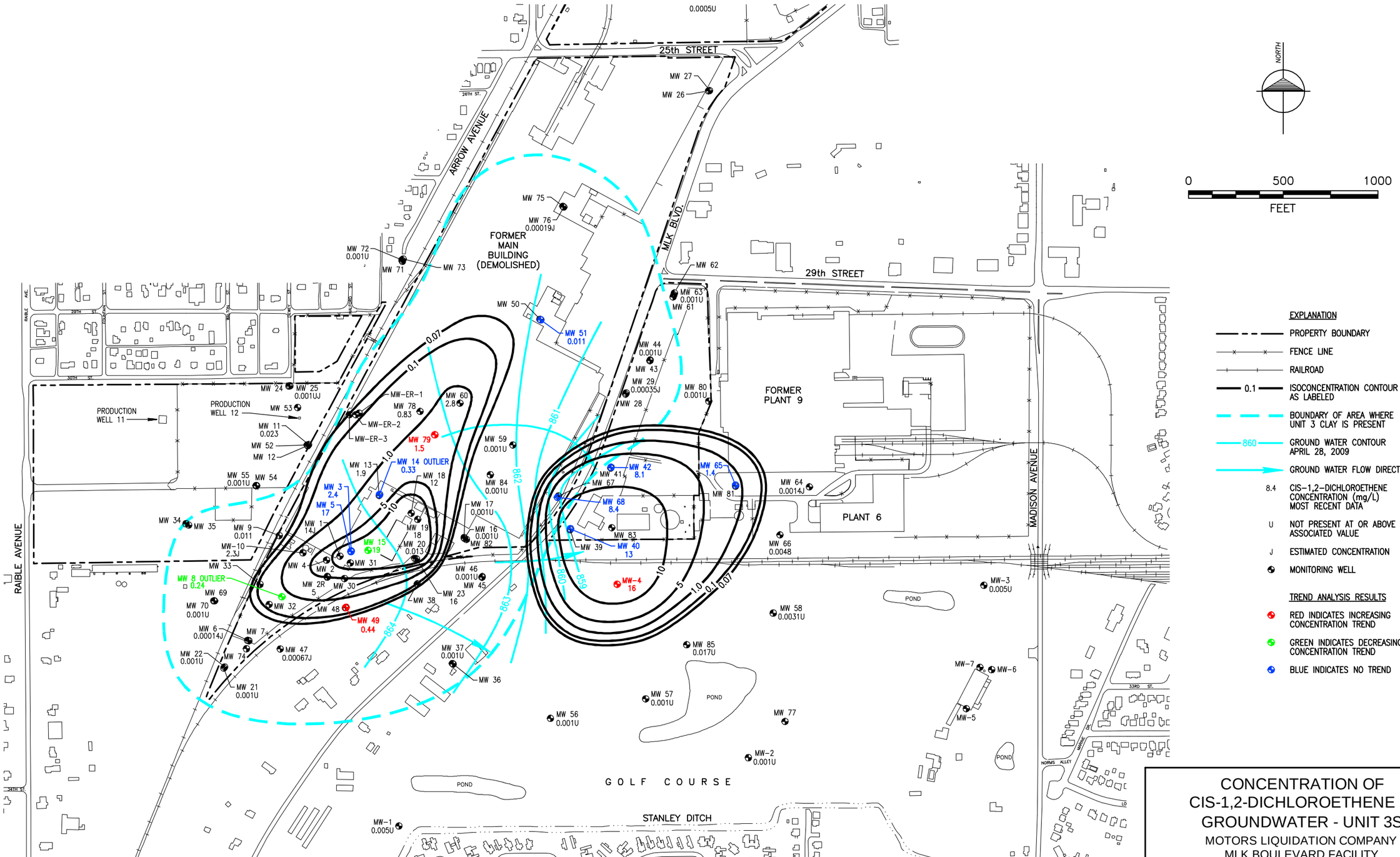

CONCENTRATION OF CIS-1,2-DICHLOROETHENE IN GROUNDWATER - UNIT 3S

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10		Figure
Project No. 60135322	AECOM	5-2

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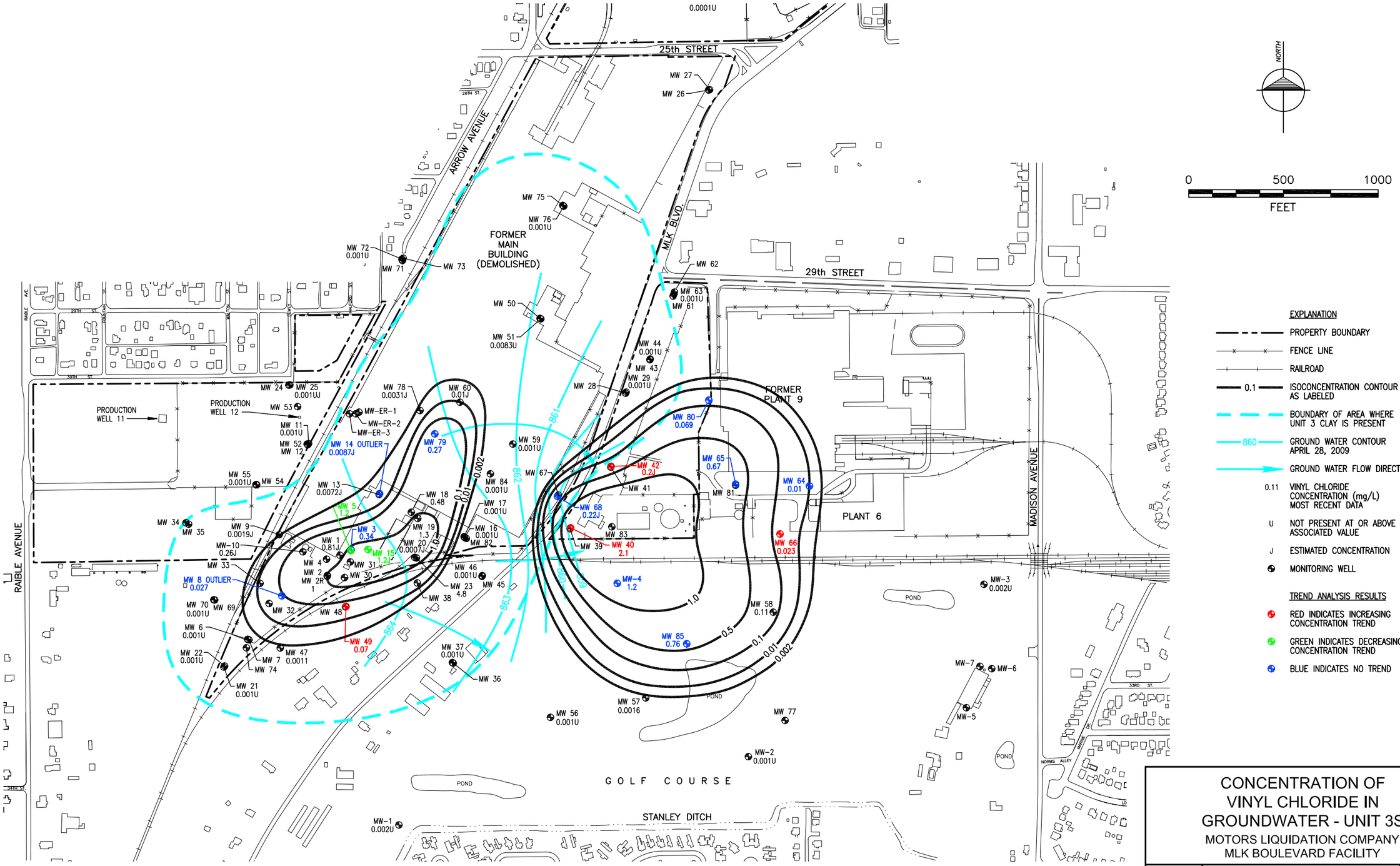

EXPLANATION

- PROPERTY BOUNDARY
- FENCE LINE
- RAILROAD
- 0.1 — ISOCONCENTRATION CONTOUR (mg/L) AS LABELED
- BOUNDARY OF AREA WHERE UNIT 3 CLAY IS PRESENT
- 860 — GROUND WATER CONTOUR APRIL 28, 2009
- GROUND WATER FLOW DIRECTION
- 0.11 VINYL CHLORIDE CONCENTRATION (mg/L) MOST RECENT DATA
- U NOT PRESENT AT OR ABOVE THE ASSOCIATED VALUE
- J ESTIMATED CONCENTRATION
- MONITORING WELL

TREND ANALYSIS RESULTS

- RED INDICATES INCREASING CONCENTRATION TREND
- GREEN INDICATES DECREASING CONCENTRATION TREND
- BLUE INDICATES NO TREND

CONCENTRATION OF VINYL CHLORIDE IN GROUNDWATER - UNIT 3S

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 5-3
Project No. 60135322		

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CONCENTRATION OF TRICHLOROETHENE IN GROUNDWATER - UNIT 3D

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 5-4
Project No. 60135322		

NORTH

0 500 1000
FEET

EXPLANATION

- PROPERTY BOUNDARY
- FENCE LINE
- RAILROAD
- 0.1 — ISOCONCENTRATION CONTOUR (mg/ AS LABELED
- 860 — GROUND WATER CONTOUR APRIL 28, 2009
- GROUND WATER FLOW DIRECTION
- 0.04 TRICHLOROETHENE CONCENTRATION (mg/L) MOST RECENT DATA
- U NOT PRESENT AT OR ABOVE THE ASSOCIATED VALUE
- J ESTIMATED CONCENTRATION
- MONITORING WELL

TREND ANALYSIS RESULTS

- RED INDICATES INCREASING CONCENTRATION TREND
- GREEN INDICATES DECREASING CONCENTRATION TREND
- BLUE INDICATES NO TREND

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NORTH

0 500 1000
FEET

25th STREET
29th STREET
ARROW AVENUE
RAIBLE AVENUE
MLK BLVD.
MADISON AVENUE
26TH ST.
30TH ST.
34TH ST.
33RD ST.
NORMS ALLEY

FORMER MAIN BUILDING (DEMOLISHED)
FORMER PLANT 9
PLANT 6
GOLF COURSE
POND
STANLEY DITCH

PRODUCTION WELL 11 NM
PRODUCTION WELL 12

MW 1 MW 2 MW 2R MW 3 MW 4 MW 5 MW 6 MW 7 0.001U MW 8 MW 9 MW 10 MW 11 MW 12 0.42 MW 13 MW 14 MW 15 MW 16 MW 17 MW 18 MW 19 MW 20 MW 21 MW 22 MW 23 MW 24 0.001UJ MW 25 MW 26 0.001UJ MW 27 MW 28 0.0063U MW 29 MW 30 MW 31 MW 32 MW 33 MW 34 MW 35 0.001UJ MW 36 0.001U MW 37 MW 38 0.001U MW 39 1.3 MW 40 MW 41 8.4 MW 42 MW 43 0.0019 MW 44 MW 45 0.001U MW 46 MW 47 MW 48 0.00075J MW 49 MW 50 0.034 MW 51 MW 52 0.55 MW 53 0.37 MW 54 0.001U MW 55 MW 56 0.001U MW 57 0.001U MW 58 0.0031U MW 59 MW 60 MW 61 0.001U MW 62 MW 63 MW 64 0.00014J MW 65 1.4 MW 66 0.0048 MW 67 0.24 MW 68 MW 69 0.00024J MW 70 MW 71 MW 72 MW 73 0.001U MW 74 MW 75 0.001U MW 76 MW 77 MW 78 MW 79 MW 80 0.001U MW 81 MW 82 MW 83 MW 84 MW 85 0.017U MW-1 0.005U MW-2 0.001U MW-3 0.005U MW-4 16 MW-5 MW-6 MW-7 MW-ER-1 MW-ER-2 MW-ER-3

860 859 858 863 862 861 864 0.1 0.07 10 5 2 1 0.1 0.07

EXPLANATION

- PROPERTY BOUNDARY
- FENCE LINE
- RAILROAD
- 0.1 ISOCONCENTRATION CONTOUR (mg/ AS LABELED
- 860 GROUND WATER CONTOUR APRIL 28, 2009
- GROUND WATER FLOW DIRECTION
- 0.0048 CIS-1,2-DICHLOROETHENE CONCENTRATION (mg/L) MOST RECENT DATA
- U NOT PRESENT AT OR ABOVE THE ASSOCIATED VALUE
- J ESTIMATED CONCENTRATION
- MONITORING WELL

TREND ANALYSIS RESULTS

- RED INDICATES INCREASING CONCENTRATION TREND
- GREEN INDICATES DECREASING CONCENTRATION TREND
- BLUE INDICATES NO TREND

CONCENTRATION OF CIS-1,2-DICHLOROETHENE IN GROUNDWATER - UNIT 3D

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 5-5
Project No. 60135322		

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NORTH

0 500 1000
FEET

EXPLANATION

- PROPERTY BOUNDARY
- FENCE LINE
- RAILROAD
- 0.1 — ISOCONCENTRATION CONTOUR (mg/ AS LABELED
- 860 — GROUND WATER CONTOUR APRIL 28, 2009
- GROUND WATER FLOW DIRECTION
- 0.11 VINYL CHLORIDE CONCENTRATION (mg/L) MOST RECENT DATA
- U NOT PRESENT AT OR ABOVE THE ASSOCIATED VALUE
- J ESTIMATED CONCENTRATION
- MONITORING WELL

TREND ANALYSIS RESULTS

- RED INDICATES INCREASING CONCENTRATION TREND
- GREEN INDICATES DECREASING CONCENTRATION TREND
- BLUE INDICATES NO TREND

CONCENTRATION OF VINYL CHLORIDE IN GROUNDWATER - UNIT 3D

MOTORS LIQUIDATION COMPANY
MLK BOULEVARD FACILITY

Date 03-10	AECOM	Figure 5-6
Project No. 60135322		

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TABLE 3-1
SITE-WIDE GROUNDWATER MONITORING PROGRAM
MLC MLK BOULEVARD SITE
ANDERSON, INDIANA

Plume Stability and Corrective Measures Monitoring

Sample Location	*Year Installed*	*Unit Monitored*	*Plume Position (2)*	*Quarterly Monitoring 3/09, 4/09 7/09 & 12/09*	*Semiannual Monitoring 4/09 & 12/09*	*Annual Monitoring 12/09*
MW 3	1992	3S	AOC 1, Source		X(5)	
MW-4 (1)	2003	3D	WWTP, Tail		X(4,5)	
MW-2	2003	3D	WWTP, Margin			X(5)
MW 8	1993	3S	AOC 1, Source		X(3)	
MW 12	1993	3I	AOC 1, Tail		X(5)	
MW 14	1993	3S	AOC 1, Tail		X(5)	
MW 28	2000	3D	WWTP, Tail		X(5)	
MW 31R (1)	2000	1	AOC 1, Source		X(5)	
MW 37 (1)	2001	3S	AOC 1, Margin			X(5)
MW 40	2003	3S	WWTP, Source		X(4,5)	
MW 41	2003	3D	WWTP, Source		X(5)	
MW 42	2003	3S	WWTP, Source		X(5)	
MW 46 (1)	2003	3S	AOC 1, Margin			X(5)
MW 49	2003	3S	AOC 1, Tail		X(5)	
MW 51	2003	3S	AOC 1, Tail		X(5)	
MW 56	2004	3D	WWTP, Margin			X(5)
MW 57	2004	3D	WWTP, Margin			X(4,5)
MW 58	2004	3D	WWTP, Margin			X(5)
MW 61	2004	3D	WWTP, Margin			X(5)
MW 64	2004	3D	WWTP, Margin			X(5)
MW 65	2004	3D	WWTP, Margin			X(5)
MW 66	2004	3D	WWTP, Tail		X(5)	
MW 68	2004	3S	WWTP, Source		X(5)	
MW 75	2004	3D	AOC 1, Margin			X(3,5)
MW 76	2004	3S	AOC 1, Margin			X(3,5)
MW 79	2004	3S	AOC 1, Tail		X(5)	
MW 80	2005	3D	WWTP, Margin			X(5)
MW 81	2005	Bedrock	WWTP, Margin			X(5)
MW 82	2005	Bedrock	AOC 1, Margin			X(5)
MW 83	2005	Bedrock	WWTP, Margin			X(5)
MW 85	2007	3D	WWTP, Tail		X(5)	
POND (Intake)	N/A	Surface Water		X(5)		
POND (North)	N/A	Surface Water		X(5)		

Notes:

(1) Well added to the monitoring program based on IDEM review comments 5/2/08

(2) *AOC 1* = VOC plume originating at AOC 1 - South Court
WWTP = VOC plume originating from former WWTP Area
Source = VOC source area well

(3) Well not sampled due to field conditions

(4) TCL VOCs and Monitored Natural Attenuation (MNA) Parameters (see Table 3-2)

(5) TCL VOCs: Target Compound List Volatile Organic Compounds

TABLE 3-2
FIELD AND LABORATORY ANALYTICAL PROCEDURES
MLC MLK BOULEVARD SITE
ANDERSON, INDIANA

Parameter	Method Number	Procedure
Field Parameters [1]		
pH	[2]	Field
Temperature	[2]	Field
Conductivity	[2]	Field
Oxidation/Reduction Potential (ORP)	[2]	Field
Dissolved Oxygen	[2]	Field
Turbidity	[2]	Field
Fe^{2+} [3]	[2]	Field
Laboratory Parameters		
TCL VOCs	Method 8260B	Laboratory
Metals:		
Calcium[5]	Method 6010B	Laboratory
Iron	Method 6010B	Laboratory
Magnesium[5]	Method 6010B	Laboratory
Manganese(II) Mn^{2+}[4] [5]	Method 6010B	Laboratory
Potassium	Method 6010B	Laboratory
Sodium	Method 6010B	Laboratory
Alkalinity, Total[6]	SM 2320B/EPA - 310.1	Laboratory
Hardness, Total and Carbonate	SM 2340B[7]	Laboratory
Nitrate	Method 9056/EPA 300.0	Laboratory
Nitrite	Method 9056/EPA 300.0	Laboratory
Sulfate	Method 9056/EPA 300.0	Laboratory
Sulfide	Method 9030A	Laboratory
Total Organic Carbon	Method 9060	Laboratory
Dissolved Organic Carbon[4]	EPA - 415.1	Laboratory
Methane[8]	RSKSOP-175	Laboratory
Chloride	EPA 300.0	Laboratory
Ethane[8]	RSKSOP-175	Laboratory
Ethene[8]	RSKSOP-175	Laboratory

Notes:

Method Refers to U.S. Environmental Protection Agency SW 846.
EPA Refers to Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, rev. Mar. 1983
SM Standard Methods for the Evaluation of Water and Wastewater, 18th Edition, 1992.
RSKSOP-175 U.S. EPA Robert S. Kerr Environmental Research Laboratory, Ada OK, Standard Operating Procedures
VOCs Volatile Organic Compounds. PCBs Polychlorinated Biphenyls

(1) Field parameters are listed in the order that they are generally expected to stabilize while purging. Purging will be continued until each parameter has stabilized prior to sampling.
(2) Field parameters were measured using a muli-parameter meter and flow-through cell. The calibration of meters was check each day prior to use.
(3) Not a stabilization parameter.
(4) In order to determine dissolved organic carbon and Mn^{2+} concentrations, samples collected for organic carbon and Mn^{2+} analysis were field filtered using an in-line 0.45um filter.
(5) Samples will be preserved with HNO_3 to pH < 2.
(6) Both carbonate and bicarbonate alkalinity are required.
(7) Carbonate hardness were determined by calculation from hardness and alkalinity results.
(8) Samples were not field filtered. Samples were preserved with HCl to a pH < 2.

TABLE 4-1
STATIC WATER LEVEL DATA
MLC MLK BOULEVARD SITE
ANDERSON, INDIANA

Monitoring Well No.	Hydro-Geologic Unit	Northing (1)	Easting (1)	Datum El.[2,3]	Screen Top [2]	Screen Bottom [2]	Static Water Level (ft. NAVD 88)			
							3/4/09	4/28/09	7/30/09	12/2/09
1	3s	1761110.3	317311.1	880.70	864.50	860.21	-	-	-	-
2	3s	1761003.2	317244.7	879.70	864.75	860.47				
2R	3s	1760999.3	317243.9	879.68	864.46	860.18	-	-	-	-
3	3s	1761137.6	317370.2	880.51	864.53	860.25	-	864.29	-	861.32
4	3s	1761089.4	317240.2	880.78	865.97	861.48	-	-	-	-
5	3s	1761134.5	317368.7	880.54	852.93	843.53	-	-	-	-
6	3s	1760666.3	316823.5	878.22	864.80	855.18	-	-	-	-
7	3d	1760663.6	316830.5	878.18	835.40	830.82	-	-	-	-
8	3s	1760896.0	317004.4	878.41	863.33	853.74	-	-	-	861.67
9	3s	1761218.5	316990.4	881.65	866.31	856.70	-	-	-	-
10	3s	1761128.0	317115.5	880.88	866.30	856.67	-	-	-	-
11	3s	1761699.0	317145.5	882.68	861.51	851.88	-	-	-	-
12	3d	1761692.8	317141.2	882.78	833.84	829.26	-	864.58	-	861.38
13	3s	1761430.2	317517.7	881.25	866.13	856.50	-	-	-	-
14	3s	1761435.2	317520.1	881.36	852.63	848.06	-	863.79	-	861.03
15	3s	1761140.7	317459.5	879.67	864.76	855.13	-	-	-	-
16	3s	1761203.4	317969.5	878.65	864.01	854.40	-	-	-	-
17	3s	1761207.9	317966.4	878.30	853.30	848.72	-	-	-	-
18	3s	1761337.0	317687.7	878.88	858.88	854.15	-	-	-	-
19	3s	1761304.0	317721.7	878.54	858.75	854.04	-	-	-	-
20	3s	1761098.7	317705.5	877.70	852.50	847.76	-	-	-	-
21	3s	1760520.1	316698.0	878.74	850.92	846.20	-	-	-	-
22	3s	1760525.5	316702.1	879.11	861.67	856.92	-	-	-	-
23	3s	1761096.0	317715.2	877.68	860.71	855.97	-	-	-	-
24	3d	1762007.5	317041.2	882.77	803.78	794.03	-	-	-	-
25	3s	1762008.7	317047.0	882.85	853.75	844.00	-	-	-	-
26	3d	1763564.6	319256.7	883.09	840.65	830.82	-	-	-	-
27	1	1763566.5	319262.7	883.04	853.15	848.42	-	-	-	-
28	3d	1761964.9	318819.0	877.44	834.40	824.66	-	858.42	-	857.25

TABLE 4-1
STATIC WATER LEVEL DATA
MLC MLK BOULEVARD SITE
ANDERSON, INDIANA

Monitoring Well No.	Hydro-Geologic Unit	Northing (1)	Easting (1)	Datum El.[2,3]	Screen Top [2]	Screen Bottom [2]	Static Water Level (ft. NAVD 88)			
							3/4/09	4/28/09	7/30/09	12/2/09
29	3s	1761971.1	318822.0	877.53	862.21	852.49	-	-	-	-
30	1	1760992.0	317335.2	878.50	868.64	863.95	-	-	-	-
31	1	1761074.5	317365.6	879.22	872.17	867.91	-	-	-	-
31R	1	1761074.5	317365.6	879.71			-	872.13	-	871.07
32	1	1760855.5	316937.0	878.88	871.99	867.71	-	-	-	-
33	1	1760961.5	316889.2	880.01	873.05	868.76	-	-	-	-
34	1	1761281.2	316498.1	883.67	858.38	849.03	-	-	-	-
35	3d	1761273.9	316512.3	883.96	828.90	819.56	-	-	-	-
36	3d	1760540.9	317908.8	870.09	850.97	846.24	-	-	-	-
37	3s	1760543.9	317904.2	869.95	860.74	856.00	-	863.13	-	860.92
38	3d	1760964.00	317719.32	877.65	846.42	836.74			-	-
39	3d	1761249.83	318526.24	879.51	836.29	826.56	-	-	-	-
40	3s	1761254.51	318528.40	879.51	851.37	841.64	-	858.88	-	857.68
41	3d	1761575.05	318740.73	878.58	839.63	834.92	-	858.42	-	857.33
42	3s	1761579.24	318742.21	878.54	854.93	845.20	-	858.51	-	857.37
43	3d	1762141.24	318947.24	876.00	818.86	814.13	-	-	-	-
44	3s	1762145.28	318948.82	876.02	853.74	844.02	-	-	-	-
45	3d	1760998.51	318060.78	873.72	833.77	824.04	-	-	-	-
46	3s	1761002.51	318062.71	873.64	859.63	854.92	-	863.68	-	862.07
47	3s	1760620.47	316995.56	880.27	856.99	852.27	-	-	-	-
48	3d	1760837.68	317340.18	877.96	838.96	834.25	-	-	-	-
49	3s	1760839.93	317343.16	877.93	855.69	845.98	-	864.47	-	861.31
50	3d	1762359.73	318367.08	878.27	839.92	835.20	-	-	-	-
51	3s	1762357.18	318371.66	878.19	855.93	851.20	-	861.91	-	859.30
52	3d	1761696.65	317137.65	882.69	797.11	787.39	-	-	-	-
53	3d	1761894.20	317087.64	881.43	758.27	748.62	-	-	-	-
54	3d	1761482.29	316871.62	880.37	820.55	810.82	-	-	-	-
55	3s	1761482.41	316867.16	880.28	851.42	841.69	-	-	-	-
56	3d	1760254.76	318422.25	859.32	847.93	838.27	857.54	857.82	-	857.37

TABLE 4-1
STATIC WATER LEVEL DATA
MLC MLK BOULEVARD SITE
ANDERSON, INDIANA

Monitoring Well No.	Hydro-Geologic Unit	Northing (1)	Easting (1)	Datum El.[2,3]	Screen Top [2]	Screen Bottom [2]	Static Water Level (ft. NAVD 88)			
							3/4/09	4/28/09	7/30/09	12/2/09
57	3d	1760357.35	318925.21	862.52	842.68	833.38	857.42	857.61	857.12	857.28
58	3d	1760809.76	319598.52	861.46	854.35	849.69	856.95	857.15	856.83	856.80
59	3s	1761696.70	318223.89	882.00	852.77	848.03	-	-	-	-
60	3s	1761917.38	317944.64	881.77	847.95	843.24	-	862.70	-	-
61	3d	1762477.48	319069.90	876.57	823.11	813.40	-	858.16	-	856.81
62	B	1762498.26	319076.96	876.70	783.65	773.95	-	863.14	-	-
63	3s	1762488.77	319074.19	876.53	846.17	841.45	-	-	-	-
64	3d	1761475.47	319789.86	863.97	853.22	843.56	-	857.57	-	856.69
65	3d	1761484.84	319399.81	864.22	853.47	843.80	-	857.68	-	856.80
66	3d	1761222.31	319634.36	861.67	853.73	844.02	-	857.49	-	857.47
67	3d	1761427.43	318463.83	877.03	835.69	831.02	-	-	-	-
68	3s	1761420.80	318459.32	876.98	846.75	842.09	-	859.09	-	-
69	3d	1760874.10	316649.68	882.08	833.90	829.23	-	-	-	-
70	3s	1760874.50	316644.87	881.82	849.98	840.32	-	-	-	-
71	B	1762665.14	317640.98	878.16	761.95	752.31	-	-	-	-
72	3s	1762672.70	317638.05	877.74	847.86	838.06	-	-	-	-
73	3d	1762677.33	317644.90	877.96	797.57	787.91	-	-	-	-
74	B	1760621.78	316817.18	881.10	818.81	809.07	-	-	-	-
75	3d	1762956.02	318487.35	881.42	801.31	791.63	-	860.97	-	858.91
76	3s	1762951.84	318492.81	881.11	831.97	822.34	-	-	-	858.61
77	B	1760238.33	319661.11	862.77	851.67	842.04	-	-	-	-
78	3s	1761873.71	317734.00	882.25	855.48	850.75	-	-	-	-
79	3s	1761750.49	317811.99	881.92	841.69	836.96	-	863.19	-	860.63
80	3d	1761928.33	319258.30	865.49	841.54	836.84	-	857.71	-	856.68
81	B	1761479.01	319399.60	864.38	839.58	829.88	-	857.65	-	856.77
82	B	1761198.31	317978.59	878.55	782.27	772.54	-	-	-	861.40
83	B	1761260.12	318746.50	876.23	801.58	791.93	-	858.10	-	857.32
84	3s	1761539.65	318105.07	881.95	848.97	844.25	-	862.60	-	-
85	3d	1760642.54	319141.95	866.11	851.62	842.11	-	857.59	857.14	857.21

TABLE 4-1
STATIC WATER LEVEL DATA
MLC MLK BOULEVARD SITE
ANDERSON, INDIANA

Monitoring Well No.	Hydro-Geologic Unit	Northing (1)	Easting (1)	Datum El.[2,3]	Screen Top [2]	Screen Bottom [2]	Static Water Level (ft. NAVD 88)			
							3/4/09	4/28/09	7/30/09	12/2/09
ER-1	1	1761864.90	317412.04	881.93	868.16	858.16	-	-	-	-
ER-2	1	1761856.43	317394.55	881.96	872.19	862.19	-	-	-	-
ER-3	1	1761856.37	317361.47	882.09	872.28	862.28	-	-	-	-
GMPW 11	3d	1761837.31	316374.64	884.19						
Meadowbrook Golf Course Wells										
MW-1	3d	1759686.91	317622.12	859.18	855.67	847.67	-	-	-	-
MW-2	3d	1760047.06	319467.27	860.08	857.31	851.31	857.30	857.61	856.95	857.22
MW-3	3d	1760956.57	320710.96	862.68	860.06	851.36	-	860.95	-	859.46
MW-4	3d	1760961.86	318774.81	861.67	859.08	839.08	857.69	858.06	857.49	857.36
MW-5	3d	1760305.51	320618.11	871.01	866.49	853.49	-	-	-	-
MW-6	3d	1760511.36	320752.07	868.92	862.30	844.30	-	-	-	-
MW-7	3d	1760523.65	320689.67	869.69	864.01	844.01	-	-	-	-
Surface Water										
TBM-1	3d	1759953.34	320818.16	862.50			-	-	-	-
TBM-2	3d	1760924.00	320538.74	860.41			-	-	-	-
TBM-3	3d	1760214.40	318958.42	858.97			-	-	-	-
TBM-4	3d	1759888.87	318295.42	860.51			-	-	-	-
TBM-5	3d	1759672.93	318693.89	857.49			-	-	-	-
TBM-6	3d	1759806.90	319657.43	857.82			-	-	-	-
Culvert 1	3d	1760552.00	319168.00	857.79			857.34	857.51	857.12	857.20

Notes:

(1) Coordinates are Indiana State Plane Coordinate System 1301 East (NAD 83)

(2) Elevation based on level survey relative to USGS Monument PID LA1429 = 882.61 NAVD88.

(3) Datum for elevation and depth is marked on top of PVC riser pipe.

(4) Blank table entries indicate that reference location was not installed at the time measurements were taken. A dash (-) indicates that the location was not measured.

TABLE 4-2
GROUNDWATER TCL ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW 3*	*MW 3*	*MW 3*	*MW 8*	*MW 12*	*MW 12*	*MW 14*
Sample ID:		*WG-043009-MS-008*	*WG-121509-JB-010*	*WG-121509-JB-011*	*WG-121509-MS-009*	*WG-042909-MS-006*	*WG-120909-MS-007*	*WG-042909-JB-005*
Sample Date:		*4/30/2009*	*12/15/2009*	*12/15/2009*	*12/15/2009*	*4/29/2009*	*12/9/2009*	*4/29/2009*
Matrix_Type		*WG-N*	*WG-N*	*WG-FD*	*WG-N*	*WG-N*	*WG-N*	*WG-N*
Parameters:	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/L	1.7	1.1	1.1	0.0071 U	0.025 U	0.013 U	0.25 U
1,1,2,2-Tetrachloroethane	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
1,1,2-Trichloroethane	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
1,1-Dichloroethane	mg/L	0.6 J	0.22	0.23	0.0038 J	0.0032 J	0.0028 J	0.12 J
1,1-Dichloroethene	mg/L	0.24 J	0.056 J	0.054 J	0.0016 J	0.0033 J	0.0039 J	0.034 J
1,2-Dichloroethane	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
1,2-Dichloropropane	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	36 U	10 U	10 U	0.36 U	1.3 U	0.63 U	13 U
2-Hexanone	mg/L	36 U	10 U	10 U	0.36 U	1.3 U	0.63 U	13 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	36 U	10 U	10 U	0.36 U	1.3 U	0.63 U	13 U
Acetone	mg/L	1.4 J	10 U	10 U	0.36 U	1.3 U	0.042 J	0.38 J
Benzene	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Bromodichloromethane	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Bromoform	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Bromomethane (Methyl bromide)	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Carbon disulfide	mg/L	3.6 U	1 U	1 U	0.036 U	0.13 U	0.063 U	1.3 U
Carbon tetrachloride	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Chlorobenzene	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Chloroethane	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Chloroform (Trichloromethane)	mg/L	0.71 U	0.068 J	0.064 J	0.0071 U	0.025 U	0.013 U	0.25 U
Chloromethane (Methyl chloride)	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
cis-1,2-Dichloroethene	mg/L	12	2.4	2.3	0.24	0.49	0.42	6.1
cis-1,3-Dichloropropene	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Dibromochloromethane	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Ethylbenzene	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
m&p-Xylene	mg/L	1.4 U	0.42 U	0.42 U	0.014 U	0.05 U	0.025 U	0.5 U
Methylene chloride	mg/L	3.6 U	1 U	1 U	0.036 U	0.13 U	0.063 U	1.3 U
o-Xylene	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Styrene	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Tetrachloroethene	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Toluene	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
trans-1,2-Dichloroethene	mg/L	0.13 J	0.039 J	0.036 J	0.0024 J	0.0084 J	0.0089 J	0.041 J
trans-1,3-Dichloropropene	mg/L	0.71 U	0.21 U	0.21 U	0.0071 U	0.025 U	0.013 U	0.25 U
Trichloroethene	mg/L	18	8.3	8	0.046	0.028	0.024	0.25 U
Vinyl chloride	mg/L	0.39 J	0.34	0.4	0.027	0.025 U	0.013 U	0.44
Xylene (total)	mg/L	2.1 U	0.62 U	0.62 U	0.021 U	0.075 U	0.038 U	0.75 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 4-2
GROUNDWATER TCL ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW 14*	*MW 28*	*MW 28*	*MW 31R*	*MW 31R*	*MW 37*	*MW 40*
Sample ID:		*WG-121509-JB-012*	*WG-042909-MS-003*	*WG-120409-MS-002*	*WG-042909-JB-004*	*WG-121509-JB-009*	*WG-121609-MS-011*	*WG-043009-JB-011*
Sample Date:		*12/15/2009*	*4/29/2009*	*12/4/2009*	*4/29/2009*	*12/15/2009*	*12/16/2009*	*4/30/2009*
Matrix_Type		*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*
Parameters:	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
1,1,2,2-Tetrachloroethane	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
1,1,2-Trichloroethane	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
1,1-Dichloroethane	mg/L	0.0078 J	0.005 U	0.0063 U	0.64	0.57	0.001 U	0.69
1,1-Dichloroethene	mg/L	0.0025 J	0.005 U	0.0063 U	0.5 U	0.047 J	0.001 U	0.1 J
1,2-Dichloroethane	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
1,2-Dichloropropane	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.5 U	0.25 U	0.31 U	25 U	16 U	0.05 U	25 U
2-Hexanone	mg/L	0.5 U	0.25 U	0.31 U	25 U	16 U	0.05 U	25 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.5 U	0.25 U	0.31 U	25 U	16 U	0.05 U	25 U
Acetone	mg/L	0.5 U	0.25 U	0.31 U	25 U	16 U	0.05 U	0.79 J
Benzene	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Bromodichloromethane	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Bromoform	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Bromomethane (Methyl bromide)	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Carbon disulfide	mg/L	0.05 U	0.025 U	0.031 U	2.5 U	1.6 U	0.005 U	2.5 U
Carbon tetrachloride	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Chlorobenzene	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Chloroethane	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.056 J	0.001 U	0.5 U
Chloroform (Trichloromethane)	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Chloromethane (Methyl chloride)	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
cis-1,2-Dichloroethene	mg/L	0.33	0.005 U	0.0063 U	11	11	0.001 U	13
cis-1,3-Dichloropropene	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Dibromochloromethane	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Ethylbenzene	mg/L	0.01 U	0.005 U	0.0063 U	1	0.55	0.001 U	0.5 U
m&p-Xylene	mg/L	0.02 U	0.01 U	0.013 U	2.9	0.91	0.002 U	1 U
Methylene chloride	mg/L	0.05 U	0.025 U	0.031 U	2.5 U	1.6 U	0.005 U	2.5 U
o-Xylene	mg/L	0.01 U	0.005 U	0.0063 U	1.3	0.7	0.001 U	0.5 U
Styrene	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Tetrachloroethene	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Toluene	mg/L	0.01 U	0.005 U	0.0063 U	5.8	2	0.001 U	0.5 U
trans-1,2-Dichloroethene	mg/L	0.0041 J	0.005 U	0.0063 U	0.072 J	0.075 J	0.001 U	0.32 J
trans-1,3-Dichloropropene	mg/L	0.01 U	0.005 U	0.0063 U	0.5 U	0.31 U	0.001 U	0.5 U
Trichloroethene	mg/L	0.0054 J	0.005 U	0.0063 U	0.54	2.3	0.001 U	0.5 U
Vinyl chloride	mg/L	0.0087 J	0.1	0.17	1.5	0.7	0.001 U	2.1
Xylene (total)	mg/L	0.03 U	0.015 U	0.019 U	4.5	1.7	0.003 U	1.5 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 4-2
GROUNDWATER TCL ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW 40*	*MW 41*	*MW 41*	*MW 42*	*MW 42*	*MW 46*	*MW 49*
Sample ID:		*WG-120909-JB-007*	*WG-042809-JB-001*	*WG-120309-JB-001*	*WG-042809-MS-001*	*WG-120309-MS-001*	*WG-121609-JB-013*	*WG-042909-MS-005*
Sample Date:		*12/9/2009*	*4/28/2009*	*12/3/2009*	*4/28/2009*	*12/3/2009*	*12/16/2009*	*4/29/2009*
Matrix_Type		*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*
Parameters:	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.00021 J	0.0063 U
1,1,2,2-Tetrachloroethane	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
1,1,2-Trichloroethane	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
1,1-Dichloroethane	mg/L	0.63	0.084 J	0.044 J	0.17 J	0.12 J	0.001 U	0.0012 J
1,1-Dichloroethene	mg/L	0.1 J	0.5 U	0.031 J	0.07 J	0.056 J	0.001 U	0.0063 U
1,2-Dichloroethane	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
1,2-Dichloropropane	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	13 U	25 U	13 U	0.28 J	13 U	0.05 U	0.31 U
2-Hexanone	mg/L	13 U	25 U	13 U	25 U	13 U	0.05 U	0.31 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	13 U	25 U	13 U	25 U	13 U	0.05 U	0.31 U
Acetone	mg/L	13 U	25 U	13 U	25 U	13 U	0.05 U	0.31 U
Benzene	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Bromodichloromethane	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Bromoform	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Bromomethane (Methyl bromide)	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Carbon disulfide	mg/L	1.3 U	2.5 U	1.3 U	2.5 U	1.3 U	0.005 U	0.031 U
Carbon tetrachloride	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Chlorobenzene	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Chloroethane	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Chloroform (Trichloromethane)	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Chloromethane (Methyl chloride)	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
cis-1,2-Dichloroethene	mg/L	13	10	8.4	9.3	8.1	0.001 U	0.1
cis-1,3-Dichloropropene	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Dibromochloromethane	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Ethylbenzene	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
m&p-Xylene	mg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.002 U	0.013 U
Methylene chloride	mg/L	1.3 U	2.5 U	1.3 U	2.5 U	1.3 U	0.005 U	0.031 U
o-Xylene	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Styrene	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Tetrachloroethene	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Toluene	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
trans-1,2-Dichloroethene	mg/L	0.32	0.25 J	0.23 J	0.52	0.45	0.001 U	0.0034 J
trans-1,3-Dichloropropene	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.001 U	0.0063 U
Trichloroethene	mg/L	0.25 U	0.5 U	0.25 U	0.5 U	0.25 U	0.00018 J	0.0013 J
Vinyl chloride	mg/L	2.1	0.4 J	0.39	0.21 J	0.2 J	0.001 U	0.045
Xylene (total)	mg/L	0.75 U	1.5 U	0.75 U	1.5 U	0.75 U	0.003 U	0.019 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 4-2
GROUNDWATER TCL ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW 49*	*MW 51*	*MW 51*	*MW 56*	*MW 57*	*MW 58*	*MW 61*
Sample ID:		*WG-120409-JB-003*	*WG-042909-JB-007*	*WG-121409-JB-008*	*WG-121709-JB-016*	*WG-121609-MS-014*	*WG-121709-MS-015*	*WG-120309-JB-002*
Sample Date:		*12/4/2009*	*4/29/2009*	*12/14/2009*	*12/17/2009*	*12/16/2009*	*12/17/2009*	*12/3/2009*
Matrix_Type		*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*
Parameters:	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/L	0.001 U	0.011 U	0.001 J	0.001 U	0.001 U	0.0031 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
1,1,2-Trichloroethane	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
1,1-Dichloroethane	mg/L	0.0022	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
1,1-Dichloroethene	mg/L	0.00031 J	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
1,2-Dichloroethane	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
1,2-Dichloropropane	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.05 U	0.56 U	0.42 U	0.05 U	0.05 U	0.16 U	0.05 U
2-Hexanone	mg/L	0.05 U	0.56 U	0.42 U	0.05 U	0.05 U	0.16 U	0.05 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.05 U	0.56 U	0.42 U	0.05 U	0.05 U	0.16 U	0.05 U
Acetone	mg/L	0.05 U	0.56 U	0.42 U	0.05 U	0.05 U	0.16 U	0.05 U
Benzene	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Bromodichloromethane	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Bromoform	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Carbon disulfide	mg/L	0.005 U	0.056 U	0.042 U	0.005 U	0.005 U	0.016 U	0.005 U
Carbon tetrachloride	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Chlorobenzene	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Chloroethane	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Chloroform (Trichloromethane)	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
cis-1,2-Dichloroethene	mg/L	0.44	0.0065 J	0.011	0.001 U	0.001 U	0.0031 U	0.001 U
cis-1,3-Dichloropropene	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Dibromochloromethane	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Ethylbenzene	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
m&p-Xylene	mg/L	0.002 U	0.022 U	0.017 U	0.002 U	0.002 U	0.0063 U	0.002 U
Methylene chloride	mg/L	0.005 U	0.056 U	0.042 U	0.005 U	0.005 U	0.016 U	0.005 U
o-Xylene	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Styrene	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Tetrachloroethene	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Toluene	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
trans-1,2-Dichloroethene	mg/L	0.0083	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
trans-1,3-Dichloropropene	mg/L	0.001 U	0.011 U	0.0083 U	0.001 U	0.001 U	0.0031 U	0.001 U
Trichloroethene	mg/L	0.0007 J	0.19	0.3	0.001 U	0.001 U	0.0031 U	0.001 U
Vinyl chloride	mg/L	0.07	0.011 U	0.0083 U	0.001 U	0.0016	0.11	0.001 U
Xylene (total)	mg/L	0.003 U	0.033 U	0.025 U	0.003 U	0.003 U	0.0094 U	0.003 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 4-2
GROUNDWATER TCL ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW 64*	*MW 64*	*MW 65*	*MW 65*	*MW 66*	*MW 66*	*MW 66*
Sample ID:		*WG-120809-MS-004*	*WG-120809-MS-005*	*WG-042809-MS-002*	*WG-120409-MS-003*	*WG-042809-JB-002*	*WG-042809-JB-003*	*WG-120809-JB-005*
Sample Date:		*12/8/2009*	*12/8/2009*	*4/28/2009*	*12/4/2009*	*4/28/2009*	*4/28/2009*	*12/8/2009*
Matrix_Type		*WG-N*	*WG-FD*	*WG-N*	*WG-N*	*WG-N*	*WG-FD*	*WG-N*
Parameters:	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
1,1,2-Trichloroethane	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	0.00046 J	0.00057 J	0.057	0.078	0.001 U	0.001 U	0.00071 J
1,1-Dichloroethene	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
1,2-Dichloropropane	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.05 U	0.05 U	2.5 U	2.5 U	0.05 U	0.05 U	0.05 U
2-Hexanone	mg/L	0.05 U	0.05 U	2.5 U	2.5 U	0.05 U	0.05 U	0.05 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.05 U	0.05 U	2.5 U	2.5 U	0.05 U	0.05 U	0.05 U
Acetone	mg/L	0.05 U	0.05 U	2.5 U	2.5 U	0.05 U	0.05 U	0.05 U
Benzene	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Bromodichloromethane	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Bromoform	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Carbon disulfide	mg/L	0.005 U	0.005 U	0.25 U	0.25 U	0.005 U	0.005 U	0.005 U
Carbon tetrachloride	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Chlorobenzene	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Chloroethane	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	0.00014 J	0.00014 J	0.97	1.4	0.001 U	0.001 U	0.0048
cis-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Dibromochloromethane	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
m&p-Xylene	mg/L	0.002 U	0.002 U	0.1 U	0.1 U	0.002 U	0.002 U	0.002 U
Methylene chloride	mg/L	0.005 U	0.005 U	0.25 U	0.25 U	0.005 U	0.005 U	0.005 U
o-Xylene	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Styrene	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Tetrachloroethene	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Toluene	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.038 J	0.052	0.001 U	0.001 U	0.00047 J
trans-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Trichloroethene	mg/L	0.00011 J	0.00014 J	0.05 U	0.05 U	0.001 U	0.001 U	0.001 U
Vinyl chloride	mg/L	0.01	0.013	0.69	0.67	0.027	0.027	0.023
Xylene (total)	mg/L	0.003 U	0.003 U	0.15 U	0.15 U	0.003 U	0.003 U	0.003 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 4-2
GROUNDWATER TCL ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW 68*	*MW 68*	*MW 68*	*MW 79*	*MW 79*	*MW 80*	*MW 81*
Sample ID:		*WG-042909-MS-004*	*WG-121609-MS-012*	*WG-121609-MS-013*	*WG-042909-JB-006*	*WG-121409-MS-008*	*WG-120809-JB-006*	*WG-120409-JB-004*
Sample Date:		*4/29/2009*	*12/16/2009*	*12/16/2009*	*4/29/2009*	*12/14/2009*	*12/8/2009*	*12/4/2009*
Matrix_Type		*WG-N*	*WG-N*	*WG-FD*	*WG-N*	*WG-N*	*WG-N*	*WG-N*
Parameters:	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
1,1,2-Trichloroethane	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	0.45 J	0.31	0.31	0.0069 J	0.0081 J	0.001 U	0.001 U
1,1-Dichloroethene	mg/L	0.07 J	0.058 J	0.065 J	0.0052 J	0.0085 J	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
1,2-Dichloropropane	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	25 U	13 U	13 U	2.5 U	2.5 U	0.05 U	0.05 U
2-Hexanone	mg/L	25 U	13 U	13 U	2.5 U	2.5 U	0.05 U	0.05 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	25 U	13 U	13 U	2.5 U	2.5 U	0.05 U	0.05 U
Acetone	mg/L	25 U	0.58 J	0.7 J	0.093 J	2.5 U	0.05 U	0.05 U
Benzene	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Bromodichloromethane	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Bromoform	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Carbon disulfide	mg/L	2.5 U	1.3 U	1.3 U	0.25 U	0.25 U	0.005 U	0.005 U
Carbon tetrachloride	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Chlorobenzene	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Chloroethane	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.01 J	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	11	8.4	8.7	1.1	1.5	0.001 U	0.0006 J
cis-1,3-Dichloropropene	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Dibromochloromethane	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Ethylbenzene	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
m&p-Xylene	mg/L	1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.002 U	0.002 U
Methylene chloride	mg/L	2.5 U	1.3 U	1.3 U	0.25 U	0.25 U	0.005 U	0.005 U
o-Xylene	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Styrene	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Tetrachloroethene	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Toluene	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	mg/L	0.39 J	0.2 J	0.22 J	0.052	0.083	0.001 U	0.001 U
trans-1,3-Dichloropropene	mg/L	0.5 U	0.25 U	0.25 U	0.05 U	0.05 U	0.001 U	0.001 U
Trichloroethene	mg/L	1.4	2.3	2.4	0.05 U	0.05 U	0.001 U	0.001 U
Vinyl chloride	mg/L	0.33 J	0.22 J	0.23 J	0.22	0.27	0.069	0.026
Xylene (total)	mg/L	1.5 U	0.75 U	0.75 U	0.15 U	0.15 U	0.003 U	0.003 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 4-2
GROUNDWATER TCL ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW 82*	*MW 83*	*MW 85*	*MW 85*	*MW-2*	*MW-4*	*MW-4*
Sample ID:		*WG-121509-MS-010*	*WG-120809-MS-006*	*WG-043009-MS-007*	*WG-121709-MS-016*	*WG-121709-JB-017*	*WG-043009-JB-009*	*WG-043009-JB-010*
Sample Date:		*12/15/2009*	*12/8/2009*	*4/30/2009*	*12/17/2009*	*12/17/2009*	*4/30/2009*	*4/30/2009*
Matrix_Type		*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-FD*
Parameters:	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
1,1,2,2-Tetrachloroethane	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
1,1,2-Trichloroethane	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
1,1-Dichloroethane	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.39 J	0.39 J
1,1-Dichloroethene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.046 J
1,2-Dichloroethane	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
1,2-Dichloropropane	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.05 U	0.05 U	1.3 U	0.83 U	0.05 U	25 U	21 U
2-Hexanone	mg/L	0.05 U	0.05 U	1.3 U	0.83 U	0.05 U	25 U	21 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.05 U	0.05 U	1.3 U	0.83 U	0.05 U	25 U	21 U
Acetone	mg/L	0.05 U	0.05 U	0.042 J	0.83 U	0.05 U	25 U	21 U
Benzene	mg/L	0.00014 J	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Bromodichloromethane	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Bromoform	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Bromomethane (Methyl bromide)	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Carbon disulfide	mg/L	0.005 U	0.005 U	0.13 U	0.083 U	0.005 U	2.5 U	2.1 U
Carbon tetrachloride	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Chlorobenzene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Chloroethane	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Chloroform (Trichloromethane)	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Chloromethane (Methyl chloride)	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
cis-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	7.5	7.8
cis-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Dibromochloromethane	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Ethylbenzene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
m&p-Xylene	mg/L	0.002 U	0.002 U	0.05 U	0.033 U	0.002 U	1 U	0.83 U
Methylene chloride	mg/L	0.005 U	0.005 U	0.13 U	0.083 U	0.005 U	2.5 U	2.1 U
o-Xylene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Styrene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Tetrachloroethene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Toluene	mg/L	0.00015 J	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
trans-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.39 J	0.39 J
trans-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Trichloroethene	mg/L	0.001 U	0.001 U	0.025 U	0.017 U	0.001 U	0.5 U	0.42 U
Vinyl chloride	mg/L	0.001 U	0.001 U	0.48	0.76	0.001 U	0.83	0.84
Xylene (total)	mg/L	0.003 U	0.003 U	0.075 U	0.05 U	0.003 U	1.5 U	1.3 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 4-2
GROUNDWATER TCL ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW-4*	*MW-4*	*Equipment Blank*	*Equipment Blank*	*Equipment Blank*	*Equipment Blank*	*Equipment Blank*
Sample ID:		*WG-121609-JB-014*	*WG-121609-JB-015*	*WQ-043009-MS-009*	*WQ-043009-JB-008*	*WQ-120809-CC-002*	*WQ-121609-CC-006*	*WQ-121609-CC-007*
Sample Date:		*12/16/2009*	*12/16/2009*	*4/29/2009*	*4/30/2009*	*12/8/2009*	*12/16/2009*	*12/16/2009*
Matrix_Type		*WG-N*	*WG-FD*	*WGQ-EB*	*WGQ-EB*	*WGQ-EB*	*WGQ-EB*	*WGQ-EB*
Parameters:	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,2-Trichloroethane	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	0.78	0.67	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	mg/L	0.16 J	0.13 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloropropane	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	13 U	13 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Hexanone	mg/L	13 U	13 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	13 U	13 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Acetone	mg/L	0.67 J	0.61 J	0.0025 J	0.0022 J	0.05 U	0.0027 J	0.0039 J
Benzene	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromodichloromethane	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromoform	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Carbon disulfide	mg/L	1.3 U	1.3 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Carbon tetrachloride	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chlorobenzene	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroethane	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	16	16	0.001 U	0.001 U	0.001 U	0.00042 J	0.001 U
cis-1,3-Dichloropropene	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibromochloromethane	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
m&p-Xylene	mg/L	0.5 U	0.5 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Methylene chloride	mg/L	1.3 U	1.3 U	0.005 U	0.005 U	0.005 U	0.0001 J	0.005 U
o-Xylene	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Styrene	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tetrachloroethene	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Toluene	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.0001 J	0.00011 J	0.001 U
trans-1,2-Dichloroethene	mg/L	0.72	0.61	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	mg/L	0.25 U	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	mg/L	0.36 J	0.069 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Vinyl chloride	mg/L	1.2	0.97	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Xylene (total)	mg/L	0.75 U	0.75 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 4-2
GROUNDWATER TCL ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*Trip Blank*	*Trip Blank*	*Trip Blank*	*Trip Blank*	*Trip Blank*	*Trip Blank*	*Trip Blank*
Sample ID:		*WQ-041009-CC-002*	*WQ-041009-CC-003*	*TRIP BLANK*	*WQ-120809-CC-003*	*WQ-120909-CC-003*	*WQ-121409-CC-004*	*WQ-121509-CC-005*
Sample Date:		*4/10/2009*	*4/10/2009*	*11/27/2009*	*12/8/2009*	*12/9/2009*	*12/14/2009*	*12/15/2009*
Matrix_Type		*WGQ-TB*	*WGQ-TB*	*WGQ-TB*	*WGQ-TB*	*WGQ-TB*	*WGQ-TB*	*WGQ-TB*
Parameters:	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,2-Trichloroethane	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloropropane	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Hexanone	mg/L	0.05 U	0.05 U	0.00063 J	0.05 U	0.05 U	0.05 U	0.05 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Acetone	mg/L	0.002 J	0.0013 J	0.05 U	0.05 U	0.0034 J	0.0035 J	0.0038 J
Benzene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromodichloromethane	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromoform	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Carbon disulfide	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Carbon tetrachloride	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chlorobenzene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroethane	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	0.00026 J	0.00016 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibromochloromethane	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
m&p-Xylene	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Methylene chloride	mg/L	0.00017 J	0.00013 J	0.005 U	0.005 U	0.00011 J	0.00044 J	0.00047 J
o-Xylene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Styrene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tetrachloroethene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Toluene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Vinyl chloride	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Xylene (total)	mg/L	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 4-2
GROUNDWATER TCL ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*Trip Blank*	*Trip Blank*
Sample ID:		*WQ-121609-CC-008*	*WQ-121709-CC-009*
Sample Date:		*12/16/2009*	*12/17/2009*
Matrix_Type		*WGQ-TB*	*WGQ-TB*
Parameters:	***Units***		
Volatile Organic Compounds			
1,1,1-Trichloroethane	mg/L	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	0.001 U	0.001 U
1,1,2-Trichloroethane	mg/L	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	0.001 U	0.001 U
1,1-Dichloroethene	mg/L	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	0.001 U	0.001 U
1,2-Dichloropropane	mg/L	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.05 U	0.05 U
2-Hexanone	mg/L	0.05 U	0.05 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.05 U	0.05 U
Acetone	mg/L	0.0031 J	0.0032 J
Benzene	mg/L	0.001 U	0.001 U
Bromodichloromethane	mg/L	0.001 U	0.001 U
Bromoform	mg/L	0.001 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	0.001 U	0.001 U
Carbon disulfide	mg/L	0.005 U	0.005 U
Carbon tetrachloride	mg/L	0.001 U	0.001 U
Chlorobenzene	mg/L	0.001 U	0.001 U
Chloroethane	mg/L	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	0.001 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	0.001 U	0.001 U
cis-1,3-Dichloropropene	mg/L	0.001 U	0.001 U
Dibromochloromethane	mg/L	0.001 U	0.001 U
Ethylbenzene	mg/L	0.001 U	0.001 U
m&p-Xylene	mg/L	0.002 U	0.002 U
Methylene chloride	mg/L	0.005 U	0.005 U
o-Xylene	mg/L	0.001 U	0.001 U
Styrene	mg/L	0.001 U	0.001 U
Tetrachloroethene	mg/L	0.001 U	0.001 U
Toluene	mg/L	0.001 U	0.001 U
trans-1,2-Dichloroethene	mg/L	0.001 U	0.001 U
trans-1,3-Dichloropropene	mg/L	0.001 U	0.001 U
Trichloroethene	mg/L	0.001 U	0.001 U
Vinyl chloride	mg/L	0.001 U	0.001 U
Xylene (total)	mg/L	0.003 U	0.003 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 4-3
GROUNDWATER GENERAL CHEMISTRY AND NATURAL ATTENUATION PARAMETER ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW 40*	*MW 40*	*MW 57*	*MW-4*	*MW-4*	*MW-4*
Sample ID:		*WG-043009-JB-011*	*WG-120909-JB-007*	*WG-121609-MS-014*	*WG-043009-JB-009*	*WG-043009-JB-010*	*WG-121609-JB-014*
Sample Date:		*4/30/2009*	*12/9/2009*	*12/16/2009*	*4/30/2009*	*4/30/2009*	*12/16/2009*
Matrix_Type		*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-FD*	*WG-N*
Parameters:	***Units***						
Metals							
Calcium	mg/L	138 J	124	136	146	147	137
Iron	mg/L	2.79 J	2.75	2.27	1.69	1.58	0.689
Magnesium	mg/L	40.1 J	38.7	33.6	39.6	40.1	38
Manganese (dissolved)	mg/L	0.111 J	0.101	0.258	0.215 J	0.211 J	0.318
Potassium	mg/L	5.31 J	4.87 J	1.56 J	2.56 J	2.63 J	2.56 J
Sodium	mg/L	48.4 J	30.5	12.3	42.6	43.3	39.4
Gas							
Ethane	mg/L	0.0019	0.0019	0.001 U	0.0051	0.0052	0.029
Ethene	mg/L	0.019	0.04	0.001	0.037	0.035	0.29
Methane	mg/L	0.057	0.042	0.0082	0.1	0.097	1.2
General Chemistry							
Alkalinity, bicarbonate	mg/L	358	355	369	378	370	405
Alkalinity, carbonate	mg/L	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Alkalinity, total (as CaCO3)	mg/L	361	356	372	379	372	407
Chloride	mg/L	87 J	73	19 U	66 J	67 J	63
Dissolved organic carbon (DOC)	mg/L	2.7 J	1.6	5.2	5.0 U	2.5 J	2.0 U
Hardness	mg/L	513	487	521	528	533 J	532
Hardness, carbonate	mg/L	361	356	372	379	372 J	407
Nitrate (as N)	mg/L	0.05 U	0.25 UJ	0.25 U	0.05 UJ	0.60 J	0.25 U
Nitrite (as N)	mg/L	0.05 UJ	0.25 UJ	0.25 U	0.05 UJ	0.05 UJ	0.25 U
Sulfate	mg/L	80	89	100	84	85	90
Sulfide	mg/L	1.00 U	1.00 U	1.00 UJ	1.00 U	1.00 U	1.00 UJ
Total organic carbon (TOC)	mg/L	5.0 U	1.6	4.0	5.0 U	5.0 U	2.1 U
Field Parameters							
Conductivity, field	mS/cm	1.166	1.100	1.084	1.141	-	1.113
Dissolved oxygen (DO), field	mg/L	1.72	1.65	0.47	1.41	-	3.53
Oxidation reduction potential (ORP), field	millivolts	-83	-62	-70	-64	-	198

TABLE 4-3
GROUNDWATER GENERAL CHEMISTRY AND NATURAL ATTENUATION PARAMETER ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW 40*	*MW 40*	*MW 57*	*MW-4*	*MW-4*	*MW-4*
Sample ID:		*WG-043009-JB-011*	*WG-120909-JB-007*	*WG-121609-MS-014*	*WG-043009-JB-009*	*WG-043009-JB-010*	*WG-121609-JB-014*
Sample Date:		*4/30/2009*	*12/9/2009*	*12/16/2009*	*4/30/2009*	*4/30/2009*	*12/16/2009*
Matrix_Type		*WG-N*	*WG-N*	*WG-N*	*WG-N*	*WG-FD*	*WG-N*
pH, field	s.u.	7.14	7.16	6.93	7.04	-	7.07
Temperature, field	Deg C	17.45	10.07	12.50	16.21	-	10.72
Turbidity (field)	NTU	23	-	41	6	-	-

Notes:
J - Estimated concentration.

U - Not present at or above the associated value.
UJ - Estimated reporting limit.
- - Not analyzed.

TABLE 4-3
GROUNDWATER GENERAL CHEMISTRY AND NATURAL ATTENUATION PARAMETER ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW-4*	*Equipment Blank*	*Equipment Blank*
Sample ID:		*WG-121609-JB-015*	*WQ-043009-JB-008*	*WQ-121609-CC-006*
Sample Date:		*12/16/2009*	*4/30/2009*	*12/16/2009*
Matrix_Type		*WG-FD*	*WGQ-EB*	*WGQ-EB*
Parameters:	***Units***			
Metals				
Calcium	mg/L	126	0.152 J	0.373 J
Iron	mg/L	0.613	0.1 U	0.0803 J
Magnesium	mg/L	35.1	0.0299 J	0.116 J
Manganese (dissolved)	mg/L	0.314	0.01 U	0.0108
Potassium	mg/L	2.38 J	5 U	0.0551 J
Sodium	mg/L	36.5	0.61 J	0.653 J
Gas				
Ethane	mg/L	0.028	0.001 U	0.001 U
Ethene	mg/L	0.29	0.001 U	0.001 U
Methane	mg/L	1.1	0.001 U	0.001 U
General Chemistry				
Alkalinity, bicarbonate	mg/L	398	10.0 U	10.0 U
Alkalinity, carbonate	mg/L	10.0 U	10.0 U	10.0 U
Alkalinity, total (as CaCO3)	mg/L	400	10.0 U	10.0 U
Chloride	mg/L	59	5.2 J	4.0
Dissolved organic carbon (DOC)	mg/L	2.1 U	5.0 U	0.58 J
Hardness	mg/L	521	5.00 U	5.00 U
Hardness, carbonate	mg/L	400	5.00 U	5.00 U
Nitrate (as N)	mg/L	0.63	0.05 U	0.25 U
Nitrite (as N)	mg/L	0.25 U	0.05 U	0.25 U
Sulfate	mg/L	91	25 U	5.0 U
Sulfide	mg/L	1.00 UJ	0.40 J	-
Total organic carbon (TOC)	mg/L	2.2 U	1.2 J	0.59 J
Field Parameters				
Conductivity, field	mS/cm	-	-	-
Dissolved oxygen (DO), field	mg/L	-	-	-
Oxidation reduction potential (ORP), field	millivolts	-	-	-

TABLE 4-3
GROUNDWATER GENERAL CHEMISTRY AND NATURAL ATTENUATION PARAMETER ANALYTICAL RESULTS (2009)
MLC MLK BOULEVARD
ANDERSON, INDIANA

Sample Location:		*MW-4*	*Equipment Blank*	*Equipment Blank*
Sample ID:		*WG-121609-JB-015*	*WQ-043009-JB-008*	*WQ-121609-CC-006*
Sample Date:		*12/16/2009*	*4/30/2009*	*12/16/2009*
Matrix_Type		*WG-FD*	*WGQ-EB*	*WGQ-EB*
pH, field	s.u.	-	-	-
Temperature, field	Deg C	-	-	-
Turbidity (field)	NTU	-	-	-

Notes:
J - Estimated concentration.

U - Not present at or above the associated value.
UJ - Estimated reporting limit.
- - Not analyzed.

TABLE 4-4
SURFACE WATER TCL VOC ANALYTICAL RESULTS (2009)
MLC MLK BOULDEVARD
ANDERSON, INDIANA

Sample Location:		*Pond Intake*	*Pond Intake*	*Pond Intake*	*Pond Intake*	*Pond Intake*	*Pond Intake*	*Pond North*	*Pond North*
Sample ID:		*WS030409JD001*	*WS030409JD002*	*WS-043009-JB-013*	*WS073009JD001*	*WS073009JD002*	*WS-121709-JB-019*	*WS030409JD003*	*WS-043009-JB-012*
Sample Date:		*3/4/2009*	*3/4/2009*	*4/30/2009*	*7/30/2009*	*7/30/2009*	*12/17/2009*	*3/4/2009*	*4/30/2009*
Matrix_Type		*WS-N*	*WS-FD*	*WS-N*	*WS-N*	*WS-FD*	*WS-N*	*WS-N*	*WS-N*
Parameters:	*Units*								
Volatile Organic Compounds									
1,1,1-Trichloroethane	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,2-Trichloroethane	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	ug/L	0.001 U	0.001 U	0.00019 J	0.001 U	0.001 U	0.001 U	0.001 U	0.00037 J
1,1-Dichloroethene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloropropane	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Hexanone	ug/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Acetone	ug/L	0.0023 J	0.0022 J	0.05 U	0.05 U	0.05 U	0.05 U	0.0026 J	0.05 U
Benzene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromodichloromethane	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromoform	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromomethane (Methyl bromide)	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Carbon disulfide	ug/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Carbon tetrachloride	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chlorobenzene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroethane	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloromethane (Methyl chloride)	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00018 J	0.001 U	0.001 U
cis-1,2-Dichloroethene	ug/L	0.001 U	0.001 U	0.0034	0.001 U	0.001 U	0.001 U	0.001 U	0.0065
cis-1,3-Dichloropropene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibromochloromethane	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
m&p-Xylene	ug/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Methylene chloride	ug/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
o-Xylene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Styrene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tetrachloroethene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Toluene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	ug/L	0.001 U	0.001 U	0.00019 J	0.001 U	0.001 U	0.001 U	0.001 U	0.00037 J
trans-1,3-Dichloropropene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	ug/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Vinyl chloride	ug/L	0.0013	0.0012	0.0031	0.0017	0.0017	0.0015	0.0012	0.0039
Xylene (total)	ug/L	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.
- - Not analyzed.

TABLE 4-4
SURFACE WATER TCL VOC ANALYTICAL RESULTS (2009)
MLC MLK BOULDEVARD
ANDERSON, INDIANA

Sample Location:		*Pond North*	*Pond North*	*Trip Blank*	*Trip Blank*
Sample ID:		*WS073009JD003*	*WS-121709-JB-018*	*WQ030409CC001*	*WQ073009CC001*
Sample Date:		*7/30/2009*	*12/17/2009*	*3/4/2009*	*7/30/2009*
Matrix_Type		*WS-N*	*WS-N*	*WSQ-TB*	*WSQ-TB*
Parameters:	*Units*				
Volatile Organic Compounds					
1,1,1-Trichloroethane	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
1,1,2-Trichloroethane	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
1,1-Dichloroethane	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
1,1-Dichloroethene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
1,2-Dichloroethane	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
1,2-Dichloropropane	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	0.05 U	0.83 U	0.00058 J	0.05 U
2-Hexanone	ug/L	0.05 U	0.83 U	0.05 U	0.05 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	0.05 U	0.83 U	0.05 U	0.05 U
Acetone	ug/L	0.05 U	0.83 U	-	0.05 U
Benzene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Bromodichloromethane	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Bromoform	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Bromomethane (Methyl bromide)	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Carbon disulfide	ug/L	0.005 U	0.083 U	0.005 U	0.005 U
Carbon tetrachloride	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Chlorobenzene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Chloroethane	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Chloromethane (Methyl chloride)	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	ug/L	0.001 U	0.011 J	0.001 U	0.001 U
cis-1,3-Dichloropropene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Dibromochloromethane	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Ethylbenzene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
m&p-Xylene	ug/L	0.002 U	0.033 U	0.002 U	0.002 U
Methylene chloride	ug/L	0.005 U	0.083 U	0.005 U	0.005 U
o-Xylene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Styrene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Tetrachloroethene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Toluene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Trichloroethene	ug/L	0.001 U	0.017 U	0.001 U	0.001 U
Vinyl chloride	ug/L	0.0018	0.5	0.001 U	0.001 U
Xylene (total)	ug/L	0.003 U	0.05 U	0.003 U	0.003 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.
- - Not analyzed.

Table 4-5: Groundwater Data Summary at Industrial / Commercial Areas (2009)
MLC - MLK Boulevard Facility, Anderson, Indiana

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Drinking Water Criteria (MCL or TR=10^{-5} & THQ=1) (mg/L)		Ratio of Max Detect to Drinking Water Criteria	Construction Worker GW Contact Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Max Detect to Construction Worker GW Contact Criteria	Occupational GW Volatilization of Indoor Air Criteria (mg/L)	Ratio of Max Detect to Occupational GW Volatilization to Indoor Air Criteria	Industrial GW Volatilization to Indoor Air Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Max Detect to Industrial GW Volatilization to Indoor Air Criteria
Area 1 (Plant 6/9)	VOC	1,1-Dichloroethane	75-34-3	T	SC	6	4	5.15E-04	7.80E-02	3.65E+00	NC	2.1E-02	3.01E+02	2.6E-04	6.82E+06	1.1E-08	1.24E+04	6.3E-06
Area 1 (Plant 6/9)	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	6	5	1.40E-04	1.40E+00	7.00E-02	SMCL	**2.0E+01**	2.12E+01	6.6E-02	1.64E+07	8.5E-08	1.06E+03	1.3E-03
Area 1 (Plant 6/9)	VOC	trans-1,2-Dichloroethene	156-60-5	T		6	3	4.70E-04	5.20E-02	1.00E-01	SMCL	5.2E-01	4.13E+01	1.3E-03	9.43E+06	5.5E-09	1.22E+03	4.3E-05
Area 1 (Plant 6/9)	VOC	Trichloroethene	79-01-6	T	C-B2	6	1	1.25E-04	1.25E-04	5.00E-03	SMCL	2.5E-02	2.51E+01	5.0E-06	6.70E+06	1.9E-11	3.00E+02	4.2E-07
Area 1 (Plant 6/9)	VOC	Vinyl Chloride	75-01-4	T	A	6	6	1.15E-02	6.90E-01	2.00E-03	SMCL	**3.5E+02**	1.95E+00	3.5E-01	1.41E+06	4.9E-07	1.85E+02	3.7E-03
Area 1 (South Court)	VOC	Acetone	67-64-1	T	ID	25	5	9.30E-02	1.40E+00	3.29E+01	NC	4.3E-02	6.28E+03	2.2E-04	3.16E+09	4.4E-10	6.06E+06	2.3E-07
Area 1 (South Court)	VOC	Benzene	71-43-2	T	A	25	1	1.40E-04	1.40E-04	5.00E-03	SMCL	2.8E-02	4.55E+00	3.1E-05	5.50E+04	2.5E-09	9.02E+01	1.6E-06
Area 1 (South Court)	VOC	2-Butanone	78-93-3	T	ID	25	1	2.80E-01	2.80E-01	2.19E+01	NC	1.3E-02	8.07E+03	3.5E-05	5.46E+08	5.1E-10	6.76E+06	4.1E-08
Area 1 (South Court)	VOC	Chloroethane	75-00-3	T	LC	25	2	1.00E-02	5.60E-02	1.46E+01	NC	3.8E-03	2.09E+03	2.7E-05	2.75E+07	2.0E-09	1.54E+05	3.6E-07
Area 1 (South Court)	VOC	Chloroform	67-66-3	T	B2	25	1	6.60E-02	6.60E-02	8.00E-02	SMCL	8.3E-01	2.12E+00	3.1E-02	1.09E+06	6.1E-08	3.97E+01	1.7E-03
Area 1 (South Court)	VOC	1,1-Dichloroethane	75-34-3	T	SC	25	17	3.80E-03	6.90E-01	3.65E+00	NC	1.9E-01	3.01E+02	2.3E-03	6.82E+06	1.0E-07	1.24E+04	5.5E-05
Area 1 (South Court)	VOC	1,1-Dichloroethene	75-35-4	T	C	25	15	1.60E-03	2.40E-01	7.00E-03	SMCL	**3.4E+01**	1.16E+02	2.1E-03	1.42E+05	1.7E-06	2.10E+03	1.1E-04
Area 1 (South Court)	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	25	19	6.50E-03	1.30E+01	7.00E-02	SMCL	**1.9E+02**	2.12E+01	6.1E-01	1.64E+07	7.9E-07	1.06E+03	1.2E-02
Area 1 (South Court)	VOC	trans-1,2-Dichloroethene	156-60-5	T		25	17	2.40E-03	5.20E-01	1.00E-01	SMCL	**5.2E+00**	4.13E+01	1.3E-02	9.43E+06	5.5E-08	1.22E+03	4.3E-04
Area 1 (South Court)	VOC	Ethyl Benzene	100-41-4	T	D	25	2	5.50E-01	1.00E+00	7.00E-01	SMCL	**1.4E+00**	4.19E+02	2.4E-03	6.79E+06	1.5E-07	2.28E+04	4.4E-05
Area 1 (South Court)	VOC	Toluene	108-88-3	T	ID	25	3	1.50E-04	5.80E+00	1.00E+00	SMCL	**5.8E+00**	2.27E+02	2.6E-02	1.22E+07	4.7E-07	9.47E+03	6.1E-04
Area 1 (South Court)	VOC	1,1,1-Trichloroethane	71-55-6	T	ID	25	3	1.00E-03	1.70E+00	2.00E-01	SMCL	**8.5E+00**	1.37E+03	1.2E-03	1.86E+07	9.1E-08	3.14E+04	5.4E-05
Area 1 (South Court)	VOC	Trichloroethene	79-01-6	T	C-B2	25	10	5.40E-03	1.80E+01	5.00E-03	SMCL	**3.6E+03**	2.51E+01	7.2E-01	6.70E+06	2.7E-06	3.00E+02	6.0E-02
Area 1 (South Court)	VOC	Vinyl Chloride	75-01-4	T	A	25	20	8.70E-03	2.10E+00	2.00E-03	SMCL	**1.1E+03**	1.95E+00	**1.1E+00**	1.41E+06	1.5E-06	1.85E+02	1.1E-02
Area 1 (South Court)	VOC	Xylenes (total)	1330-20-7	T	ID	25	2	1.61E+00	4.20E+00	1.00E+01	SMCL	4.2E-01	6.30E+01	6.7E-02	7.05E+06	6.0E-07	2.37E+03	1.8E-03
Area 1 (South Court)	INORG	Manganese	7439-96-5	D	D	2	2	1.01E-01	1.11E-01	8.76E-01	NC	1.3E-01	5.96E+03	1.9E-05				

Notes:
Only detected constituents are shown.
The Drinking Criteria hierarchy is IDEM MCL, Fed MCL, the lower of the integrated Screening Criteria at:
target cancer risk = **1E-05**
target hazard quotient = 1
The Screening Criteria for Chromium VI was used as a surrogate for Chromium (total).
The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the Screening Criteria.

SM - The Drinking Water Criterion is the State MCL.
FM - The Drinking Water Criterion is the Federal MCL.
C - The Drinking Water Criterion is based on cancer risk.
NC - The Drinking Water Criterion is based on noncancer effects.

Chem Group - Chemical Group
Meas Basis - Measured Basis; T = Total, D = Dissolved
Carc Class - EPA Weight-of-Evidence Cancer Classification

Table 4-6: Groundwater Data Summary at Area 1 (West of AOC 5 and Meadowbrook Golf Course) (2009)
MLC - MLK Boulevard Facility, Anderson, Indiana

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Drinking Water Criteria (MCL or TR=10^{-5} & THQ=1) (mg/L)		Ratio of Max Detect to Drinking Water Criteria	Construction Worker GW Contact Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Max Detect to Construction Worker GW Contact Criteria	Residential GW Volatilization to Indoor Air Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Max Detect to Residential GW Volatilization to Indoor Air Criteria	Residential Non Potable GW Use Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Max Detect to Non Potable GW Use Criteria
Area 1 (Golf Course)	VOC	Acetone	67-64-1	T	ID	10	1	4.20E-02	4.20E-02	3.29E+01	NC	1.3E-03	6.28E+03	6.7E-06	3.30E+06	1.3E-08	1.09E+04	3.8E-06
Area 1 (Golf Course)	VOC	1,1-Dichloroethane	75-34-3	T	SC	10	2	1.20E-03	2.20E-03	3.65E+00	NC	6.0E-04	3.01E+02	7.3E-06	5.50E+03	4.0E-07	5.00E+02	4.4E-06
Area 1 (Golf Course)	VOC	1,1-Dichloroethene	75-35-4	T	C	10	1	3.10E-04	3.10E-04	7.00E-03	SMCL	4.4E-02	1.16E+02	2.7E-06	8.90E+02	3.5E-07	1.69E+02	1.8E-06
Area 1 (Golf Course)	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	10	2	1.00E-01	4.40E-01	7.00E-02	SMCL	**6.3E+00**	2.12E+01	2.1E-02	4.76E+02	9.2E-04	4.70E+01	9.4E-03
Area 1 (Golf Course)	VOC	trans-1,2-Dichloroethene	156-60-5	T		10	2	3.40E-03	8.30E-03	1.00E-01	SMCL	8.3E-02	4.13E+01	2.0E-04	5.26E+02	1.6E-05	7.65E+01	1.1E-04
Area 1 (Golf Course)	VOC	1,1,1-Trichloroethane	71-55-6	T	ID	10	1	2.10E-04	2.10E-04	2.00E-01	SMCL	1.1E-03	1.37E+03	1.5E-07	1.33E+04	1.6E-08	7.47E+02	2.8E-07
Area 1 (Golf Course)	VOC	Trichloroethene	79-01-6	T	C-B2	10	3	1.80E-04	1.30E-03	5.00E-03	SMCL	2.6E-01	2.51E+01	5.2E-05	1.08E+02	1.2E-05	4.23E+00	3.1E-04
Area 1 (Golf Course)	VOC	Vinyl Chloride	75-01-4	T	A	10	6	1.60E-03	7.60E-01	2.00E-03	SMCL	**3.8E+02**	1.95E+00	3.9E-01	5.97E+01	1.3E-02	4.63E-02	**1.6E+01**
Area 1 (Golf Course)	INORG	Manganese	7439-96-5	D	D	1	1	2.58E-01	2.58E-01	8.76E-01	NC	2.9E-01	5.96E+03	4.3E-05			1.14E+02	2.3E-03
Area 1 (West of AOC 5)	VOC	Acetone	67-64-1	T	ID	2	1	4.20E-02	4.20E-02	3.29E+01	NC	1.3E-03	6.28E+03	6.7E-06	3.30E+06	1.3E-08	1.09E+04	3.8E-06
Area 1 (West of AOC 5)	VOC	1,1-Dichloroethane	75-34-3	T	SC	2	2	2.80E-03	3.20E-03	3.65E+00	NC	8.8E-04	3.01E+02	1.1E-05	5.50E+03	5.8E-07	5.00E+02	6.4E-06
Area 1 (West of AOC 5)	VOC	1,1-Dichloroethene	75-35-4	T	C	2	2	3.30E-03	3.90E-03	7.00E-03	SMCL	5.6E-01	1.16E+02	3.4E-05	8.90E+02	4.4E-06	1.69E+02	2.3E-05
Area 1 (West of AOC 5)	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	2	2	4.20E-01	4.90E-01	7.00E-02	SMCL	**7.0E+00**	2.12E+01	2.3E-02	4.76E+02	1.0E-03	4.70E+01	1.0E-02
Area 1 (West of AOC 5)	VOC	trans-1,2-Dichloroethene	156-60-5	T		2	2	8.40E-03	8.90E-03	1.00E-01	SMCL	8.9E-02	4.13E+01	2.2E-04	5.26E+02	1.7E-05	7.65E+01	1.2E-04
Area 1 (West of AOC 5)	VOC	Trichloroethene	79-01-6	T	C-B2	2	2	2.40E-02	2.80E-02	5.00E-03	SMCL	**5.6E+00**	2.51E+01	1.1E-03	1.08E+02	2.6E-04	4.23E+00	6.6E-03

Notes:
Only detected constituents are shown.
The Drinking Criteria hierarchy is IDEM MCL, Fed MCL, the lower of the integrated Screening Criteria at:
target cancer risk = **1E-05**
target hazard quotient = 1

SM - The Drinking Water Criterion is the State MCL.
NC - The Drinking Water Criterion is based on noncancer effects.

Chem Group - Chemical Group
Meas Basis - Measured Basis; T = Total, D = Dissolved
Carc Class - EPA Weight-of-Evidence Cancer Classification

Table 4-7: Groundwater Samples Exceeding TCL VOC Screening Criteria at Industrial / Commercial Areas (2009)
MLC - MLK Boulevard Facility, Anderson, Indiana

Area	Well Zone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Drinking Water Criteria (MCL or TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Drinking Water Criteria	Construction Worker GW Contact Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Construction Worker GW Contact Criteria	Occupational GW Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to GW Occupational Volatilization to Indoor Air Criteria	GW Industrial Volatilization to Indoor Air Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to GW Industrial Volatilization to Indoor Air Criteria
Area 1 (Plant 6/9)	3d	MW 64	WG-120809-MS-004	N	12/08/09	T	VOC	Vinyl Chloride	75-01-4	1.15E-02		2.00E-03	**5.8E+00**	1.95E+00	5.9E-03	1.41E+06	8.2E-09	1.85E+02	6.2E-05
Area 1 (Plant 6/9)	3d	MW 65	WG-042809-MS-002	N	04/28/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	9.70E-01		7.00E-02	**1.4E+01**	2.12E+01	4.6E-02	1.64E+07	5.9E-08	1.06E+03	9.2E-04
Area 1 (Plant 6/9)	3d	MW 65	WG-042809-MS-002	N	04/28/09	T	VOC	Vinyl Chloride	75-01-4	6.90E-01		2.00E-03	**3.5E+02**	1.95E+00	3.5E-01	1.41E+06	4.9E-07	1.85E+02	3.7E-03
Area 1 (Plant 6/9)	3d	MW 65	WG-120409-MS-003	N	12/04/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.40E+00		7.00E-02	**2.0E+01**	2.12E+01	6.6E-02	1.64E+07	8.5E-08	1.06E+03	1.3E-03
Area 1 (Plant 6/9)	3d	MW 65	WG-120409-MS-003	N	12/04/09	T	VOC	Vinyl Chloride	75-01-4	6.70E-01		2.00E-03	**3.4E+02**	1.95E+00	3.4E-01	1.41E+06	4.8E-07	1.85E+02	3.6E-03
Area 1 (Plant 6/9)	3d	MW 66	WG-042809-JB-002	N	04/28/09	T	VOC	Vinyl Chloride	75-01-4	2.70E-02		2.00E-03	**1.4E+01**	1.95E+00	1.4E-02	1.41E+06	1.9E-08	1.85E+02	1.5E-04
Area 1 (Plant 6/9)	3d	MW 66	WG-120809-JB-005	N	12/08/09	T	VOC	Vinyl Chloride	75-01-4	2.30E-02		2.00E-03	**1.2E+01**	1.95E+00	1.2E-02	1.41E+06	1.6E-08	1.85E+02	1.2E-04
Area 1 (Plant 6/9)	B	MW 81	WG-120409-JB-004	N	12/04/09	T	VOC	Vinyl Chloride	75-01-4	2.60E-02		2.00E-03	**1.3E+01**	1.95E+00	1.3E-02	1.41E+06	1.8E-08	1.85E+02	1.4E-04
Area 1 (South Court)	1	MW 31R	WG-042909-JB-004	N	04/29/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E+01		7.00E-02	**1.6E+02**	2.12E+01	5.2E-01	1.64E+07	6.7E-07	1.06E+03	1.0E-02
Area 1 (South Court)	1	MW 31R	WG-042909-JB-004	N	04/29/09	T	VOC	Ethyl Benzene	100-41-4	1.00E+00		7.00E-01	**1.4E+00**	4.19E+02	2.4E-03	6.79E+06	1.5E-07	2.28E+04	4.4E-05
Area 1 (South Court)	1	MW 31R	WG-042909-JB-004	N	04/29/09	T	VOC	Toluene	108-88-3	5.80E+00		1.00E+00	**5.8E+00**	2.27E+02	2.6E-02	1.22E+07	4.7E-07	9.47E+03	6.1E-04
Area 1 (South Court)	1	MW 31R	WG-042909-JB-004	N	04/29/09	T	VOC	Trichloroethene	79-01-6	5.40E-01		5.00E-03	**1.1E+02**	2.51E+01	2.2E-02	6.70E+06	8.1E-08	3.00E+02	1.8E-03
Area 1 (South Court)	1	MW 31R	WG-042909-JB-004	N	04/29/09	T	VOC	Vinyl Chloride	75-01-4	1.50E+00		2.00E-03	**7.5E+02**	1.95E+00	7.7E-01	1.41E+06	1.1E-06	1.85E+02	8.1E-03
Area 1 (South Court)	1	MW 31R	WG-121509-JB-009	N	12/15/09	T	VOC	1,1-Dichloroethene	75-35-4	4.70E-02	J	7.00E-03	**6.7E+00**	1.16E+02	4.1E-04	1.42E+05	3.3E-07	2.10E+03	2.2E-05
Area 1 (South Court)	1	MW 31R	WG-121509-JB-009	N	12/15/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E+01		7.00E-02	**1.6E+02**	2.12E+01	5.2E-01	1.64E+07	6.7E-07	1.06E+03	1.0E-02
Area 1 (South Court)	1	MW 31R	WG-121509-JB-009	N	12/15/09	T	VOC	Toluene	108-88-3	2.00E+00		1.00E+00	**2.0E+00**	2.27E+02	8.8E-03	1.22E+07	1.6E-07	9.47E+03	2.1E-04
Area 1 (South Court)	1	MW 31R	WG-121509-JB-009	N	12/15/09	T	VOC	Trichloroethene	79-01-6	2.30E+00		5.00E-03	**4.6E+02**	2.51E+01	9.2E-02	6.70E+06	3.4E-07	3.00E+02	7.7E-03
Area 1 (South Court)	1	MW 31R	WG-121509-JB-009	N	12/15/09	T	VOC	Vinyl Chloride	75-01-4	7.00E-01		2.00E-03	**3.5E+02**	1.95E+00	3.6E-01	1.41E+06	5.0E-07	1.85E+02	3.8E-03
Area 1 (South Court)	3d	MW 28	WG-042909-MS-003	N	04/29/09	T	VOC	Vinyl Chloride	75-01-4	1.00E-01		2.00E-03	**5.0E+01**	1.95E+00	5.1E-02	1.41E+06	7.1E-08	1.85E+02	5.4E-04
Area 1 (South Court)	3d	MW 28	WG-120409-MS-002	N	12/04/09	T	VOC	Vinyl Chloride	75-01-4	1.70E-01		2.00E-03	**8.5E+01**	1.95E+00	8.7E-02	1.41E+06	1.2E-07	1.85E+02	9.2E-04
Area 1 (South Court)	3d	MW 41	WG-042809-JB-001	N	04/28/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.00E+01		7.00E-02	**1.4E+02**	2.12E+01	4.7E-01	1.64E+07	6.1E-07	1.06E+03	9.5E-03
Area 1 (South Court)	3d	MW 41	WG-042809-JB-001	N	04/28/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	2.50E-01	J	1.00E-01	**2.5E+00**	4.13E+01	6.1E-03	9.43E+06	2.7E-08	1.22E+03	2.1E-04
Area 1 (South Court)	3d	MW 41	WG-042809-JB-001	N	04/28/09	T	VOC	Vinyl Chloride	75-01-4	4.00E-01	J	2.00E-03	**2.0E+02**	1.95E+00	2.1E-01	1.41E+06	2.8E-07	1.85E+02	2.2E-03
Area 1 (South Court)	3d	MW 41	WG-120309-JB-001	N	12/03/09	T	VOC	1,1-Dichloroethene	75-35-4	3.10E-02	J	7.00E-03	**4.4E+00**	1.16E+02	2.7E-04	1.42E+05	2.2E-07	2.10E+03	1.5E-05
Area 1 (South Court)	3d	MW 41	WG-120309-JB-001	N	12/03/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	8.40E+00		7.00E-02	**1.2E+02**	2.12E+01	4.0E-01	1.64E+07	5.1E-07	1.06E+03	7.9E-03
Area 1 (South Court)	3d	MW 41	WG-120309-JB-001	N	12/03/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	2.30E-01	J	1.00E-01	**2.3E+00**	4.13E+01	5.6E-03	9.43E+06	2.4E-08	1.22E+03	1.9E-04
Area 1 (South Court)	3d	MW 41	WG-120309-JB-001	N	12/03/09	T	VOC	Vinyl Chloride	75-01-4	3.90E-01		2.00E-03	**2.0E+02**	1.95E+00	2.0E-01	1.41E+06	2.8E-07	1.85E+02	2.1E-03
Area 1 (South Court)	3d	MW 80	WG-120809-JB-006	N	12/08/09	T	VOC	Vinyl Chloride	75-01-4	6.90E-02		2.00E-03	**3.5E+01**	1.95E+00	3.5E-02	1.41E+06	4.9E-08	1.85E+02	3.7E-04
Area 1 (South Court)	3s	MW 14	WG-042909-JB-005	N	04/29/09	T	VOC	1,1-Dichloroethene	75-35-4	3.40E-02	J	7.00E-03	**4.9E+00**	1.16E+02	2.9E-04	1.42E+05	2.4E-07	2.10E+03	1.6E-05
Area 1 (South Court)	3s	MW 14	WG-042909-JB-005	N	04/29/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	6.10E+00		7.00E-02	**8.7E+01**	2.12E+01	2.9E-01	1.64E+07	3.7E-07	1.06E+03	5.8E-03
Area 1 (South Court)	3s	MW 14	WG-042909-JB-005	N	04/29/09	T	VOC	Vinyl Chloride	75-01-4	4.40E-01		2.00E-03	**2.2E+02**	1.95E+00	2.3E-01	1.41E+06	3.1E-07	1.85E+02	2.4E-03
Area 1 (South Court)	3s	MW 14	WG-121509-JB-012	N	12/15/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	3.30E-01		7.00E-02	**4.7E+00**	2.12E+01	1.6E-02	1.64E+07	2.0E-08	1.06E+03	3.1E-04
Area 1 (South Court)	3s	MW 14	WG-121509-JB-012	N	12/15/09	T	VOC	Trichloroethene	79-01-6	5.40E-03	J	5.00E-03	**1.1E+00**	2.51E+01	2.2E-04	6.70E+06	8.1E-10	3.00E+02	1.8E-05
Area 1 (South Court)	3s	MW 14	WG-121509-JB-012	N	12/15/09	T	VOC	Vinyl Chloride	75-01-4	8.70E-03	J	2.00E-03	**4.4E+00**	1.95E+00	4.5E-03	1.41E+06	6.2E-09	1.85E+02	4.7E-05
Area 1 (South Court)	3s	MW 3	WG-043009-MS-008	N	04/30/09	T	VOC	1,1-Dichloroethene	75-35-4	2.40E-01	J	7.00E-03	**3.4E+01**	1.16E+02	2.1E-03	1.42E+05	1.7E-06	2.10E+03	1.1E-04
Area 1 (South Court)	3s	MW 3	WG-043009-MS-008	N	04/30/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.20E+01		7.00E-02	**1.7E+02**	2.12E+01	5.7E-01	1.64E+07	7.3E-07	1.06E+03	1.1E-02
Area 1 (South Court)	3s	MW 3	WG-043009-MS-008	N	04/30/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	1.30E-01	J	1.00E-01	**1.3E+00**	4.13E+01	3.1E-03	9.43E+06	1.4E-08	1.22E+03	1.1E-04
Area 1 (South Court)	3s	MW 3	WG-043009-MS-008	N	04/30/09	T	VOC	1,1,1-Trichloroethane	71-55-6	1.70E+00		2.00E-01	**8.5E+00**	1.37E+03	1.2E-03	1.86E+07	9.1E-08	3.14E+04	5.4E-05
Area 1 (South Court)	3s	MW 3	WG-043009-MS-008	N	04/30/09	T	VOC	Trichloroethene	79-01-6	1.80E+01		5.00E-03	**3.6E+03**	2.51E+01	7.2E-01	6.70E+06	2.7E-06	3.00E+02	6.0E-02
Area 1 (South Court)	3s	MW 3	WG-043009-MS-008	N	04/30/09	T	VOC	Vinyl Chloride	75-01-4	3.90E-01	J	2.00E-03	**2.0E+02**	1.95E+00	2.0E-01	1.41E+06	2.8E-07	1.85E+02	2.1E-03
Area 1 (South Court)	3s	MW 3	WG-121509-JB-010	N	12/15/09	T	VOC	1,1-Dichloroethene	75-35-4	5.50E-02	J	7.00E-03	**7.9E+00**	1.16E+02	4.7E-04	1.42E+05	3.9E-07	2.10E+03	2.6E-05
Area 1 (South Court)	3s	MW 3	WG-121509-JB-010	N	12/15/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	2.35E+00		7.00E-02	**3.4E+01**	2.12E+01	1.1E-01	1.64E+07	1.4E-07	1.06E+03	2.2E-03
Area 1 (South Court)	3s	MW 3	WG-121509-JB-010	N	12/15/09	T	VOC	1,1,1-Trichloroethane	71-55-6	1.10E+00		2.00E-01	**5.5E+00**	1.37E+03	8.0E-04	1.86E+07	5.9E-08	3.14E+04	3.5E-05
Area 1 (South Court)	3s	MW 3	WG-121509-JB-010	N	12/15/09	T	VOC	Trichloroethene	79-01-6	8.15E+00		5.00E-03	**1.6E+03**	2.51E+01	3.2E-01	6.70E+06	1.2E-06	3.00E+02	2.7E-02
Area 1 (South Court)	3s	MW 3	WG-121509-JB-010	N	12/15/09	T	VOC	Vinyl Chloride	75-01-4	3.70E-01		2.00E-03	**1.9E+02**	1.95E+00	1.9E-01	1.41E+06	2.6E-07	1.85E+02	2.0E-03
Area 1 (South Court)	3s	MW 40	WG-043009-JB-011	N	04/30/09	T	VOC	1,1-Dichloroethene	75-35-4	1.00E-01	J	7.00E-03	**1.4E+01**	1.16E+02	8.6E-04	1.42E+05	7.0E-07	2.10E+03	4.8E-05
Area 1 (South Court)	3s	MW 40	WG-043009-JB-011	N	04/30/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.30E+01		7.00E-02	**1.9E+02**	2.12E+01	6.1E-01	1.64E+07	7.9E-07	1.06E+03	1.2E-02
Area 1 (South Court)	3s	MW 40	WG-043009-JB-011	N	04/30/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	3.20E-01	J	1.00E-01	**3.2E+00**	4.13E+01	7.7E-03	9.43E+06	3.4E-08	1.22E+03	2.6E-04
Area 1 (South Court)	3s	MW 40	WG-043009-JB-011	N	04/30/09	T	VOC	Vinyl Chloride	75-01-4	2.10E+00		2.00E-03	**1.1E+03**	1.95E+00	**1.1E+00**	1.41E+06	1.5E-06	1.85E+02	1.1E-02
Area 1 (South Court)	3s	MW 40	WG-120909-JB-007	N	12/09/09	T	VOC	1,1-Dichloroethene	75-35-4	1.00E-01	J	7.00E-03	**1.4E+01**	1.16E+02	8.6E-04	1.42E+05	7.0E-07	2.10E+03	4.8E-05
Area 1 (South Court)	3s	MW 40	WG-120909-JB-007	N	12/09/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.30E+01		7.00E-02	**1.9E+02**	2.12E+01	6.1E-01	1.64E+07	7.9E-07	1.06E+03	1.2E-02
Area 1 (South Court)	3s	MW 40	WG-120909-JB-007	N	12/09/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	3.20E-01		1.00E-01	**3.2E+00**	4.13E+01	7.7E-03	9.43E+06	3.4E-08	1.22E+03	2.6E-04
Area 1 (South Court)	3s	MW 40	WG-120909-JB-007	N	12/09/09	T	VOC	Vinyl Chloride	75-01-4	2.10E+00		2.00E-03	**1.1E+03**	1.95E+00	**1.1E+00**	1.41E+06	1.5E-06	1.85E+02	1.1E-02
Area 1 (South Court)	3s	MW 42	WG-042809-MS-001	N	04/28/09	T	VOC	1,1-Dichloroethene	75-35-4	7.00E-02	J	7.00E-03	**1.0E+01**	1.16E+02	6.0E-04	1.42E+05	4.9E-07	2.10E+03	3.3E-05

Table 4-7: Groundwater Samples Exceeding TCL VOC Screening Criteria at Industrial / Commercial Areas (2009)
MLC - MLK Boulevard Facility, Anderson, Indiana

Area	Well Zone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Drinking Water Criteria (MCL or TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Drinking Water Criteria	Construction Worker GW Contact Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Construction Worker GW Contact Criteria	Occupational GW Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to GW Occupational Volatilization to Indoor Air Criteria	GW Industrial Volatilization to Indoor Air Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to GW Industrial Volatilization to Indoor Air Criteria
Area 1 (South Court)	3s	MW 42	WG-042809-MS-001	N	04/28/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	9.30E+00		7.00E-02	**1.3E+02**	2.12E+01	4.4E-01	1.64E+07	5.7E-07	1.06E+03	8.8E-03
Area 1 (South Court)	3s	MW 42	WG-042809-MS-001	N	04/28/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	5.20E-01		1.00E-01	**5.2E+00**	4.13E+01	1.3E-02	9.43E+06	5.5E-08	1.22E+03	4.3E-04
Area 1 (South Court)	3s	MW 42	WG-042809-MS-001	N	04/28/09	T	VOC	Vinyl Chloride	75-01-4	2.10E-01	J	2.00E-03	**1.1E+02**	1.95E+00	1.1E-01	1.41E+06	1.5E-07	1.85E+02	1.1E-03
Area 1 (South Court)	3s	MW 42	WG-120309-MS-001	N	12/03/09	T	VOC	1,1-Dichloroethene	75-35-4	5.60E-02	J	7.00E-03	**8.0E+00**	1.16E+02	4.8E-04	1.42E+05	3.9E-07	2.10E+03	2.7E-05
Area 1 (South Court)	3s	MW 42	WG-120309-MS-001	N	12/03/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	8.10E+00		7.00E-02	**1.2E+02**	2.12E+01	3.8E-01	1.64E+07	4.9E-07	1.06E+03	7.7E-03
Area 1 (South Court)	3s	MW 42	WG-120309-MS-001	N	12/03/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	4.50E-01		1.00E-01	**4.5E+00**	4.13E+01	1.1E-02	9.43E+06	4.8E-08	1.22E+03	3.7E-04
Area 1 (South Court)	3s	MW 42	WG-120309-MS-001	N	12/03/09	T	VOC	Vinyl Chloride	75-01-4	2.00E-01	J	2.00E-03	**1.0E+02**	1.95E+00	1.0E-01	1.41E+06	1.4E-07	1.85E+02	1.1E-03
Area 1 (South Court)	3s	MW 51	WG-042909-JB-007	N	04/29/09	T	VOC	Trichloroethene	79-01-6	1.90E-01		5.00E-03	**3.8E+01**	2.51E+01	7.6E-03	6.70E+06	2.8E-08	3.00E+02	6.3E-04
Area 1 (South Court)	3s	MW 51	WG-121409-JB-008	N	12/14/09	T	VOC	Trichloroethene	79-01-6	3.00E-01		5.00E-03	**6.0E+01**	2.51E+01	1.2E-02	6.70E+06	4.5E-08	3.00E+02	1.0E-03
Area 1 (South Court)	3s	MW 68	WG-042909-MS-004	N	04/29/09	T	VOC	1,1-Dichloroethene	75-35-4	7.00E-02	J	7.00E-03	**1.0E+01**	1.16E+02	6.0E-04	1.42E+05	4.9E-07	2.10E+03	3.3E-05
Area 1 (South Court)	3s	MW 68	WG-042909-MS-004	N	04/29/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E+01		7.00E-02	**1.6E+02**	2.12E+01	5.2E-01	1.64E+07	6.7E-07	1.06E+03	1.0E-02
Area 1 (South Court)	3s	MW 68	WG-042909-MS-004	N	04/29/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	3.90E-01	J	1.00E-01	**3.9E+00**	4.13E+01	9.4E-03	9.43E+06	4.1E-08	1.22E+03	3.2E-04
Area 1 (South Court)	3s	MW 68	WG-042909-MS-004	N	04/29/09	T	VOC	Trichloroethene	79-01-6	1.40E+00		5.00E-03	**2.8E+02**	2.51E+01	5.6E-02	6.70E+06	2.1E-07	3.00E+02	4.7E-03
Area 1 (South Court)	3s	MW 68	WG-042909-MS-004	N	04/29/09	T	VOC	Vinyl Chloride	75-01-4	3.30E-01	J	2.00E-03	**1.7E+02**	1.95E+00	1.7E-01	1.41E+06	2.3E-07	1.85E+02	1.8E-03
Area 1 (South Court)	3s	MW 68	WG-121609-MS-012	N	12/16/09	T	VOC	1,1-Dichloroethene	75-35-4	6.15E-02	J	7.00E-03	**8.8E+00**	1.16E+02	5.3E-04	1.42E+05	4.3E-07	2.10E+03	2.9E-05
Area 1 (South Court)	3s	MW 68	WG-121609-MS-012	N	12/16/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	8.55E+00		7.00E-02	**1.2E+02**	2.12E+01	4.0E-01	1.64E+07	5.2E-07	1.06E+03	8.1E-03
Area 1 (South Court)	3s	MW 68	WG-121609-MS-012	N	12/16/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	2.10E-01	J	1.00E-01	**2.1E+00**	4.13E+01	5.1E-03	9.43E+06	2.2E-08	1.22E+03	1.7E-04
Area 1 (South Court)	3s	MW 68	WG-121609-MS-012	N	12/16/09	T	VOC	Trichloroethene	79-01-6	2.35E+00		5.00E-03	**4.7E+02**	2.51E+01	9.4E-02	6.70E+06	3.5E-07	3.00E+02	7.8E-03
Area 1 (South Court)	3s	MW 68	WG-121609-MS-012	N	12/16/09	T	VOC	Vinyl Chloride	75-01-4	2.25E-01	J	2.00E-03	**1.1E+02**	1.95E+00	1.2E-01	1.41E+06	1.6E-07	1.85E+02	1.2E-03
Area 1 (South Court)	3s	MW 79	WG-042909-JB-006	N	04/29/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E+00		7.00E-02	**1.6E+01**	2.12E+01	5.2E-02	1.64E+07	6.7E-08	1.06E+03	1.0E-03
Area 1 (South Court)	3s	MW 79	WG-042909-JB-006	N	04/29/09	T	VOC	Vinyl Chloride	75-01-4	2.20E-01		2.00E-03	**1.1E+02**	1.95E+00	1.1E-01	1.41E+06	1.6E-07	1.85E+02	1.2E-03
Area 1 (South Court)	3s	MW 79	WG-121409-MS-008	N	12/14/09	T	VOC	1,1-Dichloroethene	75-35-4	8.50E-03	J	7.00E-03	**1.2E+00**	1.16E+02	7.3E-05	1.42E+05	6.0E-08	2.10E+03	4.1E-06
Area 1 (South Court)	3s	MW 79	WG-121409-MS-008	N	12/14/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.50E+00		7.00E-02	**2.1E+01**	2.12E+01	7.1E-02	1.64E+07	9.1E-08	1.06E+03	1.4E-03
Area 1 (South Court)	3s	MW 79	WG-121409-MS-008	N	12/14/09	T	VOC	Vinyl Chloride	75-01-4	2.70E-01		2.00E-03	**1.4E+02**	1.95E+00	1.4E-01	1.41E+06	1.9E-07	1.85E+02	1.5E-03
Area 1 (South Court)	3s	MW 8	WG-121509-MS-009	N	12/15/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	2.40E-01		7.00E-02	**3.4E+00**	2.12E+01	1.1E-02	1.64E+07	1.5E-08	1.06E+03	2.3E-04
Area 1 (South Court)	3s	MW 8	WG-121509-MS-009	N	12/15/09	T	VOC	Trichloroethene	79-01-6	4.60E-02		5.00E-03	**9.2E+00**	2.51E+01	1.8E-03	6.70E+06	6.9E-09	3.00E+02	1.5E-04
Area 1 (South Court)	3s	MW 8	WG-121509-MS-009	N	12/15/09	T	VOC	Vinyl Chloride	75-01-4	2.70E-02		2.00E-03	**1.4E+01**	1.95E+00	1.4E-02	1.41E+06	1.9E-08	1.85E+02	1.5E-04

Table 4-8: Groundwater Samples Exceeding TCL VOC Screening Criteria at Area 1 (West of AOC 5 and Meadowbrook Golf Course) (2009)
MLC - MLK Boulevard Facility, Anderson, Indiana

Area	Well Zone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Drinking Water Criteria (MCL or TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Drinking Water Criteria	Construction Worker GW Contact Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Construction Worker GW Contact Criteria	Residential GW Volatilization to Indoor Air Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Residential GW Volatilization to Indoor Air Criteria	Residential Non-Potable GW Use Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Residential Non-Potable GW Use Criteria
Area 1 (Golf Course)	3d	MW 58	WG-121709-MS-015	N	12/17/09	T	VOC	Vinyl Chloride	75-01-4	1.10E-01		2.0E-03	**5.5E+01**	1.9E+00	5.6E-02	6.0E+01	1.8E-03	4.6E-02	**2.4E+00**
Area 1 (Golf Course)	3d	MW-4	WG-043009-JB-009	N	04/30/09	T	VOC	1,1-Dichloroethene	75-35-4	3.55E-02	J	7.0E-03	**5.1E+00**	1.2E+02	3.1E-04	8.9E+02	4.0E-05	1.7E+02	2.1E-04
Area 1 (Golf Course)	3d	MW-4	WG-043009-JB-009	N	04/30/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	7.65E+00		7.0E-02	**1.1E+02**	2.1E+01	3.6E-01	4.8E+02	1.6E-02	4.7E+01	1.6E-01
Area 1 (Golf Course)	3d	MW-4	WG-043009-JB-009	N	04/30/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	3.90E-01	J	1.0E-01	**3.9E+00**	4.1E+01	9.4E-03	5.3E+02	7.4E-04	7.6E+01	5.1E-03
Area 1 (Golf Course)	3d	MW-4	WG-043009-JB-009	N	04/30/09	T	VOC	Vinyl Chloride	75-01-4	8.35E-01		2.0E-03	**4.2E+02**	1.9E+00	4.3E-01	6.0E+01	1.4E-02	4.6E-02	**1.8E+01**
Area 1 (Golf Course)	3d	MW-4	WG-121609-JB-014	N	12/16/09	T	VOC	1,1-Dichloroethene	75-35-4	1.45E-01	J	7.0E-03	**2.1E+01**	1.2E+02	1.3E-03	8.9E+02	1.6E-04	1.7E+02	8.6E-04
Area 1 (Golf Course)	3d	MW-4	WG-121609-JB-014	N	12/16/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.60E+01		7.0E-02	**2.3E+02**	2.1E+01	7.5E-01	4.8E+02	3.4E-02	4.7E+01	3.4E-01
Area 1 (Golf Course)	3d	MW-4	WG-121609-JB-014	N	12/16/09	T	VOC	trans-1,2-Dichloroethene	156-60-5	6.65E-01		1.0E-01	**6.7E+00**	4.1E+01	1.6E-02	5.3E+02	1.3E-03	7.6E+01	8.7E-03
Area 1 (Golf Course)	3d	MW-4	WG-121609-JB-014	N	12/16/09	T	VOC	Trichloroethene	79-01-6	2.15E-01	J	5.0E-03	**4.3E+01**	2.5E+01	8.5E-03	1.1E+02	2.0E-03	4.2E+00	5.1E-02
Area 1 (Golf Course)	3d	MW-4	WG-121609-JB-014	N	12/16/09	T	VOC	Vinyl Chloride	75-01-4	1.09E+00		2.0E-03	**5.4E+02**	1.9E+00	5.6E-01	6.0E+01	1.8E-02	4.6E-02	**2.3E+01**
Area 1 (Golf Course)	3s	MW 49	WG-042909-MS-005	N	04/29/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.00E-01		7.0E-02	**1.4E+00**	2.1E+01	4.7E-03	4.8E+02	2.1E-04	4.7E+01	2.1E-03
Area 1 (Golf Course)	3s	MW 49	WG-042909-MS-005	N	04/29/09	T	VOC	Vinyl Chloride	75-01-4	4.50E-02		2.0E-03	**2.3E+01**	1.9E+00	2.3E-02	6.0E+01	7.5E-04	4.6E-02	9.7E-01
Area 1 (Golf Course)	3s	MW 49	WG-120409-JB-003	N	12/04/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	4.40E-01		7.0E-02	**6.3E+00**	2.1E+01	2.1E-02	4.8E+02	9.2E-04	4.7E+01	9.4E-03
Area 1 (Golf Course)	3s	MW 49	WG-120409-JB-003	N	12/04/09	T	VOC	Vinyl Chloride	75-01-4	7.00E-02		2.0E-03	**3.5E+01**	1.9E+00	3.6E-02	6.0E+01	1.2E-03	4.6E-02	**1.5E+00**
Area 1 (Golf Course)	3s	MW 85	WG-043009-MS-007	N	04/30/09	T	VOC	Vinyl Chloride	75-01-4	4.80E-01		2.0E-03	**2.4E+02**	1.9E+00	2.5E-01	6.0E+01	8.0E-03	4.6E-02	**1.0E+01**
Area 1 (Golf Course)	3s	MW 85	WG-121709-MS-016	N	12/17/09	T	VOC	Vinyl Chloride	75-01-4	7.60E-01		2.0E-03	**3.8E+02**	1.9E+00	3.9E-01	6.0E+01	1.3E-02	4.6E-02	**1.6E+01**
Area 1 (West of AOC 5)	3i	MW 12	WG-042909-MS-006	N	04/29/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	4.90E-01		7.0E-02	**7.0E+00**	2.1E+01	2.3E-02	4.8E+02	1.0E-03	4.7E+01	1.0E-02
Area 1 (West of AOC 5)	3i	MW 12	WG-042909-MS-006	N	04/29/09	T	VOC	Trichloroethene	79-01-6	2.80E-02		5.0E-03	**5.6E+00**	2.5E+01	1.1E-03	1.1E+02	2.6E-04	4.2E+00	6.6E-03
Area 1 (West of AOC 5)	3i	MW 12	WG-120909-MS-007	N	12/09/09	T	VOC	cis-1,2-Dichloroethene	156-59-2	4.20E-01		7.0E-02	**6.0E+00**	2.1E+01	2.0E-02	4.8E+02	8.8E-04	4.7E+01	8.9E-03
Area 1 (West of AOC 5)	3i	MW 12	WG-120909-MS-007	N	12/09/09	T	VOC	Trichloroethene	79-01-6	2.40E-02		5.0E-03	**4.8E+00**	2.5E+01	9.6E-04	1.1E+02	2.2E-04	4.2E+00	5.7E-03

Table 4-9: Surface Water Data Summary (2009)
MLC - MLK Boulevard Facility, Anderson, Indiana

Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Drinking Water Criteria (MCL or TR=10^{-5} & THQ=1) (mg/L)		Ratio of Max Detect to Drinking Water Criteria	Construction GCC (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Max Detect to Construction GCC	Residential Non Potable GW Use Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Max Detect to Non Potable GW Use Criteria
VOC	Acetone	67-64-1	T	ID	8	2	2.25E-03	2.60E-03	3.3E+01	NC	7.9E-05	6.3E+03	4.1E-07	1.1E+04	2.4E-07
VOC	Chloromethane	74-87-3	T	D	8	1	1.80E-04	1.80E-04	9.5E-01	NC	1.9E-04	4.0E+01	4.5E-06	5.1E+03	3.6E-08
VOC	1,1-Dichloroethane	75-34-3	T	SC	8	2	1.90E-04	3.70E-04	3.7E+00	NC	1.0E-04	3.0E+02	1.2E-06	5.0E+02	7.4E-07
VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	8	3	3.40E-03	1.10E-02	7.0E-02	SMCL	1.6E-01	2.1E+01	5.2E-04	4.7E+01	2.3E-04
VOC	trans-1,2-Dichloroethene	156-60-5	T		8	2	1.90E-04	3.70E-04	1.0E-01	SMCL	3.7E-03	4.1E+01	9.0E-06	7.6E+01	4.8E-06
VOC	Vinyl Chloride	75-01-4	T	A	8	8	1.20E-03	5.00E-01	2.0E-03	SMCL	**2.5E+02**	1.9E+00	2.6E-01	4.6E-02	**1.1E+01**

Notes:
The Drinking Criteria hierarchy is IDEM MCL, Fed MCL, the lower of the integrated Screening Criteria at:
target cancer risk = **1E-05**
target hazard quotient = 1

GCC - Groundwater Contact Criteria

SM - The Drinking Water Criterion is the State MCL.
NC - The Drinking Water Criterion is based on noncancer effects.

Chem Group - Chemical Group
Meas Basis - Measured Basis; T = Total, D = Dissolved
Carc Class - EPA Weight-of-Evidence Cancer Classification

Table 4-10: Surface Water Samples Exceeding Screening Criteria at the Golf Course Areas (2009)
MLC - MLK Boulevard Facility, Anderson, Indiana

Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Drinking Water Criteria (MCL or TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Drinking Water Criteria	Construction Worker GW Contact Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Construction Worker GW Contact Criteria	Residential Non-Potable GW Use Criteria (TR=10^{-5} & THQ=1) (mg/L)	Ratio of Conc to Residential Non-Potable GW Use Criteria
POND INTAKE	WS-043009-JB-013	N	04/30/09	T	VOC	Vinyl Chloride	75-01-4	3.10E-03		2.0E-03	**1.6E+00**	1.9E+00	1.6E-03	4.6E-02	6.7E-02
POND NORTH	WS-043009-JB-012	N	04/30/09	T	VOC	Vinyl Chloride	75-01-4	3.90E-03		2.0E-03	**2.0E+00**	1.9E+00	2.0E-03	4.6E-02	8.4E-02
POND NORTH	WS-121709-JB-018	N	12/17/09	T	VOC	Vinyl Chloride	75-01-4	5.00E-01		2.0E-03	**2.5E+02**	1.9E+00	2.6E-01	4.6E-02	**1.1E+01**

Table 5-1
Mann-Kendall Statistical Analysis Summary
(1992-2009)

Location	Unit	Latest Sample Date	Compound			
			TCE	cis-1,2-DCE	Vinyl chloride	Ethene
MW 12	3i	12/9/2009	Decreasing	Decreasing	-	-
MW 14	3s	12/15/2009	-	No Trend	No Trend	-
MW 15	3s	2/14/2008	No Trend	Decreasing	Decreasing	-
MW 21	3s	10/15/2007	-	-	-	-
MW 28	3d	12/4/2009	-	-	No Trend	-
MW 29	3s	10/18/2007	-	-	-	-
MW 3	3s	12/15/2009	Decreasing	No Trend	No Trend	Increasing
MW 31/31R	1	12/15/2009	Decreasing	Decreasing	Decreasing	No Trend
MW 36	3d	10/15/2007	-	-	-	-
MW 37	3s	12/16/2009	-	-	-	-
MW 40	3s	12/9/2009	-	No Trend	Increasing	No Trend
MW 41	3d	12/3/2009	-	Increasing	Increasing	-
MW 42	3s	12/3/2009	-	No Trend	Increasing	-
MW 46	3s	12/16/2009	-	-	-	-
MW 49	3s	12/4/2009	-	Increasing	Increasing	-
MW 5	3s	10/16/2007	Decreasing	No Trend	Decreasing	-
MW 51	3s	12/14/2009	No Trend	No Trend	-	-
MW 54	3d	10/19/2007	-	-	-	-
MW 56	3d	12/17/2009	-	-	-	-
MW 57	3d	12/16/2009	-	-	-	-
MW 58	3d	12/17/2009	-	-	-	-
MW 62	B	10/16/2007	-	-	-	-
MW 64	3d	12/8/2009	-	-	No Trend	-
MW 65	3d	12/4/2009	-	No Trend	No Trend	-
MW 66	3d	12/8/2009	-	-	Increasing	-
MW 68	3s	12/16/2009	Increasing	No Trend	No Trend	-
MW 75	3d	6/30/2008	-	-	-	-
MW 76	3s	10/16/2007	-	-	-	-
MW 79	3s	12/14/2009	-	Increasing	No Trend	-
MW 8	3s	12/15/2009	No Trend	Decreasing	No Trend	No Trend
MW 80	3d	12/8/2009	-	-	No Trend	-
MW 81	B	12/4/2009	-	-	Increasing	-
MW 82	B	12/15/2009	-	-	-	-
MW 83	B	12/8/2009	-	-	-	-
MW 85	3d	12/17/2009	-	-	No Trend	-
MW-2	3d	12/17/2009	-	-	-	-
MW-4	3d	12/16/2009	-	Increasing	No Trend	No Trend
Pond Intake	WS	12/17/2009	-	-	-	-
Pond North	WS	12/17/2009	-	-	-	-

Notes:
Increasing means increasing trend based on Mann-Kendall nonparametric test for trend at 0.1 significance level.
Decreasing means decreasing trend based on Mann-Kendall nonparametric test for trend at 0.1 significance level.
No Trend means no significant data trend at the 0.1 significance level.
"-" means trend not determinable (frequency of non-detect values exceeds 25 percent, or fewer than four data points).

Attachment A
Groundwater Sampling Forms

Attachment A-1
April 2009 Groundwater Sampling Forms

DUP

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT GM Anderson DATE 4/30/09 PERSONNEL Jeremy Byan

WELL DATA (from records)

Well I.D.	MW-4 (Golf Course)	Datum Id.	TOC	Total Depth	22.59'
Csg. Vol./Ft.	0.662 L	Datum Elev.	861.67	Top Screen	2.59'

WELL DATA (field-determined)

Tapedown	3.32	Time	1425	Operator	JB
Screen Vol.	13.24 L	Csg. Vol.	3.0 gal	Total Depth	

SETUP

Intake Depth		Equipment	
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1425	3.32	0	START PURGING						
1440	3.34	1	1.135	7.02	130	14.69	1.70	-59	
1455	3.34	2	1.143	7.06	32.9	12.37	.85	-61	
1510	3.34	3	1.142	7.05	9.7	13.59	.58	-66	820ml/min
1525	3.35	4	1.142	7.05	7.6	13.38	.79	-65	
1545	3.35	5	1.141	7.04	6.4	16.21	1.41	-64	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1550	COMPLETED SAMPLING WG-042009-JB-009	
CONDITION OF SAMPLE WATER:	WG-042009-JB-010	
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/30/09	PERSONNEL	Michael Shields

WELL DATA (from records)

Well I.D.	MW 3	Datum Id.	TOC	Total Depth	21.01'
Csg. Vol./Ft.	0.662 L	Datum Elev.	880.51	Top Screen	15.98'

WELL DATA (field-determined)

Tapedown	15.63	Time	1804	Operator	
Screen Vol.	3.33 L	Csg. Vol.	.86 gal	Total Depth	

SETUP

Intake Depth		Equipment	Horon 7501, NOMad 2000, QD3319
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1808	15.63	—	START PURGING						900 mL/min
1820	15.71	1	1.063	7.35	6.0	12.96	.63	187	2 gal
1827	15.71	2	1.054	7.36	2.7	13.06	.36	186	3 gal
1833	15.71	3	1.043	7.36	2.4	13.01	.28	186	4 gal
1839	15.71	4	1.040	7.36	24.9	12.93	.21	187	6 gal
1844	15.71	5	1.046	7.36	16.2	12.92	.19	186	8 gal
1849	15.71	6	1.0	7.36	1.4	12.96	.18	191	9 gal

FIELD WATER QUALITY RECORD

1851	START SAMPLING	
1853	COMPLETED SAMPLING NG-4/30/09-MS-008	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/29/2009	PERSONNEL	Michael Shields

WELL DATA (from records)

Well I.D.	MW 12	Datum Id.	TOC	Total Depth	54.01'
Csg. Vol./Ft.	0.662 L	Datum Elev.	882.78	Top Screen	48.94'

WELL DATA (field-determined)

Tapedown	17.95	Time	1850	Operator	
Screen Vol.	3.36 L / .81 gal	Csg. Vol.	5.76 gal	Total Depth	

SETUP

Intake Depth		Equipment	Heron 7501, NoMad 2012, QD 3319
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1900	17.95	—	START PURGING						—
1937	18.16	1	.968	7.43	23.2	15.05	.30	-3	5 gal
1949	18.09	2	.966	7.43	19.4	14.87	.27	-5	6.5 gal
1802	18.13	3	.964	7.43	17.3	14.92	.24	-7	8 gal

FIELD WATER QUALITY RECORD

2008	START SAMPLING	
2011	COMPLETED SAMPLING MW-4/29/09-MS-006	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/29/09	PERSONNEL	Jeremy Bryan

WELL DATA (from records)

Well I.D.	MW 14	Datum Id.	TOC	Total Depth	33.69'
Csg. Vol./Ft.	0.662 L	Datum Elev.	881.36	Top Screen	28.73'

WELL DATA (field-determined)

Tapedown	17.49	Time	1055	Operator	JB
Screen Vol.	3.28 L .Bail	Csg. Vol.	2.5 gal	Total Depth	

SETUP

Intake Depth		Equipment	Nomad	Quanta	Heron
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1055	17.49	0	START PURGING						
1110	17.50	1	.951	7.24	254	16.12	2.88	-85	
1120	15.31	2	.940	7.18	148	16.6	2.14	-86	
1135	15.51	3	.944	7.17	188	17.04	2.24	-86	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1145	COMPLETED SAMPLING UG-042909-CD5	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/29/2009	PERSONNEL	Michael Shields

WELL DATA (from records)

Well I.D.	MW 28	Datum Id.	TOC	Total Depth	52.78'
Csg. Vol./Ft.	0.662 L	Datum Elev.	877.44	Top Screen	43.04'

WELL DATA (field-determined)

Tapedown	18.91	Time	0912	Operator	
Screen Vol.	6.45 L / 1.6 gal	Csg. Vol.	5.41 gal	Total Depth	

SETUP

Intake Depth		Equipment	Heron 7501, NOMAD 2043, QD 3319
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
928	18.91	0	START PURGING						380 mL/min
1011	18.93	1	1.080	7.17	6.5	16.73	1.44	40	5.5 gal
* 1027	18.91	2	1.028	7.25	2.9	17.25	1.88	30	7.1 gal
1039	18.92	3	1.092	7.24	2.7	17.15	1.36	31	8.7 gal
1051	18.91	4	1.093	7.31	3.6	17.35	2.32	31	10.3 gal
1104	18.91	5	1.089	7.24	3.2	18.27	1.88	30	11.9 gal

FIELD WATER QUALITY RECORD

1106	START SAMPLING	
1108	COMPLETED SAMPLING WG - 4/29/09 - M.S. 003	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/29/09	PERSONNEL	Jeremy B,

WELL DATA (from records)

Well I.D.	MW-31R	Datum Id.	TOC	Total Depth	12.86'
Csg. Vol./Ft.	0.662 L	Datum Elev.		Top Screen	8.13'

WELL DATA (field-determined)

Tapedown	7.55	Time	0930	Operator	JB
Screen Vol.	3.13' .85 gal	Csg. Vol.	.90 gal	Total Depth	

SETUP

Intake Depth		Equipment	Normal	Quanta	Keramos
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
930	7.55	0	START PURGING						
938	7.56	1	2.07	7.15	72.6	12.21	1.34	-117	360 ml/min
944	7.56	2	2.08	7.16	15.7	12.54	1.40	-118	390 ml/min
955	7.57	3	2.04	7.18	8.3	12.33	1.43	-113	400 ml/min
1003	7.57	4	2.07	7.17	6.3	12.40	1.45	-112	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1005	COMPLETED SAMPLING MW-31R-042909-JB-004	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume 5.5 gal disposition on site poly tank

MW/MSD

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/30/09	PERSONNEL	Jeremy Bass

WELL DATA (from records)

Well I.D.	MW 40	Datum Id.	TOC	Total Depth	37.92'
Csg. Vol./Ft.	0.662 L	Datum Elev.	879.51	Top Screen	28.14'

WELL DATA (field-determined)

Tapedown	20.28	Time	1800	Operator	JB
Screen Vol.	6.47 L 1.6 gal	Csg. Vol.	2.0 gal	Total Depth	

SETUP

Intake Depth	33.0'	Equipment	Fultz 3029 - Qrouter 2783
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1800	20.28	0	START PURGING						
1810	20.30	1	1.167	7.18	132	17.65	1.02	-84	
1820	20.30	2	1.171	7.13	80.2	17.39	1.72	-90	
1830	20.30	3	1.166	7.12	44.2	17.47	1.73	-83	
1843	20.30	4	1.166	7.14	23.2	17.45	1.72		

FIELD WATER QUALITY RECORD

	START SAMPLING	
1845	COMPLETED SAMPLING WG-043009 - JB-01	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/28/09	PERSONNEL	Jeremy R.
WELL DATA (from records)					
Well I.D.	MW 41	Datum Id.	TOC	Total Depth	43.71'
Csg. Vol./Ft.	0.662 L	Datum Elev.	878.58	Top Screen	38.95'
WELL DATA (field-determined)					
Tapedown	20.16	Time	1140	Operator	JB
Screen Vol.	3.15 L .85 gal 1.4 gal	Csg. Vol.	1.4 gal	Total Depth	
SETUP					
Intake Depth	41.3'	Equipment	Quanta 2703	Monerl-2001	Heron - 14934
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1140	20.16	0	START PURGING						440 ml/min
1220	20.28	1.5	1.056	6.30	62.4	18.28	3.45	-16	220 ml/min
1235	20.30	2.5	1.030	6.89	28.0	18.43	1.24	-74	
1255	20.38	3.5	1.027	7.02	8.0	18.78	1.53	-79	
1312	20.33	4.5	1.026	7.01	2.5	18.27	1.36	-82	340 ml/min

FIELD WATER QUALITY RECORD

	START SAMPLING	
1315	COMPLETED SAMPLING WG-042809-JB001	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/28/2009	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW 42	Datum Id.	TOC	Total Depth	33.39'
Csg. Vol./Ft.	0.662 L	Datum Elev.	878.54	Top Screen	23.61'
WELL DATA (field-determined)					
Tapedown	20.03	Time	1200	Operator	
Screen Vol.	6.47 L	Csg. Vol.	2.13 gal	Total Depth	
SETUP					
Intake Depth	28.5'	Equipment	Nomad 2043, QD 3319, Heron 7501		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1204	20.04	0	START PURGING 350 mL/min						—
1221	20.03	1	1.162	6.72	9.7	18.51	2.19	157	2.25
1241	20.04	2	1.114	6.94	4.3	17.93	1.04	84	4.50
1254	20.03	3	1.121	7.03	3.3	18.05	1.52	73	6.75
1306	20.04	4	1.115	7.09	2.8	18.02	1.54	73	9.00

FIELD WATER QUALITY RECORD

1340	START SAMPLING	
1342	COMPLETED SAMPLING WG-4/28/09-M.S.001	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume 9gal disposition

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/29/09	PERSONNEL	Michael Shields

WELL DATA (from records)

Well I.D.	MW-49	Datum Id.	TOC	Total Depth	32.00'
Csg. Vol./Ft.	0.662 L	Datum Elev.	877.93	Top Screen	22.24'

WELL DATA (field-determined)

Tapedown	13.12	Time	1528	Operator	
Screen Vol.	6.46 L/1.6gal	Csg. Vol.	3.02 gal	Total Depth	

SETUP

Intake Depth	27.1'	Equipment	Heron 7501, QD 3319, NOMAD 2043
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1541	13.12	—	START PURGING						490 mL/min
1550	13.12	1	.882	7.40	139	13.63	.33	79	2.0 gal
1608	13.14	2	.888	7.39	58.3	13.94	.19	71	4.0 gal
1620	13.13	3	.885	7.39	53.9	13.95	.15	69	6.0 gal
1636	13.14	4	.888	7.39	43.7	13.65	.13	67	8.0 gal
1649	13.15	5	.890	7.41	25.9	13.97	.16	67	10 gal
1702	13.12	6	.888	7.41	5.4	13.99	.14	70	12 gal

FIELD WATER QUALITY RECORD

1704	START SAMPLING	
1706	COMPLETED SAMPLING WG-4/29/09-MS-005	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/29/09	PERSONNEL	Jenny Boss

WELL DATA (from records)

Well I.D.	MW-51	Datum Id.	TOC	Total Depth	27.04'
Csg. Vol./Ft.	0.662 L	Datum Elev.	878.19	Top Screen	22.26'

WELL DATA (field-determined)

Tapedown	16.20	Time	1635	Operator	JB
Screen Vol.	3.16 L .8gal	Csg. Vol.	1.7gal	Total Depth	

SETUP

Intake Depth	24.6'	Equipment	Nomad Solta - 30406 Cronite - 2783
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1635	16.20	0	START PURGING						
1643	16.22	1	1.080	7.47	556	15.32	2.45	58	
1651	16.23	2	1.069	7.31	211	14.91	2.30	62	
1703	16.23	3	1.069	7.30	108	14.4	1.60	59	
1715	16.20	4	1.068	7.30	59.5	14.76	2.15	40	
1730	16.20	5	1.067	7.34	36.7	14.62	2.47	40	
1740	16.20	6	1.069	7.33	33.3	14.25	2.47	40	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1745	COMPLETED SAMPLING WG-042909-JB007	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MS MSD

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/28/09	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW 65	Datum Id.	TOC	Total Depth	20.77'
Csg. Vol./Ft.	0.662 L	Datum Elev.	864.22	Top Screen	10.75'
WELL DATA (field-determined)					
Tapedown	6.52	Time	1520	Operator	
Screen Vol.	6.63 L	Csg. Vol.	2.28gal	Total Depth	
SETUP					
Intake Depth		Equipment	Heron 7501, NOMad 2043, QD 3319		
Operator		Decon record	NOMad 2043 deconed after well 42		

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1525	6.54	0	START PURGING						430mL/min.
1543	6.54	1	.601	7.22	3.8	16.83	2.40	69	2.5 gal
1606	6.55	2	1.070	7.23	1.3	14.79	1.31	55	5.0 gal
1624	6.54	3	.650	7.21	1.1	14.54	1.30	56	7.5 gal
1642	6.55	4	1.066	7.21	.8	15.19	1.42	57	10.0 gal
1659	6.55	5	.984	7.19	1.2	13.92	1.01	57	12.5

FIELD WATER QUALITY RECORD

	START SAMPLING	
1702	COMPLETED SAMPLING wg - 4/23/2009 / M.S. 002	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

DUP

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/28/09	PERSONNEL	Jeremy Bryan

WELL DATA (from records)

Well I.D.	MW 66	Datum Id.	TOC	Total Depth	17.70'
Csg. Vol./Ft.	0.662 L	Datum Elev.	861.67	Top Screen	9.94'

WELL DATA (field-determined)

Tapedown	4.17	Time	1445	Operator	JB
Screen Vol.	6.46 L 1.7 gal	Csg. Vol.	2.3 gal	Total Depth	

SETUP

Intake Depth		Equipment	Nomad - 2031	Quanta 2783	Heron - 14934
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1456	4.18	0	START PURGING						480 ml/min
1510	4.18	1	1.035	7.18	110	14.53	1.64	-38	
	4.19	2	1.037	7.12	27.8	12.98	1.17	-42	
	5.01	3	1.034	7.11	9.3	12.22	1.27	-41	
	4.19	4	1.036	7.20	7.9	11.87	1.29	-44	460 ml/min

FIELD WATER QUALITY RECORD

	START SAMPLING	
1545	COMPLETED SAMPLING WG-042809-JB-002	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/29/09	PERSONNEL	Michael shields

WELL DATA (from records)

Well I.D.	MW 68	Datum Id.	TOC	Total Depth	35.24'
Csg. Vol./Ft.	0.662 L	Datum Elev.	876.98	Top Screen	30.23'

WELL DATA (field-determined)

Tapedown	17.72	Time	1320	Operator	
Screen Vol.	3.32 L .8 gal	Csg. Vol.	2.8 gal	Total Depth	

SETUP

Intake Depth		Equipment	QD 3319, Heron 7501, NOMAD 2043
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1323	17.72	—	START PURGING						450 mL/min
1330	17.74	1	1.068	7.35	131	17.66	1.95	42	1.5 gal
1339	17.73	2	1.059	7.35	32.6	17.98	1.63	38	2.3
1351	17.72	3	.750	7.37	20.8	17.92	1.47	36	3.2 gal
1400	17.71	4	1.059	7.36	15.6	18.40	1.68	34	4.1
1410	17.71	5	.962	7.35	12.4	18.13	1.93	33	4.9 gal
1419	17.72	6	1.065	7.36	11.9	18.04	1.86	32	5.6

FIELD WATER QUALITY RECORD

1426	START SAMPLING	
1428	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER: WG-4/29/09-MS-004		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/29/09	PERSONNEL	Jeremy Bryan

WELL DATA (from records)

Well I.D.	MW-79	Datum Id.	TOC	Total Depth	45.01'
Csg. Vol./Ft.	0.662 L	Datum Elev.		Top Screen	40.28'

WELL DATA (field-determined)

Tapedown	18.65	Time	1415	Operator	JB
Screen Vol.	3.13 L, Bgal	Csg. Vol.	4.2 gal	Total Depth	

SETUP

Intake Depth		Equipment	Foltz 30525 Heron 14934 Quanta 2783
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1415	18.65	0	START PURGING						
1423	18.94	1	.971	7.36	985	17.73	2.80	-47	
1435	18.86	2	.969	7.21	273	17.20	1.90	-60	
1443	18.90	3	.969	7.20	196	16.71	1.97	-63	
1450	18.91	4	.965	7.20	468	16.60	1.83	-66	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1500	COMPLETED SAMPLING WG-042909-JB-0060	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

I tried everything / couldn't get the Turbid. to go down

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	4/30/09	PERSONNEL	Michael Shields

WELL DATA (from records)

Well I.D.	MW 85	Datum Id.	TOC	Total Depth	24.00'
Csg. Vol./Ft.	0.662 L	Datum Elev.		Top Screen	14.92'

WELL DATA (field-determined)

Tapedown	8.35	Time	15:35	Operator	
Screen Vol.	6.43 L	Csg. Vol.	2.5	Total Depth	

SETUP

Intake Depth		Equipment	NoMad 2001, Heron 7501, QD 3319
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1545	8.35	—	START PURGING						980 mL/m
1553	8.35	1	1.151	7.37	436	12.17	.76	-9	3 gal
1603	8.35	2	1.155	7.39	124	12.25	.33	-20	5.5
1615	8.35	3	1.150	7.40	107	12.28	.87	-22	7.9
1623	8.35	4	1.151	7.40	38.9	12.33	.25	-11	10.3
1637	8.35	5	1.150	7.40	11.5	12.79	-19	-21	13.4

FIELD WATER QUALITY RECORD

	START SAMPLING	
1639	COMPLETED SAMPLING WG-4/30/09-MS-007	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

Attachment A-2
December 2009 Groundwater Sampling Forms

JB-017

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/17/09	PERSONNEL	Jeremy B.

WELL DATA (from records)

Well I.D.	MW-2 (Golf Course)	Datum Id.	TOC	Total Depth	8.77'
Csg. Vol./Ft.	0.662 L	Datum Elev.	860.08	Top Screen	2.77'

WELL DATA (field-determined)

Tapedown	2.72	Time	1435	Operator	JB
Screen Vol.	3.97 L	Csg. Vol.	1 gal	Total Depth	

SETUP

Intake Depth		Equipment	Flute -	Heron-07501	YSI Rental
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1435	2.72	0	START PURGING						320 milliamps
1445	2.82	1	.956	7.06		10.36	0.0	191.0	
1454	2.83	2	.955	7.09		10.56	.11	192.8	
1503	2.82	3	.941	7.07		9.71	.04	199.5	
1511	2.82	4	.928	7.11		9.77	.07	196.6	
— bunch of air under DO sensor's film									

FIELD WATER QUALITY RECORD

	START SAMPLING
1615	COMPLETED SAMPLING
CONDITION OF SAMPLE WATER:	
REACTION TO PRESERVATIVE:	

Discharged water: volume _____ disposition _____

Never mind - its in the Brown cord somehow

There seems to be a short in ~~Controller box #27204's on/off Toggle switch~~ - power cuts off once in a while and if you giggle the ~~Toggle switch~~ power restores Brown cord

JB-014
JB-015

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/16/09	PERSONNEL	Jeremy Brazeau

WELL DATA (from records)

Well I.D.	MW-4 (Golf Course)	Datum Id.	TOC	Total Depth	22.59'
Csg. Vol./Ft.	0.662 L	Datum Elev.	861.67	Top Screen	2.59'

WELL DATA (field-determined)

Tapedown	4.06	Time	1423	Operator	JB
Screen Vol.	13.24 L	Csg. Vol.	3.1 gal	Total Depth	

SETUP

Intake Depth		Equipment	Solinst - 30295	Heron - 07501	ISI Rental
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1423	4.06	0	START PURGING						860 mL/min
1436	4.09	1	1.113	7.15		9.12	3.23	201.9	
1456	4.09	2	1.104	7.07		10.78	3.42	197.8	
1516	4.09	3	1.118	7.04		8.52	2.50	199.4	
1530	4.09	4	1.113	7.07		10.72	3.53	198.3	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1530	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

JB-010 JB-011 DUP

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/19/09	PERSONNEL	Jeremy B.

WELL DATA (from records)

Well I.D.	MW 3	Datum Id.	TOC	Total Depth	21.01'
Csg. Vol./Ft.	0.662 L	Datum Elev.	880.51	Top Screen	15.98'

WELL DATA (field-determined)

Tapedown	19.42	Time	1125	Operator	JB
Screen Vol.	3.33 L	Csg. Vol.	.27 gal	Total Depth	

SETUP

Intake Depth		Equipment	Flite - 30295 Horon - 07501 YSI Rental
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1125	19.42	0	START PURGING						360 ml/min
1132	19.47	1	.935	7.34		8.34	6.63	109.2	
1139	19.49	2	.925	7.28		1033	5.11	105.0	
1146	19.48	3	.915	7.29		10.91	4.99	108.3	
1153	19.46	4	.928	7.32		4.70	4.45	128.7	
1155									

FIELD WATER QUALITY RECORD

	START SAMPLING	
1155	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume ~3 gal disposition on site poly tank

no J-plug on pvc upon arival

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12·15·09	PERSONNEL	Michael shields
WELL DATA (from records)					
Well I.D.	MW 8	Datum Id.	TOC	Total Depth	24.25'
Csg. Vol./Ft.	0.662 L	Datum Elev.	878.41	Top Screen	14.26'
WELL DATA (field-determined)					
Tapedown	16.9'	Time	0830	Operator	
Screen Vol.	6.61 L 1.6 gal	Csg. Vol.	1.2 gal	Total Depth	
SETUP					
Intake Depth		Equipment	QD # 2778, Heron W.L. #08900, Fu/Tz #1, UST Generator #2		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
0845	16.93	0	START PURGING						510mL/min
0855	16.91	1	.425	10.97	68.2	7.14	5.43	-31	1.5gal
0906	16.92	2	.411	10.96	59.2	7.29	4.88	-35	3gallons
—	flow	reduced to 340 mL/min							
0919	16.92	3	.398	10.91	32.5	7.39	4.64	-39	4.5gallons
0934	16.91	4	.386	10.89	31.2	7.04	4.50	-35	6gallons

FIELD WATER QUALITY RECORD

	START SAMPLING 0940	
	COMPLETED SAMPLING 0943	
CONDITION OF SAMPLE WATER: Clear		
REACTION TO PRESERVATIVE: none		

Discharged water: volume 6 gallons disposition on-site polytank

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12.9.09	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW 12	Datum Id.	TOC	Total Depth	54.01'
Csg. Vol./Ft.	0.662 L	Datum Elev.	882.78	Top Screen	48.94'
WELL DATA (field-determined)					
Tapedown	21.41	Time	1000	Operator	
Screen Vol.	3.36 L 1.1 gal	Csg. Vol.	5.2 gal	Total Depth	
SETUP					
Intake Depth		Equipment	Heron WL #08900, QD. #2778, NOMAD #2043		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1029	21.41	0	START PURGING						
1049	21.40	1	1.062	7.09	252	12.74	.55	-121	1.6 gallons
1109	21.39	2	1.077	7.09	100	13.05	.25	-127	3.5 gal
1125	21.41	3	1.069	7.09	64.2	13.10	.19	-130	5.2 gal
1145	21.41	4	1.070	7.10	62.7	13.05	.17	-132	≤ 8gal

FIELD WATER QUALITY RECORD

	START SAMPLING	
	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume ≤ 8gal disposition on site poly tank

WG-121509-JB-C12

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/15/09	PERSONNEL	Jeremy B.
WELL DATA (from records)					
Well I.D.	MW 14	Datum Id.	TOC	Total Depth	33.69'
Csg. Vol./Ft.	0.662 L	Datum Elev.	881.36	Top Screen	28.73'
WELL DATA (field-determined)					
Tapedown	20.65	Time	1645	Operator	JB
Screen Vol.	3.28 L .8gal	Csg. Vol.	2.2gal	Total Depth	
SETUP					
Intake Depth		Equipment	Solitz - 30295- Heron 0750 I-		YSI Rental
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

MW 14

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1645	20.65	0	START PURGING						900 ml/min
1700	20.68	1	.355	11.04		4.06	8.25	86.4	
1710	20.68	2	.333	11.07		4.17	8.57	99.6	
1718	20.67	3	.323	11.06		4.03	6.40	105.9	
1726	17	4	.322	11.05		3.61	4.28	115.4	

FIELD WATER QUALITY RECORD

	START SAMPLING	
	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12.4.09 ~~12.3.09~~	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW 28	Datum Id.	TOC	Total Depth	52.78'
Csg. Vol./Ft.	0.662 L	Datum Elev.	877.44	Top Screen	43.04'
WELL DATA (field-determined)					
Tapedown	20.19	Time	~~1508~~ 1000	Operator	
Screen Vol.	6.45 L / 1.6 gal	Csg. Vol.	5.2 gal	Total Depth	
SETUP					
Intake Depth		Equipment	Heron W.L. 07501, NoMad 203(, Q.D. 2778		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1000	20.19	0	START PURGING						
1027	20.21	1	1.189	7.12	336	14.63	2.37	-87	+2 gallons+
1049	20.21	2	1.193	7.00	510	13.82	.69	-92	+3.6 gallons+
1100	20.20	3	1.192	7.10	58.4	13.15	2.04	-99	250-480 mL/min
1115	20.21	4	1.187	7.01	58.6	15.46	.79	-97	6.8 gallons
1128	20.19	5	1.180	7.02	11.7	14.53	1.92	-90	8.4 gallons
									250-480 mL/min

FIELD WATER QUALITY RECORD

	START SAMPLING 1130	WG-120409-MS-002
	COMPLETED SAMPLING 1133	
CONDITION OF SAMPLE WATER:	clear / clear	
REACTION TO PRESERVATIVE:	none	

Discharged water: volume ≤8.5 gal disposition on site poly Tank

JB-009

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/15/09	PERSONNEL	Jeremy Boyan
WELL DATA (from records)					
Well I.D.	MW-31R	Datum Id.	TOC	Total Depth	~~12.86~~ 17.52
Csg. Vol./Ft.	0.662 L	Datum Elev.		Top Screen	8.13'
WELL DATA (field-determined)					
Tapedown	12.84	Time	910	Operator	JB
Screen Vol.	3.13'	Csg. Vol.		Total Depth	
SETUP					
Intake Depth		Equipment	Fultz - 30406	Heron - 07501	YSI Rental
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
910	12.84	0	START PURGING						300 ml/min
928	12.86	1	1.116	7.47		8:33	18.46	-61.5	
941	12.86	2	1.092	7.43		9.15	18.77	-57.0	
950	12.86	3	1.073	7.42		9.46	21.98	-39.6	
1000	12.87	4	1.081	7.40		10.36	7.52	-42.7	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1000	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

All Tape downs Taken from Top of PVC Stick up

PVC extention not permanently mounted

NB J

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12.16.09	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW-37	Datum Id.	TOC	Total Depth	14.42'
Csg. Vol./Ft.	0.662 L	Datum Elev.	869.95	Top Screen	9.68'
WELL DATA (field-determined)					
Tapedown	8.61	Time	0800	Operator	
Screen Vol.	3.14 L	Csg. Vol.	1 gallon	Total Depth	
SETUP					
Intake Depth		Equipment	UST Generator #2, QD #2778, Fultz #1		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
838	8.61	0	START PURGING						320 ml/min
850	"	1	.963	7.16	199	10.84	1.17	40	1 gallon
0910	8.62	2	.960	7.14	84.1	12.01	.67	73	2 gallons
0923	8.61	3	.965	7.16	54.8	12.22	.64	77	3 gallons
0937	8.61	4	.954	7.14	45.3	11.94	.65	77	4 gallons
0950	8.61	5	.951	7.16	40.8	12.24	.65	77	5 gallons

FIELD WATER QUALITY RECORD

	START SAMPLING 0955	
	COMPLETED SAMPLING 0957	
CONDITION OF SAMPLE WATER: Clear		
REACTION TO PRESERVATIVE: none		

Discharged water: volume 5 gallons disposition on site poly tank

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/08/09	PERSONNEL	Jeremy B.
WELL DATA (from records)					
Well I.D.	MW 40	Datum Id.	TOC	Total Depth	37.92'
Csg. Vol./Ft.	0.662 L	Datum Elev.	879.51	Top Screen	28.14'
WELL DATA (field-determined)					
Tapedown	21.59	Time	915	Operator	JB
Screen Vol.	6.47 L 1.7 gal	Csg. Vol.	2.7 gal	Total Depth	
SETUP					
Intake Depth	33.0'	Equipment	Nomad -	Nomad -	YSI (Rental)
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
915	21.59	0	START PURGING					-32.3	
940	21.57	1	1,155	7.21		11.90	2.23		
1010	21.59	2	1,123	7.20		12.28	2.11	-56.1	
1130	21.59	3	1,100	7.16		10.07	1.65	-66.8	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1155	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

Iron Test = 2

WG-120309-JB-001

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/3/09	PERSONNEL	Jeremy B.

WELL DATA (from records)

Well I.D.	MW 41	Datum Id.	TOC	Total Depth	43.71'
Csg. Vol./Ft.	0.662 L	Datum Elev.	878.58	Top Screen	38.95'

WELL DATA (field-determined)

Tapedown	21.21	Time	1126	Operator	JB
Screen Vol.	3.15 L 3.8gal	Csg. Vol.		Total Depth	

SETUP

Intake Depth	41.3'	Equipment	Heron 8900 - Nomad 2043 YSI (Rental)
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1150	21.21	0	START PURGING						
1292	21.42	1	1,303	7.21		10.93	2.86	-58.3	
1319	21.34	2	1,169	7.23		12.48	3.58	-63.2	400 mL/min
1345	21.39	3	1,110	7.23		14.70	4.09	-66.7	
1430		4	~~13,36~~ 1,100	7.19		13.36	1.85	-81.3	

FIELD WATER QUALITY RECORD

	START SAMPLING 1150	
1430	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

Tubing is 3' short of getting to the middle of screen

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12·3·2009	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW 42	Datum Id.	TOC	Total Depth	33.39'
Csg. Vol./Ft.	0.662 L	Datum Elev.	878.54	Top Screen	23.61'
WELL DATA (field-determined)					
Tapedown	21.11	Time		Operator	
Screen Vol.	6.47 L	Csg. Vol.	2 gal	Total Depth	
SETUP					
Intake Depth	28.5'	Equipment	Heron W.L. 07501, QP 2778, Nomad 2001 & 2000		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1155	21.11	0	START PURGING						410 mL/min
1216	21.09	1	1.147	6.43	71.2	15.10	1.74	35	340 mL/min
1251	21.08	2	1.157	6.98	21.6	9.95	2.54	-44	-4 gallons-
1318	21.09	3	1.152	6.96	15.4	12.81	1.28	-55	370 ml/min
1343	21.09	4	1.161	6.94	9.6	10.02	1.43	-49	-8 gallons-

FIELD WATER QUALITY RECORD

	START SAMPLING 1355 MG-120309-MS-001	
	COMPLETED SAMPLING 1359	
CONDITION OF SAMPLE WATER: Clear		
REACTION TO PRESERVATIVE: none		

Discharged water: volume 8 gal disposition on-site poly Tank

013

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/16/09	PERSONNEL	Jeremy Brazner
WELL DATA (from records)					
Well I.D.	MW-46	Datum Id.	TOC	Total Depth	18.77'
Csg. Vol./Ft.	0.662 L	Datum Elev.	873.64	Top Screen	14.01'
WELL DATA (field-determined)					
Tapedown	11.56	Time	847	Operator	JB
Screen Vol.	3.15 L .85gal	Csg. Vol.	1.2 gal	Total Depth	
SETUP					
Intake Depth	16.4'	Equipment	Eultz - 30295	Heron - 07501	
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
0847	11.56	0	START PURGING						
900	11.56	1	1.048	7.32		4.42	.49	157.8	360 ml/min
915	11.56	2	1.057	7.24		6.92	2.22	161.3	
925	11.56	3	1.048	7.21		8.71	3.13	163.2	
933	11.56	4	1.049	7.19		8.43	2.23	162.5	

FIELD WATER QUALITY RECORD

	START SAMPLING	
935	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

WG-120409-JB-003

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/4/09	PERSONNEL	Jeremy B.
WELL DATA (from records)					
Well I.D.	MW-49	Datum Id.	TOC	Total Depth	32.00'
Csg. Vol./Ft.	0.662 L	Datum Elev.	877.93	Top Screen	22.24'
WELL DATA (field-determined)					
Tapedown	16.75	Time	1000	Operator	
Screen Vol.	6.46 L 1.7gal	Csg. Vol.	2.5 gal	Total Depth	
SETUP					
Intake Depth	27.1'	Equipment	Nomad ~2000		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1000	16.75	0	START PURGING						
1025	16.76	1	.872	7.38		10.28	3.55	52.6	
1045	16.78	2	.844	7.37		9.31	4.82	15.2	
1110		3	.846	7.28		11.94	1.72	-6.1	
—	—	Took pump out to change motors							
1150		4	.845	7.27		12.02	2.33	60.7	
1205	16.74	5	.835	7.29		11.68	2.83	112.1	
1245	16.76	6	.839	7.27		11.16	2.23	96.2	

Trouble w/ pump starting, kept

FIELD WATER QUALITY RECORD

	START SAMPLING	
1250	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume ~15gal disposition on site poly tank

couldn't get consist. flow — no Turbid. meter on YSI

Pump seems to be having trouble pushing up 17' of tube

GW WG-121409-JB-00B

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/14/09	PERSONNEL	Jeremy B

WELL DATA (from records)

Well I.D.	MW-51	Datum Id.	TOC	Total Depth	27.04'
Csg. Vol./Ft.	0.662 L	Datum Elev.	878.19	Top Screen	22.26'

WELL DATA (field-determined)

Tapedown	17.97	Time	1415	Operator	JB
Screen Vol.	3.16 L .8gal	Csg. Vol.	105	Total Depth	

SETUP

Intake Depth	24.6'	Equipment	Fultz-30406 - Heron - D7501 YSI Rented
Operator	JB	Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1415	17.97	0	START PURGING						
1425	17.97	1	1.291	7.12		16.38	2.38	100.1	540 ml/min
1435	17.99	2	1.107	7.14		15.88	2.86	94.4	
1445	17.99	3	1.079	7.16		15.85	2.40	93.8	540ml/min
1453	18.0	4	1.071	7.14		15.98	2.83	94.3	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1455	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume 6 gal disposition on site poly tank

JB-016

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/17/09	PERSONNEL	Jeremy-Bryce
WELL DATA (from records)					
Well I.D.	MW 56	Datum Id.	TOC	Total Depth	21.33'
Csg. Vol./Ft.	0.662 L	Datum Elev.	859.32	Top Screen	11.39'
WELL DATA (field-determined)					
Tapedown	1.83	Time	1235	Operator	JB
Screen Vol.	6.58 L 1.7 gal	Csg. Vol.	3.3 gal	Total Depth	
SETUP					
Intake Depth		Equipment	Foltz -30406	Heron-07801	YSI Rental
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1235	1.83	0	START PURGING						600 ml/min
1245	1.85	1	.840	7.62		11.13	3.11	160.6	
1255	1.86	2	.821	7.37		11.66	2.93	107.5	
1305	1.86	3	.819	7.32		11.35	2.16	73.5	
1315	1.86	4	.817	7.32		11.42	2.75	64.9	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1320	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12.16.09	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW 57	Datum Id.	TOC	Total Depth	29.49'
Csg. Vol./Ft.	0.662 L	Datum Elev.	862.52	Top Screen	19.98'
WELL DATA (field-determined)					
Tapedown	5.12	Time	1600	Operator	
Screen Vol.	6.30 L / 1.6gal	Csg. Vol.	3.9 gallons	Total Depth	
SETUP					
Intake Depth		Equipment	Fultz #3, Heron W.L. # 08900, QD. 2778, LIST Generator #2		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1620	5.12	0	START PURGING						360 ml/min
1634	5.11	1	1.005	6.97	106	12.96	1.75	-25	1.6 gallons
1652	5.12	2	1.077	6.94	45.4	12.94	.74	-63	3.2 gallons
1712	5.13	3	1.084	6.93	40.7	12.50	.47	-70	4.8 gallons

FIELD WATER QUALITY RECORD

	START SAMPLING	
	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition on site poly Tank

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12.17.09	PERSONNEL	Michael Shields

WELL DATA (from records)

Well I.D.	MW-58	Datum Id.	TOC	Total Depth	12.16'
Csg. Vol./Ft.	0.662 L	Datum Elev.	861.46	Top Screen	7.11'

WELL DATA (field-determined)

Tapedown	4.54	Time	1240	Operator	
Screen Vol.	3.34 L / .86gal	Csg. Vol.	1.2 gallons	Total Depth	

SETUP

Intake Depth		Equipment	Fultz #3, Heron W.L.# 08900, QED #2778, 115T Generator #2
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1255	4.54	0	START PURGING						~~1.5 gallons~~ 320 ml/min
1307	4.56	1	1.198	7.00	305	12.75	1.52	-23	1.5 gallons
1332	4.55	2	1.191	6.99	111	12.89	.65	-40	3.5 gallons
1348	4.55	3	1.188	7.01	48.8	12.82	.36	-43	5 gallons
1407	11	4	1.185	7.01	47.1	12.90	.26	-44	6.5 gallons

FIELD WATER QUALITY RECORD

	START SAMPLING 1410	
	COMPLETED SAMPLING 1412	
CONDITION OF SAMPLE WATER:	Clear	
REACTION TO PRESERVATIVE:	none	

Discharged water: volume 6.5 gallons disposition on site on lawn

WG-120309-JB-002

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/3/09	PERSONNEL	Jeremy Bryan
WELL DATA (from records)					
Well I.D.	MW-61	Datum Id.	TOC	Total Depth	63.52'
Csg. Vol./Ft.	0.662 L	Datum Elev.	876.57	Top Screen	53.46'
WELL DATA (field-determined)					
Tapedown	19.60	Time	1550	Operator	JB
Screen Vol.	6.66 L	Csg. Vol.	7.4 gal	Total Depth	
SETUP					
Intake Depth		Equipment	Nomad 2031		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1550	19.68	0	START PURGING						
1800	19.69	1	1.035	7.25		12.35	4.11	-13.3	420 ml/min
1815	19.68	2	1.041	7.23		13.46	2.97	-41.9	420.
1825	19.68	3	1.040	7.23		13.12	2.92	-54.0	
1840	19.68	4	1.037	7.22		11.63	1.81	-58.2	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1640	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

Tubing about 3' short of making it to middle of screen

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12.08.09	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW-64	Datum Id.	TOC	Total Depth	20.76'
Csg. Vol./Ft.	0.662 L	Datum Elev.	863.97	Top Screen	10.75'
WELL DATA (field-determined)					
Tapedown	7.22	Time	1054	Operator	
Screen Vol.	6.63 L / 1.6 gal	Csg. Vol.	2.2 gal	Total Depth	
SETUP					
Intake Depth		Equipment	Heron W.L. #08900, NOMAD, O.D. #2778		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1139	7.22	0	START PURGING					400 mL/min	670 mL/min
1148	7.22	1	.991	7.02	34.7	15.91	1.48	-4	1.6 gal
1158	7.22	2	1.011	6.96	15.1	15.71	.47	-37	3.2 gal
* 1207	—	—	Pump shorting out. Replacing Motor					—	— *
1225	7.22	3	.999	6.97	643	14.85	.78	48	4.8 gal
1241	7.22	4	1.022	6.96	111	15.10	.37	10	6.4 gal
1250	7.22	5	1.027	6.96	70.7	14.86	.32	-1	8
1259	7.22	6	1.040	6.97	32.3	13.66	.27	-13	9.6 gal
1306	7.22	7	1.038	6.96	24.9	15.15	.21	-19	11.2

FIELD WATER QUALITY RECORD

	START SAMPLING 1310	
	COMPLETED SAMPLING 1312	
CONDITION OF SAMPLE WATER: clear		
REACTION TO PRESERVATIVE: none		

Discharged water: volume 11.2 gallons disposition on site poly tank

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12-4-09	PERSONNEL	Michael Shields

WELL DATA (from records)

Well I.D.	MW 65	Datum Id.	TOC	Total Depth	20.77'
Csg. Vol./Ft.	0.662 L	Datum Elev.	864.22	Top Screen	10.75'

WELL DATA (field-determined)

Tapedown	7.31	Time	1310	Operator	
Screen Vol.	6.63 L / 1.6 gal	Csg. Vol.	2.2 gal	Total Depth	

SETUP

Intake Depth		Equipment	Heron WL. 07501, NOMad 2031, QD.2778
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1340	7.32	0	START PURGING						200-600 mL/min
1416	7.31	1	1.054	7.08	50.4	13.60	3.36	-71	2 gal
1441	7.32	2	1.054	7.08	25.1	13.29	1.84	-74	4 gal
1513	7.32	3	1.066	7.09	20.2	8.16	1.63	-63	6 gal

FIELD WATER QUALITY RECORD

	START SAMPLING 1515 WG-120409-MS-003	
	COMPLETED SAMPLING 1516	
CONDITION OF SAMPLE WATER:	Clear	
REACTION TO PRESERVATIVE:	none	

Discharged water: volume 6 gal disposition on site poly tank

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/08/09	PERSONNEL	Jeremy B.
WELL DATA (from records)					
Well I.D.	MW 66	Datum Id.	TOC	Total Depth	17.70'
Csg. Vol./Ft.	0.662 L	Datum Elev.	861.67	Top Screen	9.94'
WELL DATA (field-determined)					
Tapedown	4.84	Time	1240	Operator	JB
Screen Vol.	6.46 L ~1.7 gal	Csg. Vol.	2 gal	Total Depth	
SETUP					
Intake Depth		Equipment	Heron - H929	Nomad - 2000	YSI (Rental)
Operator	JB	Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1240	4.84	0	START PURGING						
1250	4.84	1	1.161	7.35		12.67	3.94	-12.3	
1300	4.84	2	1.132	7.25		12.33	3.96	-5.9	340 ml/min
1310	4.84	3	1.090	7.18		12.04	2.56	4.6	
1320	4.84	4	1.080	7.14		11.82	2.44	3.6	

"D" ring on DO sensor popped off

FIELD WATER QUALITY RECORD

	START SAMPLING	
1325	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

Any well after this is subject to error on the Chem readings

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12.16.09	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW 68	Datum Id.	TOC	Total Depth	35.24'
Csg. Vol./Ft.	0.662 L	Datum Elev.	876.98	Top Screen	30.23'
WELL DATA (field-determined)					
Tapedown	18.93	Time	1320	Operator	
Screen Vol.	3.32 L / .86 gal	Csg. Vol.	2.6 gal	Total Depth	
SETUP					
Intake Depth		Equipment	UST Generator #2 Q.D. #2778, Heron WL. # 08900, Fultz #1		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1328	18.93	0	START PURGING						310 ml/min
1355	18.93	1	1.123	7.12	739	17.19	.69	-100	1 gallon
1404	18.94	2	1.131	7.10	240	16.83	.43	-103	2 gallons
1412	18.93	3	1.137	7.08	202	17.01	.31	-106	3 gallons
1421	18.93	4	1.136	7.08	184	17.08	.26	-108	4 gallons
1434	18.92	5	1.141	7.08	106	17.02	.20	-108	5 gallons
1446	18.92	6	1.142	7.08	88.2	16.98	.18	-112	6 gallons

FIELD WATER QUALITY RECORD

	START SAMPLING 1450	
	COMPLETED SAMPLING 1455	
CONDITION OF SAMPLE WATER: Clear		
REACTION TO PRESERVATIVE: none		

Discharged water: volume 6 gallons disposition on site poly Tank

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12.14.09	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW-79	Datum Id.	TOC	Total Depth	45.01'
Csg. Vol./Ft.	0.662 L	Datum Elev.		Top Screen	40.28'
WELL DATA (field-determined)					
Tapedown	21.43	Time	1330	Operator	
Screen Vol.	3.13 L / .86 gal	Csg. Vol.	3.8 gal	Total Depth	
SETUP					
Intake Depth		Equipment	UST Generator #2, Heron W.L. # 08900, O.D. 2778, Filter #1		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1352	21.43	0	START PURGING						380 ml/min
1419	21.69	1	1.107	7.06	41.9	15.54	.43	-116	4 gal
1433	21.69	2	1.106	7.08	23.9	15.64	.31	-121	5 gal
* was using 5cn vol @ this point, but turbidity spiked to 220. going back to 5g. vol. *									
1503	21.64	3	1.106	7.06	22.3	15.36	.21	-123	9 gal

FIELD WATER QUALITY RECORD

	START SAMPLING 1505	
	COMPLETED SAMPLING 1507	
CONDITION OF SAMPLE WATER: Clear		
REACTION TO PRESERVATIVE: none		

Discharged water: volume 9 gallons disposition on site poly tank

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/08/09	PERSONNEL	Jeremy B.
WELL DATA (from records)					
Well I.D.	MW 80	Datum Id.	TOC	Total Depth	29.00'
Csg. Vol./Ft.	0.662 L	Datum Elev.		Top Screen	23.95'
WELL DATA (field-determined)					
Tapedown	8.71	Time	1555	Operator	DB
Screen Vol.	3.34 L .85 gal	Csg. Vol.	3.4 gal	Total Depth	
SETUP					
Intake Depth		Equipment	Heron - 14929 -	Nomad - 2001	YSI (Rent)
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1555	8.71	0	START PURGING						
1603	8.74	1	1.134	7.22		13.62	2.89	46.7	
1612	8.75	2	1.116	7.20		14.57	3.25	4.1	
1620	8.75	3	1.108	7.19		15.18	3.22	-20.6	
1628	8.75	4	1.104	7.12		14.56	1.62	-26.8	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1630	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

WG-120409-JB-004

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/04/09	PERSONNEL	Jeremy Bryan
WELL DATA (from records)					
Well I.D.	MW 81	Datum Id.	TOC	Total Depth	34.55'
Csg. Vol./Ft.	0.662 L	Datum Elev.		Top Screen	24.80'
WELL DATA (field-determined)					
Tapedown	7.48	Time	1350	Operator	JB
Screen Vol.	6.45 L 1.7 gal	Csg. Vol.	4.5 gal	Total Depth	
SETUP					
Intake Depth		Equipment	Nomad-2043		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1350	7.48	0	START PURGING						
1405	7.53	1	1.006	7.20		10.71	2.22	62.7	250-500 ml/min
1420	7.65	2	.997	7.28		1080	4.08	38.6	
1430	7.53	3	.999	7.26		11.77	3.09	9.5	
1445	7.66	4	1.010	7.24		11.80	2.01	-13.3	

FIELD WATER QUALITY RECORD

	START SAMPLING	
1445	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume ~10 gal disposition on site polly tank

Couldn't control water flow very well

GW

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT GM Anderson DATE 12·15·09 PERSONNEL Michael Shields

WELL DATA (from records)

Well I.D. MW 82 Datum Id. TOC Total Depth 106.06'

Csg. Vol./Ft. 0.662 L Datum Elev. 1120 Top Screen 96.28'

WELL DATA (field-determined)

Tapedown 22.45 Time _____ Operator _____

Screen Vol. 6.47 L / 1.6 gal Csg. Vol. 13.4 gal Total Depth _____

SETUP

Intake Depth _____ Equipment QD # 2778, Heron W.L. # 08900, Fultz #3, UST Generator 2

Operator _____ Decon record _____

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1135	22.45	0	START PURGING						
probe	MS	with	pump.	slowed	purging	process			
1216	22.48	1	1.008	7.31	63.1	11.43	2.52	-136	1.5 gal
1229	22.45	2	1.013	7.01	51.2	11.37	1.35	-130	3 gal
Batteries	Died	in	Quanta.	took	lunch	and	got	batteries	
@ about	1300								
1400	22.48	3	1.012	7.39	40.6	10.07	1.78	-113	4.5 gal
1435	22.46	4	1.015	7.27	23.7	10.98	.42	-126	6 gallons

FIELD WATER QUALITY RECORD

	START SAMPLING 1440	
	COMPLETED SAMPLING 1442	
CONDITION OF SAMPLE WATER:	Clear	
REACTION TO PRESERVATIVE:	none	

Discharged water: volume 6 gallons disposition on site poly tank

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12·8·09	PERSONNEL	Michael Shields
WELL DATA (from records)					
Well I.D.	MW 83	Datum Id.	TOC	Total Depth	84.35'
Csg. Vol./Ft.	0.662 L	Datum Elev.		Top Screen	74.65'
WELL DATA (field-determined)					
Tapedown	18.82	Time	1542	Operator	
Screen Vol.	6.42 L / 1.6 gal	Csg. Vol.	10.5 gal	Total Depth	
SETUP					
Intake Depth		Equipment	NoMad #2031, QD#2778, Heron W.L. #08900		
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1601	18.82	0	START PURGING						300-600 ml/min
1618	18.82	1	1.138	7.09	263	13.14	.95	-160	1.6 gal
1629	18.81	2	1.135	7.08	169	13.04	.47	-151	3.2 "
1646	18.82	3	1.137	7.07	36.4	13.43	.28	-149	4.8 "
1705	18.83	4	1.136	7.08	16.3	13.23	.25	-146	6.4 gal

FIELD WATER QUALITY RECORD

	START SAMPLING	
	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume 6.4 gallons disposition on site poly tank

MONITORING WELL PURGING AND SAMPLING
FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12.17.09	PERSONNEL	Michael Shields

WELL DATA (from records)

Well I.D.	MW 85	Datum Id.	TOC	Total Depth	24.00'
Csg. Vol./Ft.	0.662 L	Datum Elev.		Top Screen	14.92'

WELL DATA (field-determined)

Tapedown	8.72	Time	14.40	Operator	
Screen Vol.	6.43 L/1.6gal	Csg. Vol.	2.5 gallons	Total Depth	

SETUP

Intake Depth		Equipment	
Operator		Decon record	

INSTRUMENT CALIBRATION RECORD

Time	Std. Lot No.	Standard Value	Conductivity Initial / Recal. (mS/cm)	pH Init. / Recal. (s.u.)	Turbidity Initial / Recal. (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
1450	8.72	0	START PURGING						360 ml/min
1512	8.73	1	1.243	7.06	260	13.50	.33	-48	2.5 gallons
1535	8.72	2	1.246	7.07	86.2	13.45	.26	-53	5 gallons
1556	8.72	3	1.246	7.06	*43.3*	13.48	.27	-59	7.5 gallons
* I'm suspicions of the turbidity meter having gone foul. readings on last few wells have not been able to get below and stay below 45 NTU. *									

FIELD WATER QUALITY RECORD

	START SAMPLING	
	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

MONITORING WELL PURGING AND SAMPLING FIELD DATA

AECOM

PROJECT	GM Anderson	DATE	12/17/09	PERSONNEL	Jeremy B.
WELL DATA (from records)					
Well I.D.	~~MW-75~~ Pond	Datum Id.	~~TOC~~	Total Depth	~~90.39'~~
Csg. Vol./Ft.	0.662 L	Datum Elev.	~~881.42~~	Top Screen	~~80.11'~~
WELL DATA (field-determined)					
Tapedown		Time		Operator	
Screen Vol.	6.63 L	Csg. Vol.		Total Depth	
SETUP					
Intake Depth		Equipment			
Operator		Decon record			

INSTRUMENT CALIBRATION RECORD

Time	~~Tape Down~~ ~~Std. Lot No.~~	~~Standard~~ Value	Conductivity ~~Initial / Recal.~~ (mS/cm)	pH ~~Initial / Recal.~~ (s.u.)	Turbidity ~~Initial / Recal.~~ (NTU)	~~Temp.~~ C°	D.O. mg/L	ORP mV	Discharge (record units)
1618	0.45		1.165	7.24	19.8	9.29	2.76	-2	
			Pond		North		culvert pipe		
					WS-121709-JB-01B				

PURGE WATER QUALITY RECORD

Time	Tape-Down	No. of Volumes	Conductivity (mS/cm)	pH (s.u.)	Turbidity (NTU)	Temp. C°	D.O. mg/L	ORP mV	Discharge (record units)
	1636		START PURGING						
			.887	8.33	106	8.98	12.11	~~486~~ -3	
			Pond	South					
				WS-121709-JB-01P					

FIELD WATER QUALITY RECORD

	START SAMPLING	
	COMPLETED SAMPLING	
CONDITION OF SAMPLE WATER:		
REACTION TO PRESERVATIVE:		

Discharged water: volume _____ disposition _____

Attachment B
Analytical Data Validation Reports

Attachment B-1
March 4, 2009 Data Validation

CONESTOGA-ROVERS & ASSOCIATES

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MEMORANDUM

TO: John Bassett [john.bassett@aecom.com]

REF. NO.: 017302 [17307-061013]

FROM: Deborah Andrasko/bjw/22

DATE: April 15, 2009

E-Mail and Interoffice Mail

C.C.: Shannon Richardson

RE: **Data Quality Assessment and Validation**
Surface Water Sampling
General Motors – MLK Boulevard Facility
Anderson, Indiana
March 2009

The following details a quality assessment and validation of the analytical data resulting from the collection of surface waters from the General Motors Vehicle Manufacturing Plant (GM) in Anderson, Indiana, in March 2009. The sample summary detailing sample identification, sample location, and analytical parameter is presented in Table 1. The samples were analyzed for volatile organic compounds (VOCs) using SW-846 Method 8260B referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986, with all subsequent revisions. Sample analysis was performed at CompuChem, in Cary, North Carolina (CompuChem), in accordance with the method.

The quality control (QC) criteria used to assess the data were established by the method and the documents entitled "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99/008, October 1999 and "Quality Assurance Project Plan (QAPP) for the Resource Conservation and Recovery Act (RCRA) Facility Investigation at GM Anderson, Indiana Facility", IND 980 700 801, Revision 2, October 14, 1997.

Full Contract Laboratory Program (CLP)-equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting quality assurance/quality control (QA/QC) results provided; raw data was not assessed.

Holding Time Period and Sample Analysis

The holding time period is presented in the analytical method. The samples were properly preserved and cooled to 4°C (±2°C) after collection. The samples were prepared and analyzed within the method-required holding times.

Method Blank Sample

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, a method blank was analyzed in the analytical batch with the samples. The blank results were non-detect with the exception of a low concentration of methylene chloride. All associated samples were non-detect for methylene chloride and did not require qualification.

Surrogate Compound Percent Recoveries

In accordance with the method employed, all samples, blanks, and standards analyzed for VOCs are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against method control limits.

All surrogate recoveries were within the laboratory generated control limits, demonstrating acceptable analytical accuracy.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analyses

The LCS or LCS/LCSD serve as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch. The relative percent difference (RPD) between the LCS and LCSD are used to assess analytical precision.

LCS/LCSD were prepared and analyzed for VOCs. The LCS/LCSD recoveries and RPD were within the control limits for all analytes of interest, indicating acceptable precision and accuracy for this analysis.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

MS/MSD samples are prepared with all analytes of interest and analyzed with the sample batch. The recoveries of MS analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The relative percent difference (RPD) between the MS and MSD are used to assess analytical precision.

MS/MSD analyses were performed at the proper frequency and all recoveries and RPD were acceptable, indicating good analytical accuracy and precision.

Trip Blanks

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. The trip blank results were non-detect with the exception of a high concentration of acetone and low concentration of 2-butanone. It was determined that the trip blank submitted with the samples was of unknown origin and age and was not used to qualify the Site-samples.

Field Duplicates

Samples were collected in duplicate as summarized in Table 1 and submitted "blind" to the laboratory for analysis. All sample results outside of estimated ranges of detection showed acceptable sampling and analytical precision.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported without qualification.

TABLE 1

SAMPLE AND ANALYSIS SUMMARY
SURFACE WATER SAMPLING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
MARCH 2009

Sample I.D.	*Location I.D.*	*Matrix*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*Analysis*	*Comments*
WS-030409-JD-001	Pond Intake	Water	03/04/09	11:14	Volatiles	
WS-030409-JD-002	Pond Intake	Water	03/04/09	11:30	Volatiles	Field duplicate of WS-030409-JD-001
WS-030409-JD-003	Pond North	Water	03/04/09	11:35	Volatiles	MS/MSD
WQ-030409-CC-001	-	Water	03/04/09	8:00	Volatiles	Trip Blank

Notes:

- Not applicable.
MS Matrix spike.
MSD Matrix spike duplicate.

TABLE 2

ANALYTICAL RESULTS SUMMARY
SURFACE WATER SAMPLING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
MARCH 2009

	Sample Location:	*Pond Intake*	*Pond Intake*	*Pond North*
	Sample ID:	*WS030409JD001*	*WS030409JD002*	*WS030409JD003*
	Sample Date:	*3/4/2009*	*3/4/2009 (Duplicate)*	*3/4/2009*
Parameters:	*Units*			
Volatile Organic Compounds				
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50 U	50 U	50 U
2-Hexanone	µg/L	50 U	50 U	50 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	50 U	50 U	50 U
Acetone	µg/L	2.3 J	2.2 J	2.6 J
Benzene	µg/L	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl Bromide)	µg/L	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl Chloride)	µg/L	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
m&p-Xylene	µg/L	2.0 U	2.0 U	2.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U
o-Xylene	µg/L	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.3	1.2	1.2
Xylene (total)	µg/L	3.0 U	3.0 U	3.0 U

Notes:

J - Estimated concentration.
U - Not present at or above the associated value.

Attachment B-2
April 2009 Data Validation

CONESTOGA-ROVERS & ASSOCIATES

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MEMORANDUM

TO: John Bassett

REF. NO.: 017302 [17307-061014]

FROM: Deb Andrasko/bjw/23

DATE: June 2, 2009

C.C.: Shannon Richardson

E-Mail and Hard Copy if Requested

RE: **Data Quality Assessment and Validation**
Site-Wide Groundwater Monitoring
General Motors – MLK Boulevard Facility
Anderson, Indiana
April 2009

INTRODUCTION

The following details a quality assessment and validation of the analytical data resulting from the collection of groundwater and quality control (QC) samples from the General Motors Vehicle Manufacturing Plant (GM) in Anderson, Indiana, in April 2009. The sample summary detailing sample identification, sample location, QC samples, and analytical parameter is presented in Table 1. A summary of analytical results is presented in Table 2. Sample analyses for dissolved gases were performed at H2M Labs, Inc, in Melville, New York (H2M), in accordance with the methodology presented in Table 3. The QC criteria used to assess the data were established by the methods and following documents:

i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99/008, October 1999; and

ii) Quality Assurance Project Plan (QAPP) for the Resource Conservation and Recovery Act (RCRA) Facility Investigation at GM Anderson, Indiana Facility, IND 980 700 801, Revision 2, October 14, 1997.

Full Contract Laboratory Program (CLP)-equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on information obtained from the Chain of Custody forms, finished report forms, blank data, duplicate data, and recovery data for blank and surrogate spikes; raw data was not reviewed or assessed.

HOLDING TIME PERIOD AND SAMPLE ANALYSIS

The holding time period is presented in the analytical method. All samples were properly preserved and cooled to 4°C (±2°C) after collection. All samples were prepared and analyzed within the method-required holding times.

METHOD BLANK SAMPLES

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. All blank results were non-detect for the analytes of interest.

SURROGATE COMPOUND PERCENT RECOVERIES

All samples, blanks, and standards analyzed for dissolved gases are spiked with a surrogate compound prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against method control limits.

All surrogate recoveries were within the laboratory generated control limits, demonstrating acceptable analytical accuracy.

LABORATORY CONTROL SAMPLE (LCS) ANALYSIS

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch.

LCSs were prepared and analyzed for the dissolved gases. The LCS recoveries were within the control limits for all analytes of interest.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES

MS/MSD samples are prepared with all analytes of interest and analyzed with the sample batch. The recoveries of MS analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The relative percent difference (RPD) between the MS and MSD are used to assess analytical precision.

MS/MSD analyses were performed on sample WG-043009-JB-011. The MS/MSD recoveries and RPD could not be assessed for methane and ethene as the sample concentrations were significantly higher than the spiking concentrations. The ethane recoveries and RPD were acceptable, indicating good analytical accuracy and precision.

COMPOUND QUANTITATION

The dissolved gases samples showed acceptable reproducibility between original and diluted results.

FIELD QA/QC

The field QA/QC consisted of an equipment rinse blank sample, and field duplicate samples.

Equipment Rinse Blank

An equipment rinse blank was collected as shown in Table 1 and analyzed with the investigative samples to identify potential cross-contamination during sample collection. The equipment blank was non-detect, indicating contamination during sample collection was not an issue for this parameter.

Field Duplicates

Samples were collected in duplicate as summarized in Table 1 and submitted "blind" to the laboratory for analysis. All sample results showed acceptable sampling and analytical precision.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported without qualification.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

				Parameters	
Sample I.D.	*Location I.D.*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*Dissolved Gases*	*Comments*
WQ-043009-JB-008	-	04/30/09	10:00	X	Equipment Blank
WG-043009-JB-009	MW-4	04/30/09	15:50	X	
WG-043009-JB-010	MW-4	04/30/09	15:50	X	Field duplicate of WG-043009-JB-009
WG-043009-JB-011	MW 40	04/30/09	18:45	X	Matrix spike/matrix spike duplicate

Notes:

- Not Applicable.

TABLE 2

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Sample Location:		*MW 40*	*MW-4*	*MW-4*
Sample ID:		*WG-043009-JB-011*	*WG-043009-JB-009*	*WG-043009-JB-010*
Sample Date:		*4/30/2009*	*4/30/2009*	*4/30/2009 (Duplicate)*
Parameters:	*Units*			
Gas				
Ethane	µg/L	1.9	5.1	5.2
Ethene	µg/L	19	37	35
Methane	µg/L	57	100	97

TABLE 3

ANALYTICAL METHODOLOGY
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Parameter	*Method*
Dissolved Gases	RSK175 SOP [1]

Notes:

1 EPA RSK175 - EPA Internal Standard Operating Procedure, Bryan Newell, R.S. Kerr Laboratory, Oklahoma, August 1994.

CONESTOGA-ROVERS & ASSOCIATES

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MEMORANDUM

TO: John Bassett

REF. NO.: 017302 [17307-061013]

FROM: Deborah Andrasko/bjw/24

DATE: June 5, 2009
REVISION: February 24, 2010

C.C.: Shannon Richardson

E-Mail and Hard Copy if Requested

RE: **Data Quality Assessment and Validation**
Site-Wide Groundwater Monitoring
General Motors - MLK Boulevard Facility
Anderson, Indiana
April 2009

INTRODUCTION

The following details a quality assessment and validation of the analytical data resulting from the collection of groundwater and quality control (QC) samples from the General Motors Vehicle Manufacturing Plant (GM) in Anderson, Indiana, in April 2009. The sample summary detailing sample identification, sample location, QC samples, and analytical parameters is presented in Table 1. Sample analyses were performed at CompuChem, in Cary, North Carolina (CompuChem), in accordance with the methodologies presented in Table 2. Summaries of the analytical results are presented in Tables 3A and 3B.

The QC criteria used to assess the data were established by the methods and following documents:

i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99/008, October 1999;

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994; and

iii) Quality Assurance Project Plan (QAPP) for the Resource Conservation and Recovery Act (RCRA) Facility Investigation at GM Anderson, Indiana Facility, IND 980 700 801, Revision 2, October 14, 1997.

Data assessment was based on information obtained from final data sheets, blank data, surrogate recoveries, spike recoveries, and duplicate results.

HOLDING TIME PERIOD AND SAMPLE ANALYSIS

All samples were properly preserved and cooled to 4°C (±2°C) after collection, with the exception of inadequate acid preservation of one sample submitted for hardness analysis and one sample submitted for total metals. The data was qualified as estimated (see Table 4).

For dissolved metals, sample filtration should be performed at the time of collection. The dissolved manganese samples were filtered upon receipt in the laboratory. Due to the delay in filtration, the results were qualified as estimated.

The holding time periods are presented in the analytical methods. All samples were prepared and analyzed within the method-required holding times.

METHOD BLANK SAMPLES

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch and results were non-detect for the analytes of interest with the exception of various metals and volatile organic compounds (VOCs) present in some of the method blanks at low concentrations. All associated results with concentrations similar to that found in the method blank were qualified as non-detect (see Table 5). Associated sample results that were either non-detect or significantly greater than the concentrations found in the method blank would not have been impacted.

SURROGATE COMPOUND PERCENT RECOVERIES

In accordance with the method employed, all samples, blanks, and standards analyzed for VOCs are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against method control limits.

All surrogate recoveries were within the laboratory generated control limits, demonstrating acceptable analytical accuracy.

LABORATORY CONTROL SAMPLE (LCS) ANALYSIS

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch. Some LCSs are prepared and analyzed in duplicate.

LCSs were prepared and analyzed for all parameters. The LCS recoveries were within the control limits for all analytes of interest, with the exception of a high carbon tetrachloride recovery. All associated results were non-detect and would not be impacted by the indicated high bias.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES

MS/MSD samples are prepared with all analytes of interest and analyzed with the sample batch. The recoveries of MS analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The relative percent difference (RPD) between the MS and MSD are used to assess analytical precision.

MS/MSD analyses were performed at the proper frequency and all recoveries were acceptable with the exception of low chloride and nitrite recoveries for sample WG-043009-JB-011. All associated results were qualified as estimated based on the implied low bias (see Table 6).

FIELD QA/QC

The field QA/QC consisted of two equipment rinse blank samples, two trip blank samples, and two field duplicate samples.

Trip Blanks – VOCs

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. Trip blanks were collected at the proper frequency. All results were non-detect for the analytes of interest, with the exception of some low concentrations of acetone, chloromethane, and methylene chloride. All associated sample results with concentrations similar to that found in the trip blank were qualified as non-detect (see Table 7). Associated sample results that were either non-detect or significantly greater than the concentrations found in the trip blank would not have been impacted.

Equipment Rinse Blanks

Equipment rinse blanks were collected as shown in Table 1 and analyzed with the investigative samples to identify potential cross-contamination during sample collection. All results were non-detect for the analytes of interest, with the exception of some low concentrations of acetone, some metals, sulfide and TOC. Associated sample results with concentrations similar to the rinse blanks were qualified as non-detect (see Table 8). Some acetone results were previously qualified as non-detect based on method blank or trip blank contamination and did not require further qualification.

Field Duplicates

Samples were collected in duplicate as summarized in Table 1 and submitted "blind" to the laboratory for analysis. All sample results outside of estimated ranges of detection showed acceptable sampling and analytical precision, with the exception of nitrate for one of the field duplicates. The associated result was qualified as estimated based on the implied variability (see Table 9).

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported with the qualifications noted.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

				Analysis/Parameters												
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*TCL VOCs*	*Total Metals **	*Dissolved Manganese*	*Alkalinity (Carbonate & Bicarbonate)*	*Nitrite*	*Nitrate*	*Chloride*	*Sulfate*	*Hardness (total & carbonate)*	*Sulfide*	*TOC*	*DOC*	*Comments*
WG-0428090-JB-001	MW 41	04/28/09	13:15	X												
WG-0428090-JB-002	MW 66	04/28/09	15:45	X												
WG-042809-JB-003	MW 66	04/28/09	15:45	X												Field duplicate of WG-0428090-JB-002
WG-042809-MS-001	MW 42	04/28/09	13:42	X												
WG-042809-MS-002	MW 65	04/28/09	17:02	X												Matrix spike/matrix spike duplicate
WG-042909-MS-003	MW 28	04/29/09	11:08	X												
WG-042909-MS-004	MW 68	04/29/09	14:28	X												
WG-042909-MS-005	MW 49	04/29/09	17:06	X												
WG-042909-MS-006	MW 12	04/29/09	20:11	X												
WG-042909-JB-004	MW 31R	04/29/09	10:05	X												
WG-042909-JB-005	MW 14	04/29/09	11:45	X												
WG-042909-JB-006	MW 79	04/29/09	15:00	X												
WG-042909-JB-007	MW 51	04/29/09	17:45	X												
WG-043009-MS-007	MW 85	04/30/09	16:39	X												
WG-043009-MS-008	MW 3	04/30/09	18:53	X												
WQ-043009-MS-009	-	04/30/09	9:00	X												Equipment Blank
WQ-043009-JB-008	-	04/30/09	10:00	X	X	X	X	X	X	X	X	X	X	X	X	Equipment Blank
WG-043009-JB-009	MW-4	04/30/09	15:50	X	X	X	X	X	X	X	X	X	X	X	X	
WG-043009-JB-010	MW-4	04/30/09	15:50	X	X	X	X	X	X	X	X	X	X	X	X	Field duplicate of WG-043009-JB-009
WG-043009-JB-011	MW 40	04/30/09	18:45	X	X	X	X	X	X	X	X	X	X	X	X	Matrix spike/matrix spike duplicate
WS-043009-JB-012	Pond Culvert 1	04/30/09	16:06	X												
WS-043009-JB-013	Pond Intake	04/30/09	16:20	X												

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

				Analysis/Parameters												
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*TCL VOCs*	*Total Metals **	*Dissolved Manganese*	*Alkalinity (Carbonate & Bicarbonate)*	*Nitrite*	*Nitrate*	*Chloride*	*Sulfate*	*Hardness (total & carbonate)*	*Sulfide*	*TOC*	*DOC*	*Comments*
WQ-041009-CC-002	-	04/30/09	-	X												Trip Blank
WQ-041009-CC-003	-	04/30/09	-	X												Trip Blank

Notes:

* - Calcium, iron, magnesium, potassium, and sodium.
- Not applicable.
DOC - Dissolved Organic Carbon.
TCL - Target Compound List.
TOC - Total Organic Carbon.
VOCs - Volatile Organic Compounds.

TABLE 2

SUMMARY OF ANALYTICAL METHODOLOGIES
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Parameter	*Method*
TCL Volatiles	SW-846 8260 [1]
Dissolved Manganese	SW-846 6010B [1]
Metals, total	SW-846 6010B [1]
Dissolved Organic Carbon	SW-846 9060 [1]
Total Organic Carbon	SW-846 9060 [1]
Alkalinity, carbonate	310.2 [2]
Alkalinity, bicarbonate	310.2 [2]
Hardness, total and carbonate	130.1 [2]
Nitrite	300.0 [2]
Nitrate	300.0 [2]
Sulfate	300.0 [2]
Chloride	300.0 [2]
Sulfide	SM 4500-S [3]

Notes:

1 "Test Methods for Solid Waste Physical/Chemical Methods", SW-846, 3rd Edition, September 1986 (with subsequent revisions).

2 "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-220, March 1983 (with all subsequent revisions).

3 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, with all subsequent revisions.

TCL Target Compound List.

TABLE 3A

ANALYTICAL RESULTS SUMMARY - GROUNDWATERS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Sample Location:		*MW 3*	*MW 12*	*MW 14*	*MW 28*	*MW 40*	*MW 41*
Sample ID:		*WG-043009-MS-008*	*WG-042909-MS-006*	*WG-042909-JB-005*	*WG-042909-MS-003*	*WG-043009-JB-011*	*WG-042809-JB-001*
Sample Date:		*4/30/2009*	*4/29/2009*	*4/29/2009*	*4/29/2009*	*4/30/2009*	*4/28/2009*
Parameters:	*Units*						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	1700	25 U	250 U	5.0 U	500 U	500 U
1,1,2,2-Tetrachloroethane	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
1,1,2-Trichloroethane	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
1,1-Dichloroethane	µg/L	600 J	3.2 J	120 J	5.0 U	690	84 J
1,1-Dichloroethene	µg/L	240 J	3.3 J	34 J	5.0 U	100 J	500 U
1,2-Dichloroethane	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
1,2-Dichloropropane	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	36000 U	1300 U	13000 U	250 U	25000 U	25000 U
2-Hexanone	µg/L	36000 U	1300 U	13000 U	250 U	25000 U	25000 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	36000 U	1300 U	13000 U	250 U	25000 U	25000 U
Acetone	µg/L	1400 J	1300 U	380 J	250 U	790 J	25000 U
Benzene	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Bromodichloromethane	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Bromoform	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Bromomethane (Methyl Bromide)	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Carbon disulfide	µg/L	3600 U	130 U	1300 U	25 U	2500 U	2500 U
Carbon tetrachloride	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Chlorobenzene	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Chloroethane	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Chloroform (Trichloromethane)	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Chloromethane (Methyl Chloride)	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
cis-1,2-Dichloroethene	µg/L	12000	490	6100	5.0 U	13000	10000
cis-1,3-Dichloropropene	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Dibromochloromethane	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Ethylbenzene	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
m&p-Xylene	µg/L	1400 U	50 U	500 U	10 U	1000 U	1000 U
Methylene chloride	µg/L	3600 U	130 U	1300 U	25 U	2500 U	2500 U

TABLE 3A

ANALYTICAL RESULTS SUMMARY - GROUNDWATERS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

	Sample Location:	*MW 3*	*MW 12*	*MW 14*	*MW 28*	*MW 40*	*MW 41*
	Sample ID:	*WG-043009-MS-008*	*WG-042909-MS-006*	*WG-042909-JB-005*	*WG-042909-MS-003*	*WG-043009-JB-011*	*WG-042809-JB-001*
	Sample Date:	*4/30/2009*	*4/29/2009*	*4/29/2009*	*4/29/2009*	*4/30/2009*	*4/28/2009*
Parameters:	*Units*						
Volatile Organic Compounds (Cont'd.)							
o-Xylene	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Styrene	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Tetrachloroethene	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Toluene	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
trans-1,2-Dichloroethene	µg/L	130 J	8.4 J	41 J	5.0 U	320 J	250 J
trans-1,3-Dichloropropene	µg/L	710 U	25 U	250 U	5.0 U	500 U	500 U
Trichloroethene	µg/L	18000	28	250 U	5.0 U	500 U	500 U
Vinyl chloride	µg/L	390 J	25 U	440	100	2100	400 J
Xylene (total)	µg/L	2100 U	75 U	750 U	15 U	1500 U	1500 U
Metals							
Calcium	µg/L	-	-	-	-	138000 J	-
Iron	µg/L	-	-	-	-	2790 J	-
Magnesium	µg/L	-	-	-	-	40100 J	-
Manganese (Dissolved)	µg/L	-	-	-	-	111 J	-
Potassium	µg/L	-	-	-	-	5310 J	-
Sodium	µg/L	-	-	-	-	48400 J	-
General Chemistry							
Alkalinity, Bicarbonate	mg/L	-	-	-	-	358	-
Alkalinity, Carbonate	mg/L	-	-	-	-	10.0 U	-
Alkalinity, Total (as CaCO3)	mg/L	-	-	-	-	361	-
Chloride	mg/L	-	-	-	-	87 J	-
Dissolved Organic Carbon (DOC)	mg/L	-	-	-	-	2.7 J	-
Hardness	mg/L	-	-	-	-	513	-

TABLE 3A

ANALYTICAL RESULTS SUMMARY - GROUNDWATERS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

	Sample Location:	*MW 3*	*MW 12*	*MW 14*	*MW 28*	*MW 40*	*MW 41*
	Sample ID:	*WG-043009-MS-008*	*WG-042909-MS-006*	*WG-042909-JB-005*	*WG-042909-MS-003*	*WG-043009-JB-011*	*WG-042809-JB-001*
	Sample Date:	*4/30/2009*	*4/29/2009*	*4/29/2009*	*4/29/2009*	*4/30/2009*	*4/28/2009*
Parameters:	*Units*						
General Chemistry (Cont'd.)							
Hardness, Carbonate	mg/L	-	-	-	-	361	-
Nitrate (as N)	mg/L	-	-	-	-	0.05 U	-
Nitrite (as N)	mg/L	-	-	-	-	0.05 UJ	-
Sulfate	mg/L	-	-	-	-	80	-
Sulfide	mg/L	-	-	-	-	1.00 U	-
Total Organic Carbon (TOC)	mg/L	-	-	-	-	5.0 U	-

TABLE 3A

ANALYTICAL RESULTS SUMMARY - GROUNDWATERS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Sample Location:		*MW 42*	*MW 49*	*MW 51*	*MW 65*	*MW 66*	*MW 66*
Sample ID:		*WG-042809-MS-001*	*WG-042909-MS-005*	*WG-042909-JB-007*	*WG-042809-MS-002*	*WG-042809-JB-002*	*WG-042809-JB-003*
Sample Date:		*4/28/2009*	*4/29/2009*	*4/29/2009*	*4/28/2009*	*4/28/2009*	*4/28/2009 (Duplicate)*
Parameters:	*Units*						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	170 J	1.2 J	11 U	57	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	70 J	6.3 U	11 U	50 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	280 J	310 U	560 U	2500 U	50 U	50 U
2-Hexanone	µg/L	25000 U	310 U	560 U	2500 U	50 U	50 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	25000 U	310 U	560 U	2500 U	50 U	50 U
Acetone	µg/L	25000 U	310 U	560 U	2500 U	50 U	50 U
Benzene	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Bromoform	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Bromomethane (Methyl Bromide)	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Carbon disulfide	µg/L	2500 U	31 U	56 U	250 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Chlorobenzene	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Chloroethane	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Chloromethane (Methyl Chloride)	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	9300	100	6.5 J	970	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Ethylbenzene	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
m&p-Xylene	µg/L	1000 U	13 U	22 U	100 U	2.0 U	2.0 U
Methylene chloride	µg/L	2500 U	31 U	56 U	250 U	5.0 U	5.0 U

TABLE 3A

ANALYTICAL RESULTS SUMMARY - GROUNDWATERS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Parameters:	*Units*	*Sample Location:* *MW 42* *Sample ID:* *WG-042809-MS-001* *Sample Date:* *4/28/2009*	*MW 49* *WG-042909-MS-005* *4/29/2009*	*MW 51* *WG-042909-JB-007* *4/29/2009*	*MW 65* *WG-042809-MS-002* *4/28/2009*	*MW 66* *WG-042809-JB-002* *4/28/2009*	*MW 66* *WG-042809-JB-003* *4/28/2009* *(Duplicate)*
Volatile Organic Compounds (Cont'd.)							
o-Xylene	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Styrene	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Toluene	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	520	3.4 J	11 U	38 J	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	500 U	6.3 U	11 U	50 U	1.0 U	1.0 U
Trichloroethene	µg/L	500 U	1.3 J	190	50 U	1.0 U	1.0 U
Vinyl chloride	µg/L	210 J	45	11 U	690	27	27
Xylene (total)	µg/L	1500 U	19 U	33 U	150 U	3.0 U	3.0 U
Metals							
Calcium	µg/L	-	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	-
Magnesium	µg/L	-	-	-	-	-	-
Manganese (Dissolved)	µg/L	-	-	-	-	-	-
Potassium	µg/L	-	-	-	-	-	-
Sodium	µg/L	-	-	-	-	-	-
General Chemistry							
Alkalinity, Bicarbonate	mg/L	-	-	-	-	-	-
Alkalinity, Carbonate	mg/L	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	-	-	-	-	-	-
Chloride	mg/L	-	-	-	-	-	-
Dissolved Organic Carbon (DOC)	mg/L	-	-	-	-	-	-
Hardness	mg/L	-	-	-	-	-	-

TABLE 3A

ANALYTICAL RESULTS SUMMARY - GROUNDWATERS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

	Sample Location:	*MW 42*	*MW 49*	*MW 51*	*MW 65*	*MW 66*	*MW 66*
	Sample ID:	*WG-042809-MS-001*	*WG-042909-MS-005*	*WG-042909-JB-007*	*WG-042809-MS-002*	*WG-042809-JB-002*	*WG-042809-JB-003*
	Sample Date:	*4/28/2009*	*4/29/2009*	*4/29/2009*	*4/28/2009*	*4/28/2009*	*4/28/2009* *(Duplicate)*
Parameters:	*Units*						
General Chemistry (Cont'd.)							
Hardness, Carbonate	mg/L	-	-	-	-	-	-
Nitrate (as N)	mg/L	-	-	-	-	-	-
Nitrite (as N)	mg/L	-	-	-	-	-	-
Sulfate	mg/L	-	-	-	-	-	-
Sulfide	mg/L	-	-	-	-	-	-
Total Organic Carbon (TOC)	mg/L	-	-	-	-	-	-

TABLE 3A

ANALYTICAL RESULTS SUMMARY - GROUNDWATERS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Parameters:	*Units*	*Sample Location:* *MW 68* *Sample ID:* *WG-042909-MS-004* *Sample Date:* *4/29/2009*	*MW 85* *WG-043009-MS-007* *4/30/2009*	*MW 31R* *WG-042909-JB-004* *4/29/2009*	*MW 79* *WG-042909-JB-006* *4/29/2009*	*MW-4* *WG-043009-JB-009* *4/30/2009*	*MW-4* *WG-043009-JB-010* *4/30/2009* *(Duplicate)*
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
1,1,2,2-Tetrachloroethane	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
1,1,2-Trichloroethane	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
1,1-Dichloroethane	µg/L	450 J	25 U	640	6.9 J	390 J	390 J
1,1-Dichloroethene	µg/L	70 J	25 U	500 U	5.2 J	500 U	46 J
1,2-Dichloroethane	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
1,2-Dichloropropane	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	25000 U	1300 U	25000 U	2500 U	25000 U	21000 U
2-Hexanone	µg/L	25000 U	1300 U	25000 U	2500 U	25000 U	21000 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	25000 U	1300 U	25000 U	2500 U	25000 U	21000 U
Acetone	µg/L	25000 U	42 J	25000 U	93 J	25000 U	21000 U
Benzene	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Bromodichloromethane	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Bromoform	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Bromomethane (Methyl Bromide)	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Carbon disulfide	µg/L	2500 U	130 U	2500 U	250 U	2500 U	2100 U
Carbon tetrachloride	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Chlorobenzene	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Chloroethane	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Chloroform (Trichloromethane)	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Chloromethane (Methyl Chloride)	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
cis-1,2-Dichloroethene	µg/L	11000	25 U	11000	1100	7500	7800
cis-1,3-Dichloropropene	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Dibromochloromethane	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Ethylbenzene	µg/L	500 U	25 U	1000	50 U	500 U	420 U
m&p-Xylene	µg/L	1000 U	50 U	2900	100 U	1000 U	830 U
Methylene chloride	µg/L	2500 U	130 U	2500 U	250 U	2500 U	2100 U

TABLE 3A

ANALYTICAL RESULTS SUMMARY - GROUNDWATERS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Sample Location:		*MW 68*	*MW 85*	*MW 31R*	*MW 79*	*MW-4*	*MW-4*
Sample ID:		*WG-042909-MS-004*	*WG-043009-MS-007*	*WG-042909-JB-004*	*WG-042909-JB-006*	*WG-043009-JB-009*	*WG-043009-JB-010*
Sample Date:		*4/29/2009*	*4/30/2009*	*4/29/2009*	*4/29/2009*	*4/30/2009*	*4/30/2009 (Duplicate)*
Parameters:	*Units*						
Volatile Organic Compounds (Cont'd.)							
o-Xylene	µg/L	500 U	25 U	1300	50 U	500 U	420 U
Styrene	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Tetrachloroethene	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Toluene	µg/L	500 U	25 U	5800	50 U	500 U	420 U
trans-1,2-Dichloroethene	µg/L	390 J	25 U	72 J	52	390 J	390 J
trans-1,3-Dichloropropene	µg/L	500 U	25 U	500 U	50 U	500 U	420 U
Trichloroethene	µg/L	1400	25 U	540	50 U	500 U	420 U
Vinyl chloride	µg/L	330 J	480	1500	220	830	840
Xylene (total)	µg/L	1500 U	75 U	4500	150 U	1500 U	1300 U
Metals							
Calcium	µg/L	-	-	-	-	146000	147000
Iron	µg/L	-	-	-	-	1690	1580
Magnesium	µg/L	-	-	-	-	39600	40100
Manganese (Dissolved)	µg/L	-	-	-	-	215 J	211 J
Potassium	µg/L	-	-	-	-	2560 J	2630 J
Sodium	µg/L	-	-	-	-	42600	43300
General Chemistry							
Alkalinity, Bicarbonate	mg/L	-	-	-	-	378	370
Alkalinity, Carbonate	mg/L	-	-	-	-	10.0 U	10.0 U
Alkalinity, Total (as CaCO3)	mg/L	-	-	-	-	379	372
Chloride	mg/L	-	-	-	-	66 J	67 J
Dissolved Organic Carbon (DOC)	mg/L	-	-	-	-	5.0 U	2.5 J
Hardness	mg/L	-	-	-	-	528	533 J

TABLE 3A

ANALYTICAL RESULTS SUMMARY - GROUNDWATERS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

	Sample Location:	*MW 68*	*MW 85*	*MW 31R*	*MW 79*	*MW-4*	*MW-4*
	Sample ID:	*WG-042909-MS-004*	*WG-043009-MS-007*	*WG-042909-JB-004*	*WG-042909-JB-006*	*WG-043009-JB-009*	*WG-043009-JB-010*
	Sample Date:	*4/29/2009*	*4/30/2009*	*4/29/2009*	*4/29/2009*	*4/30/2009*	*4/30/2009 (Duplicate)*
Parameters:	*Units*						
General Chemistry (Cont'd.)							
Hardness, Carbonate	mg/L	-	-	-	-	379	372 J
Nitrate (as N)	mg/L	-	-	-	-	0.05 UJ	0.60 J
Nitrite (as N)	mg/L	-	-	-	-	0.05 UJ	0.05 UJ
Sulfate	mg/L	-	-	-	-	84	85
Sulfide	mg/L	-	-	-	-	1.00 U	1.00 U
Total Organic Carbon (TOC)	mg/L	-	-	-	-	5.0 U	5.0 U

Notes:

- Not analyzed.

J - Estimated.

U - Not detected.

UJ - Not detected, estimated reporting limit.

TABLE 3B

ANALYTICAL RESULTS SUMMARY - SURFACE WATERS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

	Sample Location:	*Pond Intake*	*Pond Culvert 1*
	Sample ID:	*WS-043009-JB-013*	*WS-043009-JB-012*
	Sample Date:	*4/30/2009*	*4/30/2009*
	Matrix Code:	*WS*	*WS*
Parameters:	*Units*		
Volatile Organic Compounds			
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	0.19 J	0.37 J
1,1-Dichloroethene	µg/L	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50 U	50 U
2-Hexanone	µg/L	50 U	50 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	50 U	50 U
Acetone	µg/L	50 U	50 U
Benzene	µg/L	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U
Bromomethane (Methyl Bromide)	µg/L	1.0 U	1.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U
Chloromethane (Methyl Chloride)	µg/L	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	3.4	6.5
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U
m&p-Xylene	µg/L	2.0 U	2.0 U
Methylene chloride	µg/L	5.0 U	5.0 U
o-Xylene	µg/L	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	0.19 J	0.37 J
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U
Vinyl chloride	µg/L	3.1	3.9
Xylene (total)	µg/L	3.0 U	3.0 U

Notes:

J - Estimated.
U - Not detected.

TABLE 4

QUALIFIED SAMPLE DATA DUE TO INADEQUATE PRESERVATION
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Parameter	*Sample ID*	*Analyte*	*pH Upon Receipt at Laboratory*	*Required pH*	*Qualified Sample Result*	*Units*
General Chemistry	WG-043009-JB-010	Hardness	3	< 2	533 J	mg/L
		Hardness, Carbonate	3	< 2	372 J	mg/L
Metals	WG-043009-JB-011	Iron	2.5	< 2	2790 J	µg/L
		Magnesium	2.5	< 2	40100 J	µg/L
		Potassium	2.5	< 2	5310 J	µg/L
		Sodium	2.5	< 2	48400 J	µg/L
		Calcium	2.5	< 2	138000 J	µg/L

Notes:

J - Estimated.

TABLE 5

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Parameter	*Analysis Date*	*Analyte*	*Blank Result **	*Sample ID*	*Qualified Sample Result*	*Units*
Volatiles	05/04/09	Acetone	1000 J	WG-042809-JB-001	25000 U	µg/L
			2 J	WG-042809-JB-003	50 U	µg/L
			1000 J	WG-042809-MS-001	25000 U	µg/L
			500 J	WG-042809-MS-002	2500 U	µg/L
			1000 J	WG-042909-JB-004	25000 U	µg/L
			22 J	WG-042909-JB-007	560 U	µg/L
			10 J	WG-042909-MS-003	250 U	µg/L
			1000 J	WG-042909-MS-004	25000 U	µg/L
			50 J	WG-042909-MS-006	1300 U	µg/L
			2 J	WS-043009-JB-012	50 U	µg/L
			2 J	WS-043009-JB-013	50 U	µg/L
	05/04/09	Chloromethane (Methyl Chloride)	0.21 J	WG-042809-JB-002	1.0 U	µg/L
				WS-043009-JB-013	1.0 U	µg/L
	05/04/09	Methylene chloride	0.21 J	WG-042809-JB-002	5.0 U	µg/L
			105 J	WG-042809-MS-001	2500 U	µg/L
			105 J	WG-042909-JB-004	2500 U	µg/L
			2.3 J	WG-042909-JB-007	56 U	µg/L
			1.05 J	WG-042909-MS-003	25 U	µg/L
			0.21 J	WS-043009-JB-012	5.0 U	µg/L
			0.21 J	WS-043009-JB-013	5.0 U	µg/L
	05/07/09	Acetone	700 J	WG-043009-JB-009	25000 U	µg/L
	05/07/09	Methylene chloride	70 J	WG-043009-JB-009	2500 U	µg/L
			58 J	WG-043009-JB-010	2100 U	µg/L

Notes:

* - Blank result adjusted for sample factors.
J - Estimated.
U - Not detected.

TABLE 6

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Parameter	*Sample ID*	*Analyte*	*MS Recovery (percent)*	*MSD Recovery (percent)*	*RPD*	*Control Limits*		*Associated Sample ID*	*Qualified Sample Result*	*Units*
						Recovery (percent)	*RPD (percent)*			
General Chemistry	WG-043009-JB-011	Chloride	86	72	4.9	90-110	20	WG-043009-JB-009	66 J	mg/L
								WG-043009-JB-010	67 J	mg/L
								WG-043009-JB-011	87 J	mg/L
General Chemistry	WG-043009-JB-011	Nitrite (as N)	80	76	4.9	90-110	20	WG-043009-JB-009	0.05 UJ	mg/L
								WG-043009-JB-010	0.05 UJ	mg/L
								WG-043009-JB-011	0.05 UJ	mg/L

Notes:

J - Estimated.
MS - Matrix Spike.
MSD - Matrix Spike Duplicate.
RPD - Relative Percent Difference.
UJ - Not detected, estimated reporting limit.

TABLE 7

QUALIFIED SAMPLE DATA DUE TO ANALYTE CONCENTRATIONS IN THE TRIP BLANK
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Parameter	*Blank Date*	*Analyte*	*Blank Result*	*Associated Sample ID*	*Qualified Sample Result*	*Units*
Volatiles	04/30/09	Acetone	2.0 J	WG-042809-JB-003	50 U	µg/L
				WG-042909-MS-003	250 U	µg/L
				WS-043009-JB-012	50 U	µg/L
				WS-043009-JB-013	50 U	µg/L
				WG-042909-MS-005	310 U	µg/L
		Chloromethane (Methyl Chloride)	0.26 J	WG-042909-JB-007	11 U	µg/L
				WG-042809-JB-002	1.0 U	µg/L
				WS-043009-JB-013	1.0 U	µg/L
		Methylene chloride	0.17 J	WG-042809-JB-002	5.0 U	µg/L
				WG-042909-MS-005	31 U	µg/L
				WG-042909-JB-007	56 U	µg/L
				WG-042909-MS-003	25 U	µg/L
				WS-043009-JB-012	5.0 U	µg/L
				WS-043009-JB-013	5.0 U	µg/L

Notes:

J - Estimated.
U - Not detected.

TABLE 8

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE RINSE BLANKS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Parameter	*Rinse Blank Date*	*Analyte*	*Blank Result*	*Sample ID*	*Qualified Sample Result*	*Units*
General Chemistry	04/30/09	Sulfide	0.40	WG-043009-JB-009	1.0 U	mg/L
				WG-043009-JB-010	1.0 U	mg/L
		Total Organic Carbon (TOC)	1.2	WG-043009-JB-009	5.0 U	mg/L
				WG-043009-JB-010	5.0 U	mg/L
				WG-043009-JB-011	5.0 U	mg/L

Notes:

U - Not detected.

TABLE 9

QUALIFIED SAMPLE RESULTS DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS
SITE-WIDE GROUNDWATER MONITORING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
APRIL 2009

Parameter	*Analyte*	*Original Sample ID*	*Qualified Sample Result*	*Duplicate Sample ID*	*Qualified Sample Result*	*RPD*	*Units*
General Chemistry	Nitrate	WG-043009-JB-009	0.05 UJ	WG-043009-JB-010	0.60 J	169	mg/L

Notes:

J - Estimated.
RPD - Relative percent difference.
UJ - Not detected, estimated reporting limit.

Attachment B-3
July 30, 2009 Data Validation

CONESTOGA-ROVERS & ASSOCIATES

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MEMORANDUM

TO:	John Bassett [john.bassett@aecom.com]	REF. NO.:	017302 [17307-061013]
FROM:	Deborah Andrasko/bjw/25	DATE:	September 15, 2009
C.C.:	Shannon Richardson		**E-Mail and Hard Copy if Requested**

RE: Data Quality Assessment and Validation
Surface Water Sampling
General Motors – MLK Boulevard Facility
Anderson, Indiana
July 2009

INTRODUCTION

The following details a quality assessment and validation of the analytical data resulting from the collection of surface waters from the General Motors Vehicle Manufacturing Plant (GM) in Anderson, Indiana, in July 2009. The sample summary detailing sample identification, sample location, and analytical parameter is presented in Table 1. Summaries of the analytical results are presented in Table 2.

The samples were analyzed for volatile organic compounds (VOCs) using SW-846 Method 8260B referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986, with all subsequent revisions. Sample analysis was performed at CompuChem, in Cary, North Carolina (CompuChem), in accordance with the method.

The quality control (QC) criteria used to assess the data were established by the method and the documents entitled "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99/008, October 1999 and "Quality Assurance Project Plan (QAPP) for the Resource Conservation and Recovery Act (RCRA) Facility Investigation at GM Anderson, Indiana Facility", IND 980 700 801, Revision 2, October 14, 1997.

Full Contract Laboratory Program (CLP)-equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting quality assurance/quality control (QA/QC) results provided; raw data was not assessed.

HOLDING TIME PERIOD AND SAMPLE ANALYSIS

The holding time period is presented in the analytical method. The samples were properly preserved and cooled to 4°C (±2°C) after collection. The samples were prepared and analyzed within the method-required holding times.

METHOD BLANK SAMPLE

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed in the analytical batch with the samples. The blank results were non-detect for all target compounds, indicating laboratory contamination was not an issue for this parameter.

SURROGATE COMPOUND PERCENT RECOVERIES

In accordance with the method employed, all samples, blanks, and standards analyzed for VOCs are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against method control limits.

All surrogate recoveries were within the laboratory generated control limits, demonstrating acceptable analytical accuracy.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD) ANALYSES

The LCS or LCS/LCSD serve as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch. The relative percent difference (RPD) between the LCS and LCSD are used to assess analytical precision.

LCS/LCSD were prepared and analyzed for VOCs. The LCS/LCSD recoveries and RPD were within the control limits for all analytes of interest with the exception of high recoveries of acetone. All associated sample results were non-detect and would not be impacted by the indicated high bias.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES

MS/MSD samples are prepared with all analytes of interest and analyzed with the sample batch. The recoveries of MS analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The RPD between the MS and MSD are used to assess analytical precision.

MS/MSD analyses were performed at the proper frequency and all recoveries met criteria. Four compounds did not meet RPD criteria. All associated sample results were non-detect and would not be impacted by the implied variability.

TRIP BLANKS

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. The trip blank results were non-detect, indicating contamination during transport and storage was not an issue.

FIELD DUPLICATES

Samples were collected in duplicate as summarized in Table 1 and submitted "blind" to the laboratory for analysis. All sample results outside of estimated ranges of detection showed acceptable sampling and analytical precision.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported without qualification.

TABLE 1

SAMPLE AND ANALYSIS SUMMARY
SURFACE WATER SAMPLING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
JULY 2009

Sample I.D.	*Location I.D.*	*Matrix*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*Analysis*	*Comments*
WQ-073009-CC-001	-	Water	07/30/09	8:00	Volatiles	Trip Blank
WS-073009-JD-001	Pond Intake	Water	07/30/09	11:50	Volatiles	
WS-073009-JD-002	Pond Intake	Water	07/30/09	12:10	Volatiles	Field duplicate of WS-073009-JD-001
WS-073009-JD-003	Pond North	Water	07/30/09	12:20	Volatiles	MS/MSD

Notes:

-	Not applicable.
MS	Matrix spike.
MSD	Matrix spike duplicate.

TABLE 2

ANALYTICAL RESULTS SUMMARY
SURFACE WATER SAMPLING
GENERAL MOTORS - MLK BOULEVARD FACILITY
ANDERSON, INDIANA
JULY 2009

	Sample Location:	*Pond Intake*	*Pond Intake*	*Pond North*
	Sample ID:	*WS073009JD001*	*WS073009JD002*	*WS073009JD003*
	Sample Date:	*7/30/2009*	*7/30/2009 (Duplicate)*	*7/30/2009*
Parameters:	*Units*			
Volatile Organic Compounds				
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	50 U	50 U	50 U
2-Hexanone	µg/L	50 U	50 U	50 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	50 U	50 U	50 U
Acetone	µg/L	50 U	50 U	50 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl Bromide)	µg/L	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl Chloride)	µg/L	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
m&p-Xylene	µg/L	2.0 U	2.0 U	2.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U
o-Xylene	µg/L	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.7	1.7	1.8
Xylene (total)	µg/L	3.0 U	3.0 U	3.0 U

Notes:

U - Not present at or above the associated value.

Attachment B-4
December 2009 Data Validation

CONESTOGA-ROVERS & ASSOCIATES

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MEMORANDUM

TO:	John Bassett	REF. NO.:	017302 [17307-061013]
FROM:	Deborah Andrasko/bjw/28	DATE:	March 4, 2010
C.C.:	Shannon Richardson		E-Mail and Hard Copy if Requested

RE: **Data Quality Assessment and Validation**
Site-Wide Groundwater Monitoring
MLK Boulevard Facility
Anderson, Indiana
December 2009

INTRODUCTION

The following details a quality assessment and validation of the analytical data resulting from the collection of groundwater and quality control (QC) samples from the General Motors Vehicle Manufacturing Plant (GM) in Anderson, Indiana, in December 2009. The sample summary detailing sample identification, sample location, QC samples, and analytical parameters is presented in Table 1. Sample analyses were performed at CompuChem, in Cary, North Carolina (CompuChem), in accordance with the methodologies presented in Table 2. Summaries of the analytical results are presented in Table 3.

The QC criteria used to assess the data were established by the methods and following documents:

i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99/008, October 1999

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994

iii) Quality Assurance Project Plan (QAPP) for the Resource Conservation and Recovery Act (RCRA) Facility Investigation at GM Anderson, Indiana Facility, IND 980 700 801, Revision 2, October 14, 1997

Data assessment was based on information obtained from final data sheets, blank data, surrogate recoveries, spike recoveries, and duplicate results.

HOLDING TIME PERIOD AND SAMPLE ANALYSIS

All samples were properly preserved and cooled to 4°C (±2°C) after collection.

The holding time periods are presented in the analytical methods. All samples were prepared and analyzed within the method-required holding times, with the exception of the nitrate and nitrite analyses for one sample. The data was qualified as estimated (see Table 4).

METHOD BLANK SAMPLES

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch and results were non-detect for the analytes of interest with the exception of acetone, methylene chloride and sodium present in some of the method blanks at low concentrations. All associated results with concentrations similar to that found in the method blank were qualified as non-detect (see Table 5). Associated sample results that were either non-detect or significantly greater than the concentrations found in the method blank would not have been impacted.

SURROGATE COMPOUND PERCENT RECOVERIES

In accordance with the method employed, all samples, blanks, and standards analyzed for VOCs are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against method control limits.

All surrogate recoveries were within the laboratory generated control limits, demonstrating acceptable analytical accuracy.

LABORATORY CONTROL SAMPLE (LCS) ANALYSIS

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch. Some LCSs are prepared and analyzed in duplicate.

LCSs were prepared and analyzed for all parameters. The LCS recoveries were within the control limits for all analytes of interest, with the exception of one high acetone recovery. All associated results were non-detect and would not be impacted by the indicated high bias.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES

MS/MSD samples are prepared with all analytes of interest and analyzed with the sample batch. The recoveries of MS analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The relative percent difference (RPD) between the MS and MSD are used to assess analytical precision.

MS/MSD analyses were performed at the proper frequency and all recoveries were acceptable with the following exceptions:

i) High vinyl chloride and chloromethane recoveries were reported for sample WG-121509-MS-010. All associated results were non-detect and would not be impacted by the indicated high bias.

ii) A high 2-butanone RPD was reported for sample WG-120809-MS-006. The associated non-detect result did not require qualification based on the acceptable MS/MSD recoveries.

iii) Total hardness recoveries could not be assessed for WG-120909-JB-007 as the sample concentration was significantly higher than the spike amount.

FIELD QA/QC

The field QA/QC consisted of three equipment rinse blank samples, seven trip blank samples, and four field duplicate samples.

Trip Blanks – VOCs

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. Trip blanks were collected at the proper frequency. All results were non-detect for the analytes of interest, with the exception of some low concentrations of acetone, 2-hexanone, and methylene chloride. All associated sample results with concentrations similar to those found in the trip blanks were qualified as non-detect (see Table 6). Associated sample results that were either non-detect or significantly greater than the concentrations found in the trip blank would not have been impacted.

Equipment Rinse Blanks

Equipment rinse blanks were collected as shown in Table 1 and analyzed with the investigative samples to identify potential cross-contamination during sample collection. All results were non-detect for the analytes of interest, with the exception of some low concentrations of acetone, toluene, methylene chloride, cis-1,2-dichloroethane, some metals, chloride, dissolved organic compounds (DOC), and total organic compounds (TOC). Associated sample results with concentrations similar to the rinse blanks were qualified as non-detect (see Table 7). Some acetone and methylene results were previously qualified as non-detect based on method blank or trip blank contamination and did not require further qualification.

Field Duplicates

Samples were collected in duplicate as summarized in Table 1 and submitted "blind" to the laboratory for analysis. All sample results outside of estimated ranges of detection showed acceptable sampling and analytical precision, with the exception of trichloroethene for one of the field duplicates. The associated results were qualified as estimated based on the implied variability (see Table 8).

Special Comment

The sulfide results for samples WG-121609-JB-014, WG-121609-JB-015 and WG-121609-MS-014 were qualified as estimated due to the lack of supporting quality control samples for the analysis date.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported with the qualifications noted.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

				Analysis/Parameters												
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*TCL VOCs*	*Total Metals **	*Dissolved Manganese*	*Alkalinity (Carbonate & Bicarbonate)*	*Nitrite*	*Nitrate*	*Chloride*	*Sulfate*	*Hardness (total & carbonate)*	*Sulfide*	*TOC*	*DOC*	*Comments*
Trip Blank	-	12/03/09	16:00	X												Trip Blank
WG-120309-MS-001	MW 42	12/03/09	13:55	X												
WG-120309-JB-001	MW 41	12/03/09	14:30	X												
WG-120309-JB-002	MW 61	12/03/09	16:40	X												
WG-120409-JB-003	MW 49	12/04/09	12:50	X												
WG-120409-JB-004	MW 81	12/04/09	14:45	X												
WG-120409-MS-002	MW 28	12/04/09	11:30	X												
WG-120409-MS-003	MW 65	12/04/09	15:15	X												
WQ-120809-CC-003	-	12/08/09	8:00	X												Trip Blank
WG-120809-JB-005	MW 66	12/08/09	13:25	X												
WG-120809-JB-006	MW 80	12/08/09	16:30	X												
WG-120809-MS-004	MW 64	12/08/09	13:10	X												
WG-120809-MS-005	MW 64	12/08/09	13:12	X												Field duplicate of WG-120809-MS-004
WG-120809-MS-006	MW 83	12/08/09	17:10	X												MS/MSD
WQ-120809-CC-002	-	12/08/09	7:00	X												Equipment Blank
WG-120909-JB-007	MW 40	12/09/09	11:55	X	X	X	X	X	X	X	X	X	X	X	X	MS/MSD
WG-120909-MS-007	MW 12	12/09/09	11:50	X												
WQ-120909-CC-003	-	12/09/09	7:00	X												Trip Blank
WG-121409-JB-008	MW 51	12/14/09	15:05	X												

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

				Analysis/Parameters												
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*TCL VOCs*	*Total Metals **	*Dissolved Manganese*	*Alkalinity (Carbonate & Bicarbonate)*	*Nitrite*	*Nitrate*	*Chloride*	*Sulfate*	*Hardness (total & carbonate)*	*Sulfide*	*TOC*	*DOC*	*Comments*
WG-121409-MS-008	MW 79	12/14/09	14:55	X												
WQ-121409-CC-004	-	12/14/09	7:00	X												Trip Blank
WG-121509-JB-009	MW 31R	12/15/09	10:00	X												
WG-121509-JB-010	MW 3	12/15/09	11:55	X												
WG-121509-JB-011	MW 3	12/15/09	11:55	X												Field duplicate of WG-121509-JB-010
WG-121509-MS-009	MW 08	12/15/09	9:00	X												
WG-121509-MS-010	MW 82	12/15/09	14:40	X												
WG-121509-JB-012	MW 14	12/15/09	17:30	X												
WQ-121509-CC-005	-	12/15/09	7:00	X												Trip Blank
WG-121609-JB-013	MW 46	12/16/09	9:35	X												
WG-121609-JB-014	MW-4	12/16/09	15:30	X	X	X	X	X	X	X	X	X	X	X	X	
WG-121609-JB-015	MW-4	12/16/09	15:30	X	X	X	X	X	X	X	X	X	X	X	X	Field duplicate of WG-121609-JB-014
WG-121609-MS-011	MW 37	12/16/09	9:55	X												
WG-121609-MS-012	MW 68	12/16/09	14:50	X												
WG-121609-MS-013	MW 68	12/16/09	14:55	X												Field duplicate of WG-121609-MS-012
WG-121609-MS-014	MW 57	12/16/09	17:15	X												
WQ-121609-CC-006	-	12/16/09	8:00	X	X	X	X	X	X	X	X	X	X	X	X	Equipment Blank
WQ-121609-CC-007	-	12/16/09	7:00	X												Equipment Blank
WQ-121609-CC-008	-	12/16/09	7:00	X												Trip Blank

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

				Analysis/Parameters												
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*TCL VOCs*	*Total Metals **	*Dissolved Manganese*	*Alkalinity (Carbonate & Bicarbonate)*	*Nitrite*	*Nitrate*	*Chloride*	*Sulfate*	*Hardness (total & carbonate)*	*Sulfide*	*TOC*	*DOC*	*Comments*
WG-121709-JB-016	MW 56	12/17/09	13:20	X												
WG-121709-JB-017	MW-2	12/17/09	15:15	X												
WG-121709-MS-015	MW 58	12/17/09	14:10	X												
WG-121709-MS-016	MW 85	12/17/09	16:10	X												
WS-121709-JB-018	Pond North	12/17/09	16:25	X												
WS-121709-JB-019	Pond Intake	12/17/09	16:40	X												
WQ-121709-CC-009	-	12/17/09	7:00	X												Trip Blank

Notes:

* - Calcium, iron, magnesium, potassium, and sodium.
DOC - Dissolved Organic Carbon.
MS - Matrix Spike.
MSD - Matrix Spike Duplicate.
TCL - Target Compound List.
TOC - Total Organic Carbon.
VOCs - Volatile Organic Compounds.

TABLE 2

SUMMARY OF ANALYTICAL METHODOLOGIES
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

Parameter	*Method*
TCL Volatiles	SW-846 8260 [1]
Dissolved Manganese	SW-846 6010B [1]
Metals, total	SW-846 6010B [1]
Dissolved Organic Carbon	SW-846 9060 [1]
Total Organic Carbon	SW-846 9060 [1]
Alkalinity, carbonate	310.2 [2]
Alkalinity, bicarbonate	310.2 [2]
Hardness, total and carbonate	130.1 [2]
Nitrite	300.0 [2]
Nitrate	300.0 [2]
Sulfate	300.0 [2]
Chloride	300.0 [2]
Sulfide	SM 4500-S [3]

Notes:

1 "Test Methods for Solid Waste Physical/Chemical Methods", SW-846, 3rd Edition, September 1986 (with subsequent revisions).

2 "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-220, March 1983 (with all subsequent revisions).

3 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, with all subsequent revisions.

TCL Target Compound List.

TABLE 3

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

	Sample Location:	MW 3	MW 3	MW 8	MW 12	MW 14	MW 28	MW 37
	Sample ID:	WG-121509-JB-010	WG-121509-JB-011	WG-121509-MS-009	WG-120909-MS-007	WG-121509-JB-012	WG-120409-MS-002	WG-121609-MS-011
	Sample Date:	12/15/2009	12/15/2009 (Duplicate)	12/15/2009	12/9/2009	12/15/2009	12/4/2009	12/16/2009
Parameters	*Units*							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	1100	1100	7.1 U	13 U	10 U	6.3 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
1,1,2-Trichloroethane	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
1,1-Dichloroethane	µg/L	220	230	3.8 J	2.8 J	7.8 J	6.3 U	1.0 U
1,1-Dichloroethene	µg/L	56 J	54 J	1.6 J	3.9 J	2.5 J	6.3 U	1.0 U
1,2-Dichloroethane	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
1,2-Dichloropropane	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10000 U	10000 U	360 U	630 U	500 U	310 U	50 U
2-Hexanone	µg/L	10000 U	10000 U	360 U	630 U	500 U	310 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10000 U	10000 U	360 U	630 U	500 U	310 U	50 U
Acetone	µg/L	10000 U	10000 U	360 U	42 J	500 U	310 U	50 U
Benzene	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Bromodichloromethane	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Bromoform	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Carbon disulfide	µg/L	1000 U	1000 U	36 U	63 U	50 U	31 U	5.0 U
Carbon tetrachloride	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Chlorobenzene	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Chloroethane	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Chloroform (Trichloromethane)	µg/L	68 J	64 J	7.1 U	13 U	10 U	6.3 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
cis-1,2-Dichloroethene	µg/L	2400	2300	240	420	330	6.3 U	1.0 U
cis-1,3-Dichloropropene	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Dibromochloromethane	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Ethylbenzene	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
m&p-Xylene	µg/L	420 U	420 U	14 U	25 U	20 U	13 U	2.0 U
Methylene chloride	µg/L	1000 U	1000 U	36 U	63 U	50 U	31 U	5.0 U
o-Xylene	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Styrene	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Tetrachloroethene	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
Toluene	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U
trans-1,2-Dichloroethene	µg/L	39 J	36 J	2.4 J	8.9 J	4.1 J	6.3 U	1.0 U
trans-1,3-Dichloropropene	µg/L	210 U	210 U	7.1 U	13 U	10 U	6.3 U	1.0 U

TABLE 3

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

Parameters	Units	Sample Location: MW 3 Sample ID: WG-121509-JB-010 Sample Date: 12/15/2009	MW 3 WG-121509-JB-011 12/15/2009 (Duplicate)	MW 8 WG-121509-MS-009 12/15/2009	MW 12 WG-120909-MS-007 12/9/2009	MW 14 WG-121509-JB-012 12/15/2009	MW 28 WG-120409-MS-002 12/4/2009	MW 37 WG-121609-MS-011 12/16/2009
Volatile Organic Compounds (Cont'd.)								
Trichloroethene	µg/L	8300	8000	46	24	5.4 J	6.3 U	1.0 U
Vinyl chloride	µg/L	340	400	27	13 U	8.7 J	170	1.0 U
Xylene (total)	µg/L	620 U	620 U	21 U	38 U	30 U	19 U	3.0 U
Metals								
Calcium	µg/L	-	-	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	-	-
Magnesium	µg/L	-	-	-	-	-	-	-
Manganese (dissolved)	µg/L	-	-	-	-	-	-	-
Potassium	µg/L	-	-	-	-	-	-	-
Sodium	µg/L	-	-	-	-	-	-	-
General Chemistry								
Alkalinity, bicarbonate	mg/L	-	-	-	-	-	-	-
Alkalinity, carbonate	mg/L	-	-	-	-	-	-	-
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-
Chloride	mg/L	-	-	-	-	-	-	-
Dissolved organic carbon (DOC)	mg/L	-	-	-	-	-	-	-
Hardness	mg/L	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-
Nitrate (as N)	mg/L	-	-	-	-	-	-	-
Nitrite (as N)	mg/L	-	-	-	-	-	-	-
Sulfate	mg/L	-	-	-	-	-	-	-
Sulfide	mg/L	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-

TABLE 3

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

	Sample Location:	MW 40	MW 41	MW 42	MW 46	MW 49	MW 51	MW 56
	Sample ID:	WG-120909-JB-007	WG-120309-JB-001	WG-120309-MS-001	WG-121609-JB-013	WG-120409-JB-003	WG-121409-JB-008	WG-121709-JB-016
	Sample Date:	12/9/2009	12/3/2009	12/3/2009	12/16/2009	12/4/2009	12/14/2009	12/17/2009
Parameters	*Units*							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	250 U	250 U	250 U	0.21 J	1.0 U	1.0 J	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
1,1,2-Trichloroethane	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
1,1-Dichloroethane	µg/L	630	44 J	120 J	1.0 U	2.2	8.3 U	1.0 U
1,1-Dichloroethene	µg/L	100 J	31 J	56 J	1.0 U	0.31 J	8.3 U	1.0 U
1,2-Dichloroethane	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
1,2-Dichloropropane	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	13000 U	13000 U	13000 U	50 U	50 U	420 U	50 U
2-Hexanone	µg/L	13000 U	13000 U	13000 U	50 U	50 U	420 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	13000 U	13000 U	13000 U	50 U	50 U	420 U	50 U
Acetone	µg/L	13000 U	13000 U	13000 U	50 U	50 U	420 U	50 U
Benzene	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Bromodichloromethane	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Bromoform	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Carbon disulfide	µg/L	1300 U	1300 U	1300 U	5.0 U	5.0 U	42 U	5.0 U
Carbon tetrachloride	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Chlorobenzene	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Chloroethane	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Chloroform (Trichloromethane)	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
cis-1,2-Dichloroethene	µg/L	13000	8400	8100	1.0 U	440	11	1.0 U
cis-1,3-Dichloropropene	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Dibromochloromethane	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Ethylbenzene	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
m&p-Xylene	µg/L	500 U	500 U	500 U	2.0 U	2.0 U	17 U	2.0 U
Methylene chloride	µg/L	1300 U	1300 U	1300 U	5.0 U	5.0 U	42 U	5.0 U
o-Xylene	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Styrene	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Tetrachloroethene	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
Toluene	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U
trans-1,2-Dichloroethene	µg/L	320	230 J	450	1.0 U	8.3	8.3 U	1.0 U
trans-1,3-Dichloropropene	µg/L	250 U	250 U	250 U	1.0 U	1.0 U	8.3 U	1.0 U

TABLE 3

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

	Sample Location:	MW 40	MW 41	MW 42	MW 46	MW 49	MW 51	MW 56
	Sample ID:	WG-120909-JB-007	WG-120309-JB-001	WG-120309-MS-001	WG-121609-JB-013	WG-120409-JB-003	WG-121409-JB-008	WG-121709-JB-016
	Sample Date:	12/9/2009	12/3/2009	12/3/2009	12/16/2009	12/4/2009	12/14/2009	12/17/2009
Parameters	*Units*							
Volatile Organic Compounds (Cont'd.)								
Trichloroethene	µg/L	250 U	250 U	250 U	0.18 J	0.70 J	300	1.0 U
Vinyl chloride	µg/L	2100	390	200 J	1.0 U	70	8.3 U	1.0 U
Xylene (total)	µg/L	750 U	750 U	750 U	3.0 U	3.0 U	25 U	3.0 U
Metals								
Calcium	µg/L	124000	-	-	-	-	-	-
Iron	µg/L	2750	-	-	-	-	-	-
Magnesium	µg/L	38700	-	-	-	-	-	-
Manganese (dissolved)	µg/L	101	-	-	-	-	-	-
Potassium	µg/L	4870 J	-	-	-	-	-	-
Sodium	µg/L	30500	-	-	-	-	-	-
General Chemistry								
Alkalinity, bicarbonate	mg/L	355	-	-	-	-	-	-
Alkalinity, carbonate	mg/L	10.0 U	-	-	-	-	-	-
Alkalinity, total (as CaCO3)	mg/L	356	-	-	-	-	-	-
Chloride	mg/L	73	-	-	-	-	-	-
Dissolved organic carbon (DOC)	mg/L	1.6	-	-	-	-	-	-
Hardness	mg/L	487	-	-	-	-	-	-
Hardness, carbonate	mg/L	356	-	-	-	-	-	-
Nitrate (as N)	mg/L	0.25 UJ	-	-	-	-	-	-
Nitrite (as N)	mg/L	0.25 UJ	-	-	-	-	-	-
Sulfate	mg/L	89	-	-	-	-	-	-
Sulfide	mg/L	1.00 U	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	1.6	-	-	-	-	-	-

TABLE 3

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

	Sample Location:	*MW 57*	*MW 58*	*MW 61*	*MW 64*	*MW 64*	*MW 65*	*MW 66*
	Sample ID:	*WG-121609-MS-014*	*WG-121709-MS-015*	*WG-120309-JB-002*	*WG-120809-MS-004*	*WG-120809-MS-005*	*WG-120409-MS-003*	*WG-120809-JB-005*
	Sample Date:	*12/16/2009*	*12/17/2009*	*12/3/2009*	*12/8/2009*	*12/8/2009 (Duplicate)*	*12/4/2009*	*12/8/2009*
Parameters	*Units*							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	3.1 U	1.0 U	0.46 J	0.57 J	78	0.71 J
1,1-Dichloroethene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	50 U	160 U	50 U	50 U	50 U	2500 U	50 U
2-Hexanone	µg/L	50 U	160 U	50 U	50 U	50 U	2500 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	50 U	160 U	50 U	50 U	50 U	2500 U	50 U
Acetone	µg/L	50 U	160 U	50 U	50 U	50 U	2500 U	50 U
Benzene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Bromoform	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Carbon disulfide	µg/L	5.0 U	16 U	5.0 U	5.0 U	5.0 U	250 U	5.0 U
Carbon tetrachloride	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Chlorobenzene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Chloroethane	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	3.1 U	1.0 U	0.14 J	0.14 J	1400	4.8
cis-1,3-Dichloropropene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Ethylbenzene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
m&p-Xylene	µg/L	2.0 U	6.3 U	2.0 U	2.0 U	2.0 U	100 U	2.0 U
Methylene chloride	µg/L	5.0 U	16 U	5.0 U	5.0 U	5.0 U	250 U	5.0 U
o-Xylene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Styrene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
Toluene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	52	0.47 J
trans-1,3-Dichloropropene	µg/L	1.0 U	3.1 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U

TABLE 3

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

Parameters	Units	Sample Location: MW 57 Sample ID: WG-121609-MS-014 Sample Date: 12/16/2009	MW 58 WG-121709-MS-015 12/17/2009	MW 61 WG-120309-JB-002 12/3/2009	MW 64 WG-120809-MS-004 12/8/2009	MW 64 WG-120809-MS-005 12/8/2009 (Duplicate)	MW 65 WG-120409-MS-003 12/4/2009	MW 66 WG-120809-JB-005 12/8/2009
Volatile Organic Compounds (Cont'd.)								
Trichloroethene	µg/L	1.0 U	3.1 U	1.0 U	0.11 J	0.14 J	50 U	1.0 U
Vinyl chloride	µg/L	1.6	110	1.0 U	10	13	670	23
Xylene (total)	µg/L	3.0 U	9.4 U	3.0 U	3.0 U	3.0 U	150 U	3.0 U
Metals								
Calcium	µg/L	136000	-	-	-	-	-	-
Iron	µg/L	2270	-	-	-	-	-	-
Magnesium	µg/L	33600	-	-	-	-	-	-
Manganese (dissolved)	µg/L	258	-	-	-	-	-	-
Potassium	µg/L	1560 J	-	-	-	-	-	-
Sodium	µg/L	12300	-	-	-	-	-	-
General Chemistry								
Alkalinity, bicarbonate	mg/L	369	-	-	-	-	-	-
Alkalinity, carbonate	mg/L	10.0 U	-	-	-	-	-	-
Alkalinity, total (as CaCO3)	mg/L	372	-	-	-	-	-	-
Chloride	mg/L	19 U	-	-	-	-	-	-
Dissolved organic carbon (DOC)	mg/L	5.2	-	-	-	-	-	-
Hardness	mg/L	521	-	-	-	-	-	-
Hardness, carbonate	mg/L	372	-	-	-	-	-	-
Nitrate (as N)	mg/L	0.25 U	-	-	-	-	-	-
Nitrite (as N)	mg/L	0.25 U	-	-	-	-	-	-
Sulfate	mg/L	100	-	-	-	-	-	-
Sulfide	mg/L	1.00 UJ	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	4.0	-	-	-	-	-	-

TABLE 3

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

	Sample Location:	MW 68	MW 68	MW 80	MW 81	MW 82	MW 83	MW 85
	Sample ID:	WG-121609-MS-012	WG-121609-MS-013	WG-120809-JB-006	WG-120409-JB-004	WG-121509-MS-010	WG-120809-MS-006	WG-121709-MS-016
	Sample Date:	12/16/2009	12/16/2009 (Duplicate)	12/8/2009	12/4/2009	12/15/2009	12/8/2009	12/17/2009
Parameters	*Units*							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
1,1,2,2-Tetrachloroethane	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
1,1,2-Trichloroethane	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
1,1-Dichloroethane	µg/L	310	310	1.0 U	1.0 U	1.0 U	1.0 U	17 U
1,1-Dichloroethene	µg/L	58 J	65 J	1.0 U	1.0 U	1.0 U	1.0 U	17 U
1,2-Dichloroethane	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
1,2-Dichloropropane	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	13000 U	13000 U	50 U	50 U	50 U	50 U	830 U
2-Hexanone	µg/L	13000 U	13000 U	50 U	50 U	50 U	50 U	830 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	13000 U	13000 U	50 U	50 U	50 U	50 U	830 U
Acetone	µg/L	580 J	700 J	50 U	50 U	50 U	50 U	830 U
Benzene	µg/L	250 U	250 U	1.0 U	1.0 U	0.14 J	1.0 U	17 U
Bromodichloromethane	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Bromoform	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Bromomethane (Methyl bromide)	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Carbon disulfide	µg/L	1300 U	1300 U	5.0 U	5.0 U	5.0 U	5.0 U	83 U
Carbon tetrachloride	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Chlorobenzene	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Chloroethane	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Chloroform (Trichloromethane)	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Chloromethane (Methyl chloride)	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
cis-1,2-Dichloroethene	µg/L	8400	8700	1.0 U	0.60 J	1.0 U	1.0 U	17 U
cis-1,3-Dichloropropene	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Dibromochloromethane	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Ethylbenzene	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
m&p-Xylene	µg/L	500 U	500 U	2.0 U	2.0 U	2.0 U	2.0 U	33 U
Methylene chloride	µg/L	1300 U	1300 U	5.0 U	5.0 U	5.0 U	5.0 U	83 U
o-Xylene	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Styrene	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Tetrachloroethene	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Toluene	µg/L	250 U	250 U	1.0 U	1.0 U	0.15 J	1.0 U	17 U
trans-1,2-Dichloroethene	µg/L	200 J	220 J	1.0 U	1.0 U	1.0 U	1.0 U	17 U
trans-1,3-Dichloropropene	µg/L	250 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	17 U

TABLE 3

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

Parameters	Units	Sample Location: MW 68 Sample ID: WG-121609-MS-012 Sample Date: 12/16/2009	Sample Location: MW 68 Sample ID: WG-121609-MS-013 Sample Date: 12/16/2009 (Duplicate)	Sample Location: MW 80 Sample ID: WG-120809-JB-006 Sample Date: 12/8/2009	Sample Location: MW 81 Sample ID: WG-120409-JB-004 Sample Date: 12/4/2009	Sample Location: MW 82 Sample ID: WG-121509-MS-010 Sample Date: 12/15/2009	Sample Location: MW 83 Sample ID: WG-120809-MS-006 Sample Date: 12/8/2009	Sample Location: MW 85 Sample ID: WG-121709-MS-016 Sample Date: 12/17/2009
Volatile Organic Compounds (Cont'd.)								
Trichloroethene	µg/L	2300	2400	1.0 U	1.0 U	1.0 U	1.0 U	17 U
Vinyl chloride	µg/L	220 J	230 J	69	26	1.0 U	1.0 U	760
Xylene (total)	µg/L	750 U	750 U	3.0 U	3.0 U	3.0 U	3.0 U	50 U
Metals								
Calcium	µg/L	-	-	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	-	-
Magnesium	µg/L	-	-	-	-	-	-	-
Manganese (dissolved)	µg/L	-	-	-	-	-	-	-
Potassium	µg/L	-	-	-	-	-	-	-
Sodium	µg/L	-	-	-	-	-	-	-
General Chemistry								
Alkalinity, bicarbonate	mg/L	-	-	-	-	-	-	-
Alkalinity, carbonate	mg/L	-	-	-	-	-	-	-
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-
Chloride	mg/L	-	-	-	-	-	-	-
Dissolved organic carbon (DOC)	mg/L	-	-	-	-	-	-	-
Hardness	mg/L	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-
Nitrate (as N)	mg/L	-	-	-	-	-	-	-
Nitrite (as N)	mg/L	-	-	-	-	-	-	-
Sulfate	mg/L	-	-	-	-	-	-	-
Sulfide	mg/L	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-

TABLE 3

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

	Sample Location:	*MW 31R*	*MW 79*	*MW-2*	*MW-4*	*MW-4*	*Pond Intake*	*Pond North*
	Sample ID:	*WG-121509-JB-009*	*WG-121409-MS-008*	*WG-121709-JB-017*	*WG-121609-JB-014*	*WG-121609-JB-015*	*WS-121709-JB-019*	*WS-121709-JB-018*
	Sample Date:	*12/15/2009*	*12/14/2009*	*12/17/2009*	*12/16/2009*	*12/16/2009 (Duplicate)*	*12/17/2009*	*12/17/2009*
Parameters	*Units*							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
1,1,2,2-Tetrachloroethane	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
1,1,2-Trichloroethane	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
1,1-Dichloroethane	µg/L	570	8.1 J	1.0 U	780	670	1.0 U	17 U
1,1-Dichloroethene	µg/L	47 J	8.5 J	1.0 U	160 J	130 J	1.0 U	17 U
1,2-Dichloroethane	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
1,2-Dichloropropane	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	16000 U	2500 U	50 U	13000 U	13000 U	50 U	830 U
2-Hexanone	µg/L	16000 U	2500 U	50 U	13000 U	13000 U	50 U	830 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	16000 U	2500 U	50 U	13000 U	13000 U	50 U	830 U
Acetone	µg/L	16000 U	2500 U	50 U	670 J	610 J	50 U	830 U
Benzene	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Bromodichloromethane	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Bromoform	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Bromomethane (Methyl bromide)	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Carbon disulfide	µg/L	1600 U	250 U	5.0 U	1300 U	1300 U	5.0 U	83 U
Carbon tetrachloride	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Chlorobenzene	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Chloroethane	µg/L	56 J	10 J	1.0 U	250 U	250 U	1.0 U	17 U
Chloroform (Trichloromethane)	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Chloromethane (Methyl chloride)	µg/L	310 U	50 U	1.0 U	250 U	250 U	0.18 J	17 U
cis-1,2-Dichloroethene	µg/L	11000	1500	1.0 U	16000	16000	1.0 U	11 J
cis-1,3-Dichloropropene	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Dibromochloromethane	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Ethylbenzene	µg/L	550	50 U	1.0 U	250 U	250 U	1.0 U	17 U
m&p-Xylene	µg/L	910	100 U	2.0 U	500 U	500 U	2.0 U	33 U
Methylene chloride	µg/L	1600 U	250 U	5.0 U	1300 U	1300 U	5.0 U	83 U
o-Xylene	µg/L	700	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Styrene	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Tetrachloroethene	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U
Toluene	µg/L	2000	50 U	1.0 U	250 U	250 U	1.0 U	17 U
trans-1,2-Dichloroethene	µg/L	75 J	83	1.0 U	720	610	1.0 U	17 U
trans-1,3-Dichloropropene	µg/L	310 U	50 U	1.0 U	250 U	250 U	1.0 U	17 U

TABLE 3

ANALYTICAL RESULTS SUMMARY
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

Parameters	Units	Sample Location: MW 31R Sample ID: WG-121509-JB-009 Sample Date: 12/15/2009	Sample Location: MW 79 Sample ID: WG-121409-MS-008 Sample Date: 12/14/2009	Sample Location: MW-2 Sample ID: WG-121709-JB-017 Sample Date: 12/17/2009	Sample Location: MW-4 Sample ID: WG-121609-JB-014 Sample Date: 12/16/2009	Sample Location: MW-4 Sample ID: WG-121609-JB-015 Sample Date: 12/16/2009 (Duplicate)	Sample Location: Pond Intake Sample ID: WS-121709-JB-019 Sample Date: 12/17/2009	Sample Location: Pond North Sample ID: WS-121709-JB-018 Sample Date: 12/17/2009
Volatile Organic Compounds (Cont'd.)								
Trichloroethene	µg/L	2300	50 U	1.0 U	360 J	69 J	1.0 U	17 U
Vinyl chloride	µg/L	700	270	1.0 U	1200	970	1.5	500
Xylene (total)	µg/L	1700	150 U	3.0 U	750 U	750 U	3.0 U	50 U
Metals								
Calcium	µg/L	-	-	-	137000	126000	-	-
Iron	µg/L	-	-	-	689	613	-	-
Magnesium	µg/L	-	-	-	38000	35100	-	-
Manganese (dissolved)	µg/L	-	-	-	318	314	-	-
Potassium	µg/L	-	-	-	2560 J	2380 J	-	-
Sodium	µg/L	-	-	-	39400	36500	-	-
General Chemistry								
Alkalinity, bicarbonate	mg/L	-	-	-	405	398	-	-
Alkalinity, carbonate	mg/L	-	-	-	10.0 U	10.0 U	-	-
Alkalinity, total (as CaCO3)	mg/L	-	-	-	407	400	-	-
Chloride	mg/L	-	-	-	63	59	-	-
Dissolved organic carbon (DOC)	mg/L	-	-	-	2.0 U	2.1 U	-	-
Hardness	mg/L	-	-	-	532	521	-	-
Hardness, carbonate	mg/L	-	-	-	407	400	-	-
Nitrate (as N)	mg/L	-	-	-	0.25 U	0.63	-	-
Nitrite (as N)	mg/L	-	-	-	0.25 U	0.25 U	-	-
Sulfate	mg/L	-	-	-	90	91	-	-
Sulfide	mg/L	-	-	-	1.00 UJ	1.00 UJ	-	-
Total organic carbon (TOC)	mg/L	-	-	-	2.1 U	2.2 U	-	-

Notes:

- - Not analyzed.
J - Estimated concentration.
U - Not present at or above the associated value.
UJ - Estimated reporting limit.

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO HOLDING TIME EXCEEDANCES
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

Parameter	*Sample ID*	*Holding Time (days)*	*Holding Time Criteria (days)*	*Qualified Sample Results*	*Units*
Nitrate (as N)	WG-120909-JB-007	52	48	0.25 UJ	mg/L
Nitrite (as N)	WG-120909-JB-007	52	48	0.25 UJ	mg/L

Notes:

UJ Not detected, estimated reporting limit.

TABLE 5

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

Parameter	*Analysis Date*	*Analyte*	*Blank Result **	*Sample ID*	*Qualified Sample Result*	*Units*
Volatiles	12/17/09	Acetone	23	WG-121409-JB-008	420 U	µg/L
			145	WG-121409-MS-008	2500 U	µg/L
			910	WG-121509-JB-009	16000 U	µg/L
			600	WG-121509-JB-010	10000 U	µg/L
			600	WG-121509-JB-011	10000 U	µg/L
			29	WG-121509-JB-012	500 U	µg/L
			20	WG-121509-MS-009	360 U	µg/L
			2.9	WG-121509-MS-010	50 U	µg/L
Volatiles	12/17/09	Methylene chloride	1.8	WG-121409-JB-008	42 U	µg/L
			12	WG-121409-MS-008	250 U	µg/L
			72	WG-121509-JB-009	1600 U	µg/L
			48	WG-121509-JB-010	1000 U	µg/L
			48	WG-121509-JB-011	1000 U	µg/L
			23	WG-121509-JB-012	50 U	µg/L
Volatiles	12/17/09	Methylene chloride	275	WG-120909-JB-007	1300 U	µg/L

Notes:

* - Blank result adjusted for sample factors.
U - Not detected.

TABLE 6

QUALIFIED SAMPLE DATA DUE TO ANALYTE CONCENTRATIONS IN THE TRIP BLANK
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

Parameter	*Blank Date*	*Analyte*	*Blank Result*	*Associated Sample ID*	*Qualified Sample Result*	*Units*
Volatiles	12/15/09	Acetone	3.8 J	WG-121509-MS-010	50 U	µg/L
	12/17/09	Acetone	3.2 J	WS-121709-JB-019	50 U	µg/L
				WG-121709-JB-016	50 U	µg/L
				WG-121709-JB-017	50 U	µg/L
Volatiles	12/16/09	Acetone	3.1 J	WG-121609-JB-013	50 U	µg/L
				WG-121609-MS-011	50 U	µg/L
				WG-121609-MS-014	50 U	µg/L
Volatiles	12/14/09	Acetone	3.5 J	WG-121409-JB-008	420 U	µg/L

Notes:

J - Estimated.
U - Not detected.

TABLE 7

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE RINSE BLANKS
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

Parameter	*Rinse Blank Date*	*Analyte*	*Blank Result*	*Sample ID*	*Qualified Sample Result*	*Units*
Volatiles	12/16/09	cis-1,2-Dichloroethene	0.42 J	WG-121609-JB-013	1.0 U	µg/L
				WG-121609-MS-011	1.0 U	µg/L
General Chemistry	12/16/09	Chloride	4.0	WG-121609-MS-014	19 U	mg/L
		Dissolved organic carbon (DOC)	0.58	WG-121609-JB-014	2.0 U	mg/L
				WG-121609-JB-015	2.1 U	mg/L
		Total organic carbon (TOC)	0.59	WG-121609-JB-014	2.1 U	mg/L
				WG-121609-JB-015	2.2 U	mg/L

Notes:

J Estimated.
U Not detected.

TABLE 8

QUALIFIED SAMPLE RESULTS DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS
SITE-WIDE GROUNDWATER MONITORING
MLK BOULEVARD FACILITY
ANDERSON, INDIANA
DECEMBER 2009

Parameter	*Analyte*	*Original Sample ID*	*Qualified Sample Result*	*Duplicate Sample ID*	*Qualified Sample Result*	*RPD*	*Units*
Volatiles	Trichloroethene	WG-121609-JB-014	360 J	WG-121609-JB-015	69 J	136	µg/L

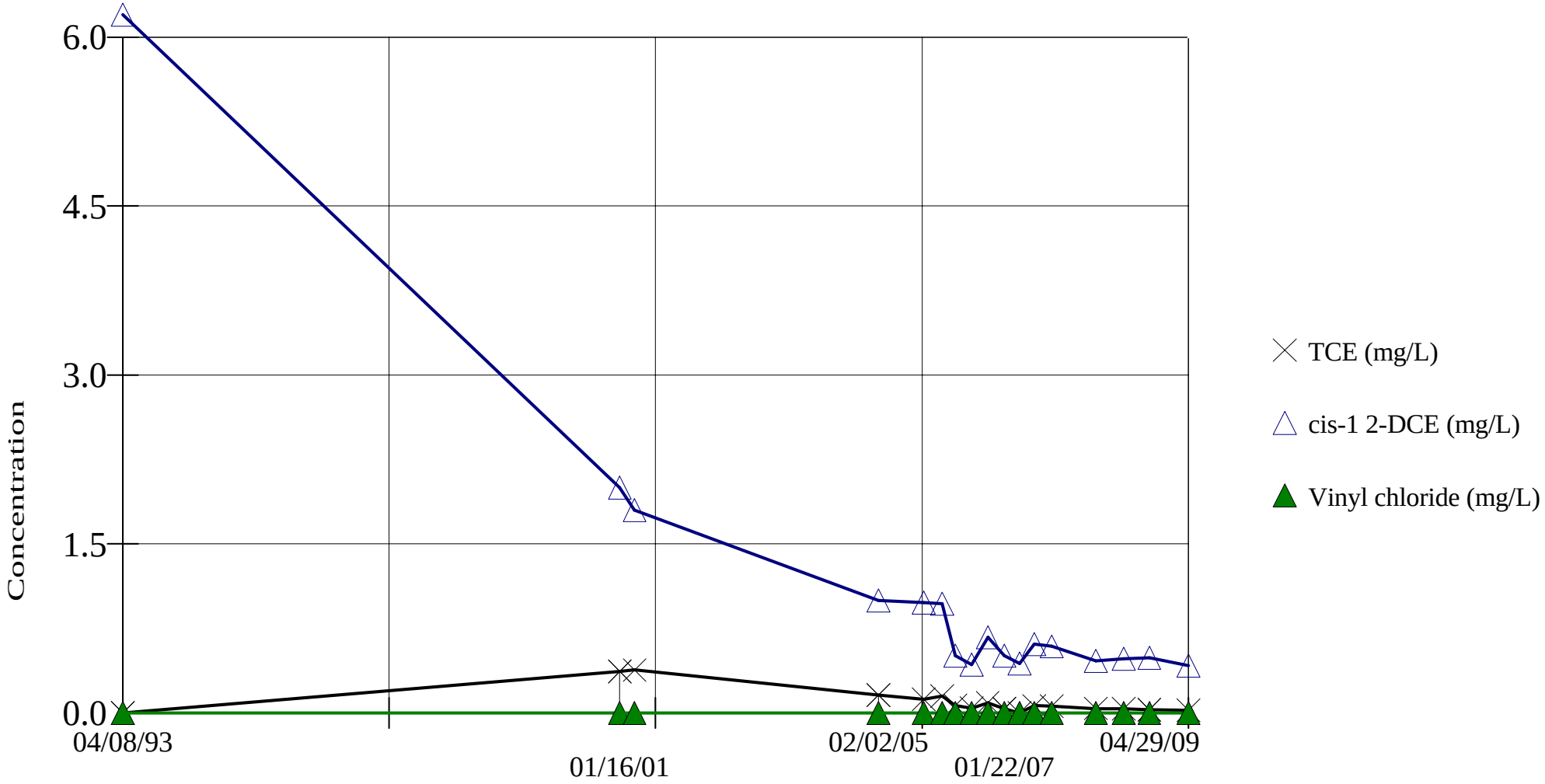
Notes:

J Estimated.
RPD Relative percent difference.

Attachment C
Statistical Analysis

Attachment C-1
Time Series Plots

TIME SERIES
MW12



Constituent: Multiple

Facility: MLC MLK

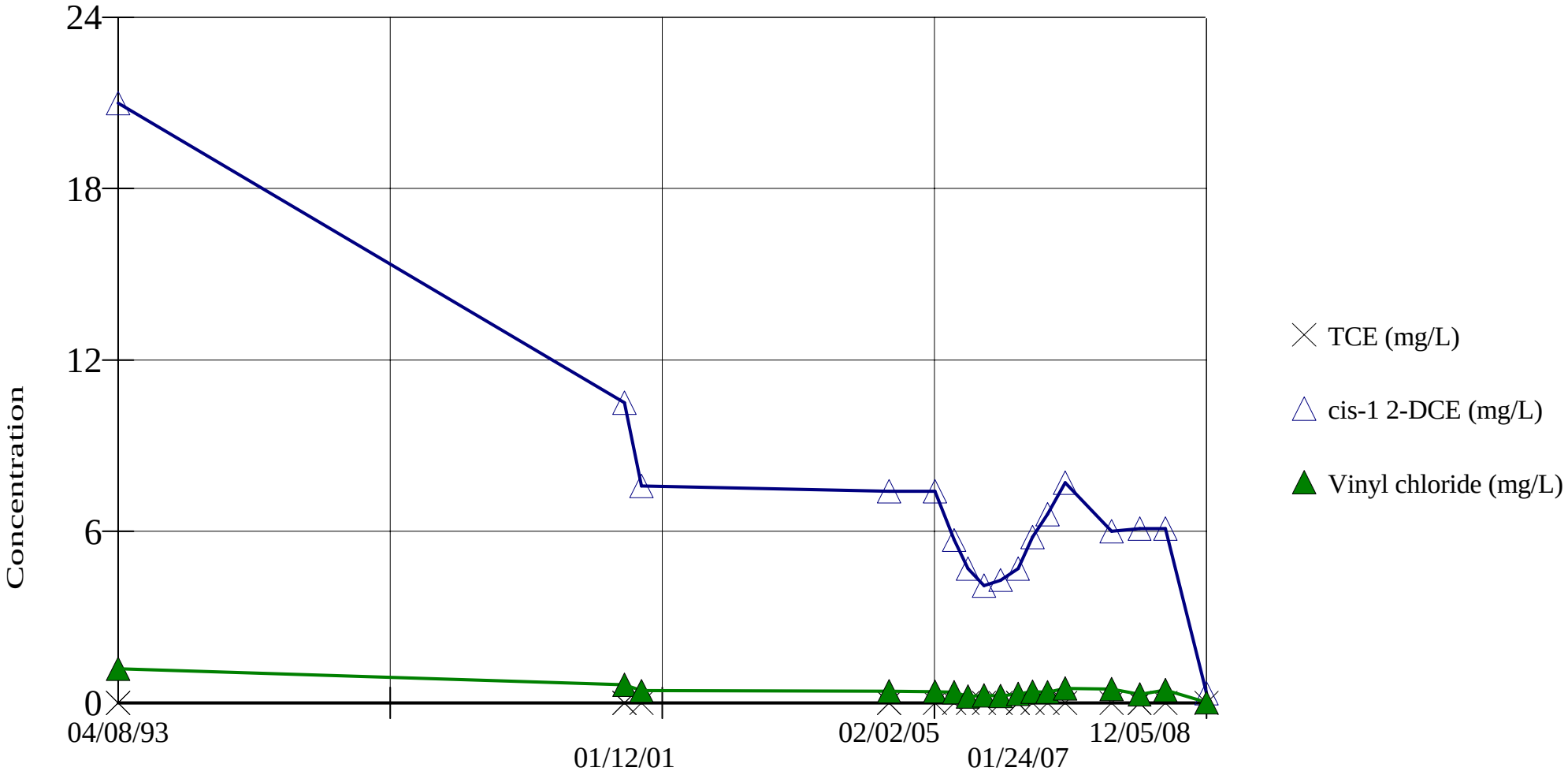
Data File: MLC2009

Date: 3/2/10

Time: 8:55 AM

View: alldata

TIME SERIES
MW14



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Facility: MLC MLK

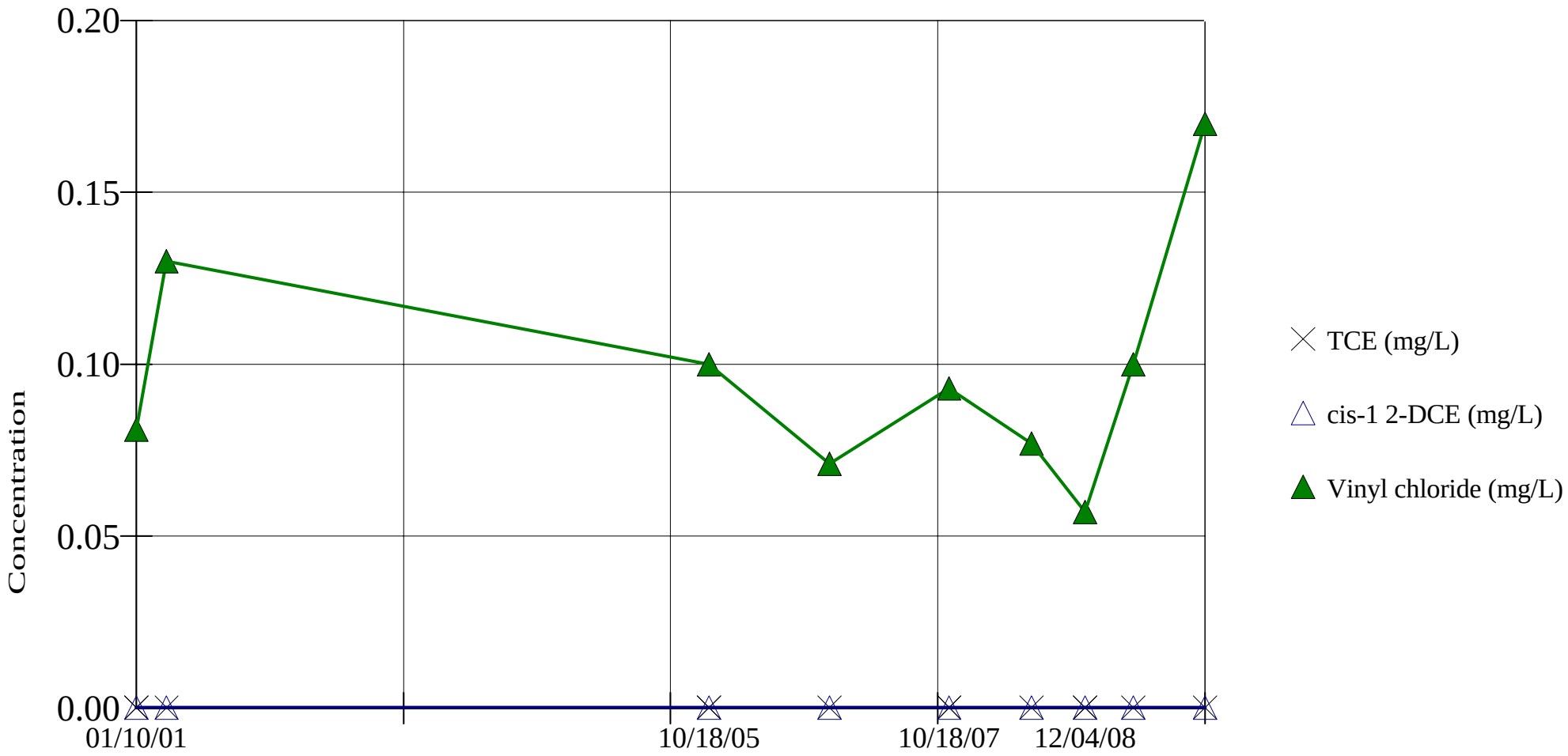
Data File: MLC2009

Date: 3/2/10

Time: 8:58 AM

View: alldata

TIME SERIES
MW28



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Facility: MLC MLK

Data File: MLC2009

Date: 3/2/10

Time: 9:31 AM

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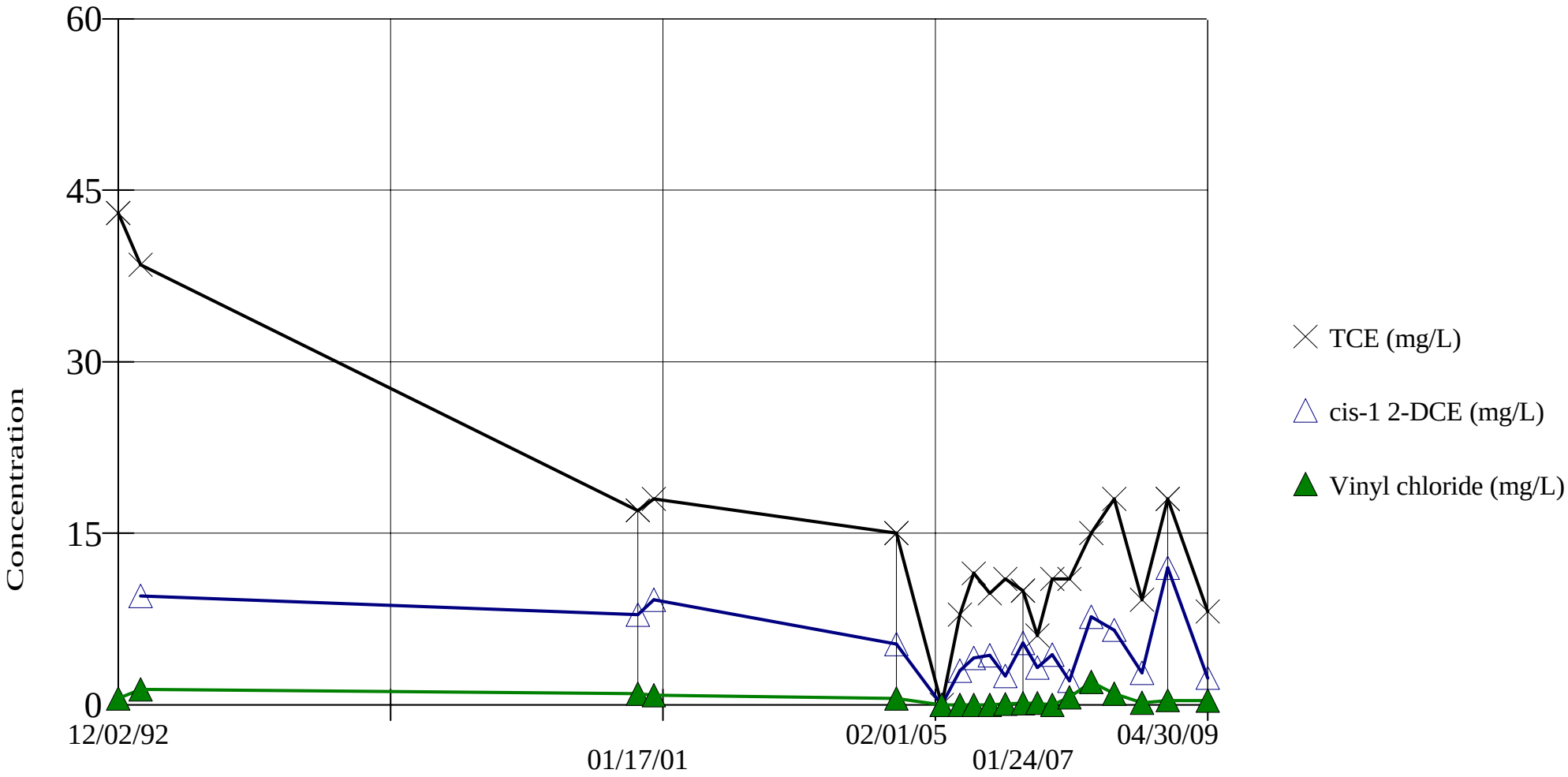
TIME SERIES
MW3



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Facility: MLC MLK

Data File: MLC2009

Date: 3/2/10

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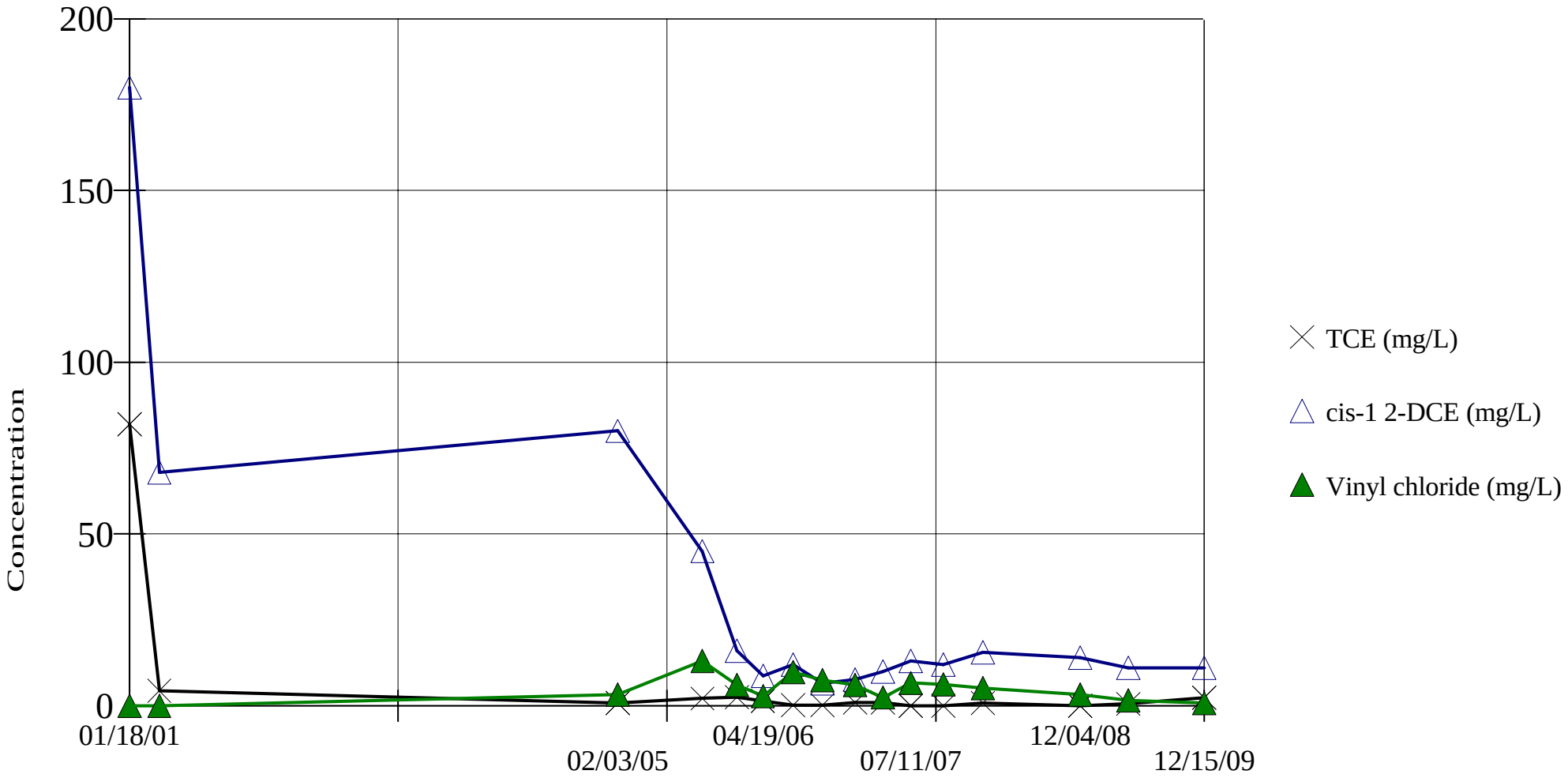
TIME SERIES
MW31/31R



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Facility: MLC MLK

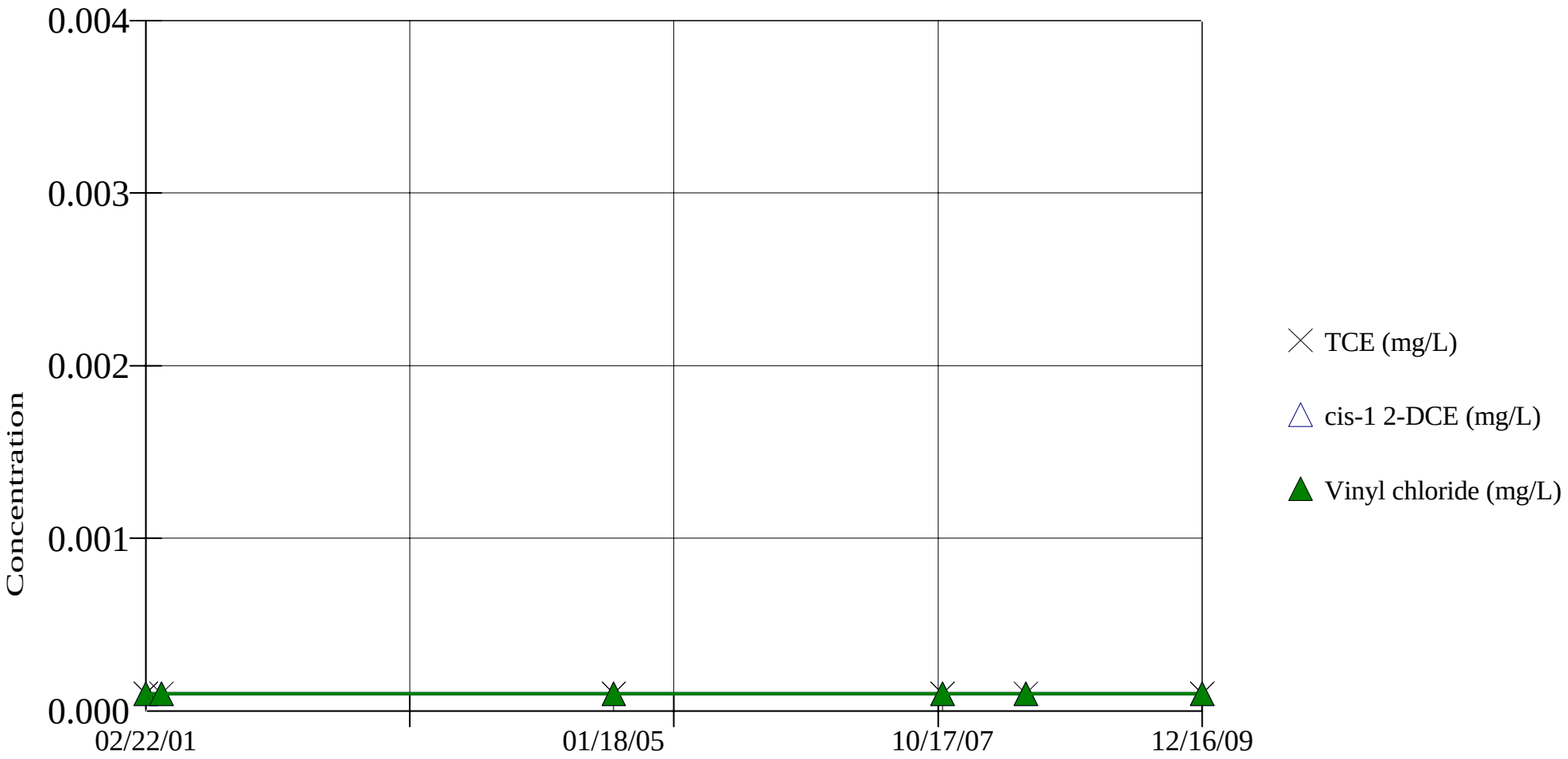
Data File: MLC2009

Date: 3/2/10

Time: 9:37 AM

View: alldata

TIME SERIES
MW37



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Data File: MLC2009

Date: 3/2/10

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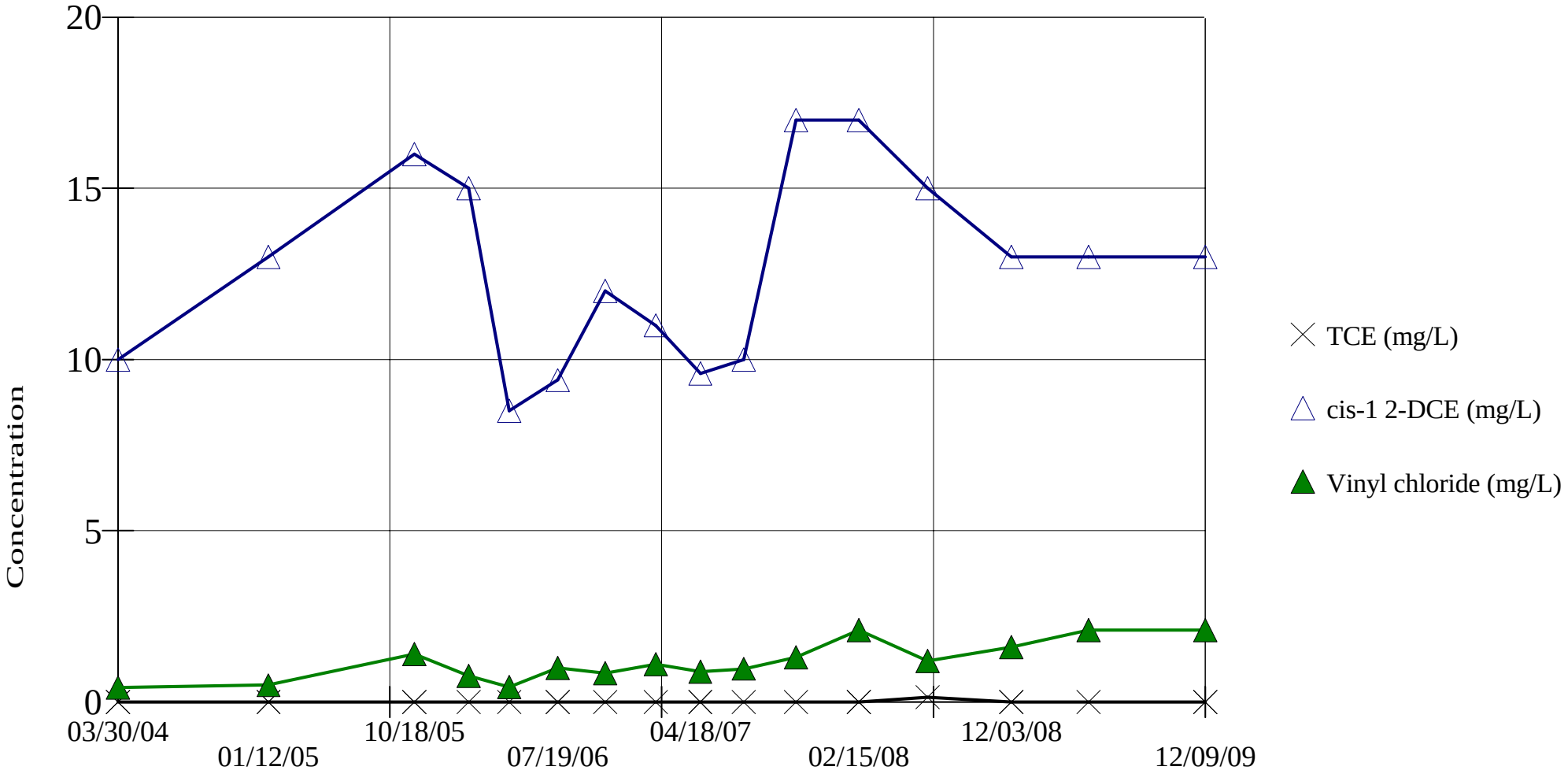
TIME SERIES
MW40



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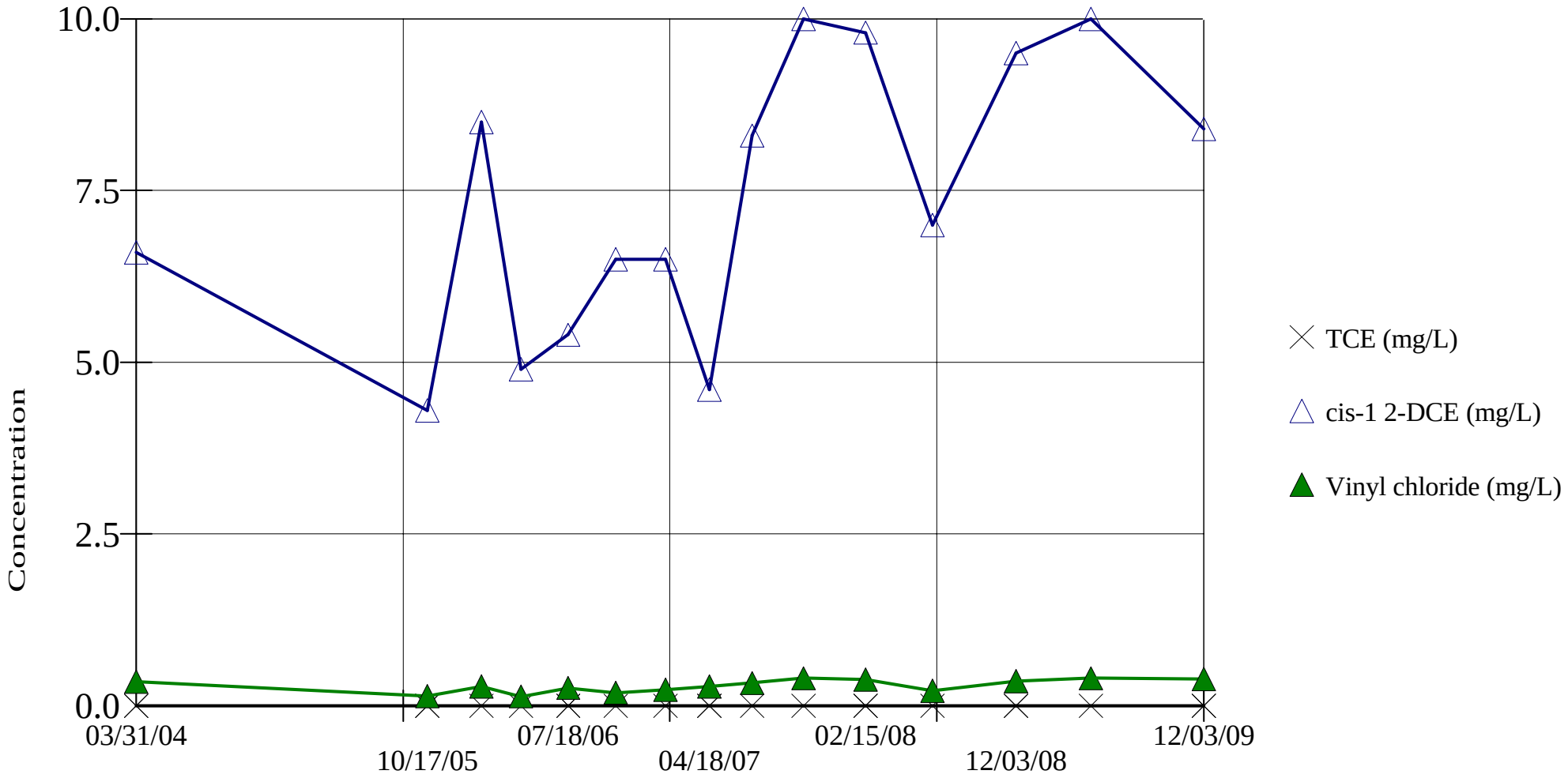
TIME SERIES
MW41



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Data File: MLC2009

Date: 3/2/10

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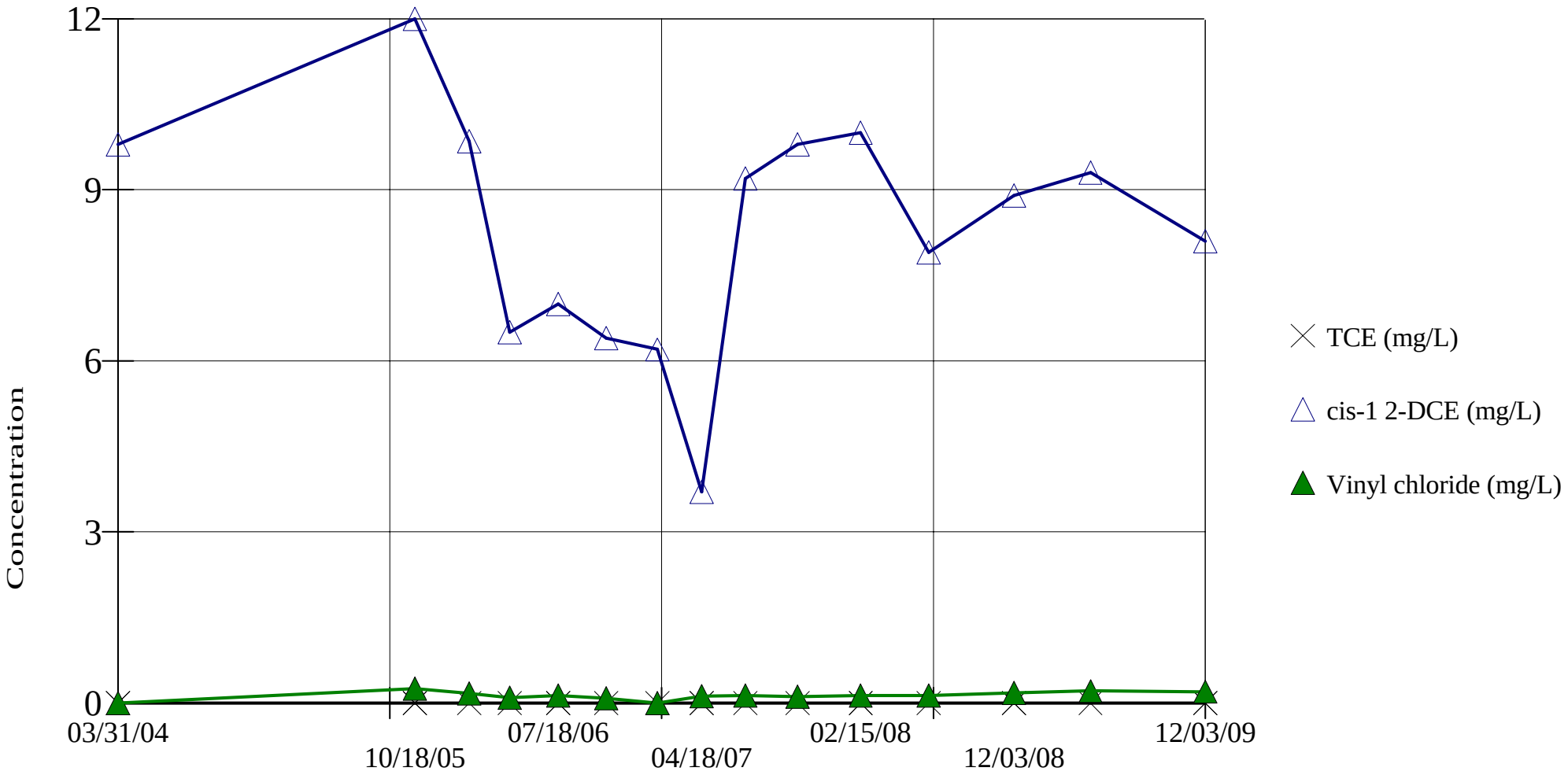
View: alldata

TIME SERIES
MW42



Constituent: Multiple

Facility: MLC MLK

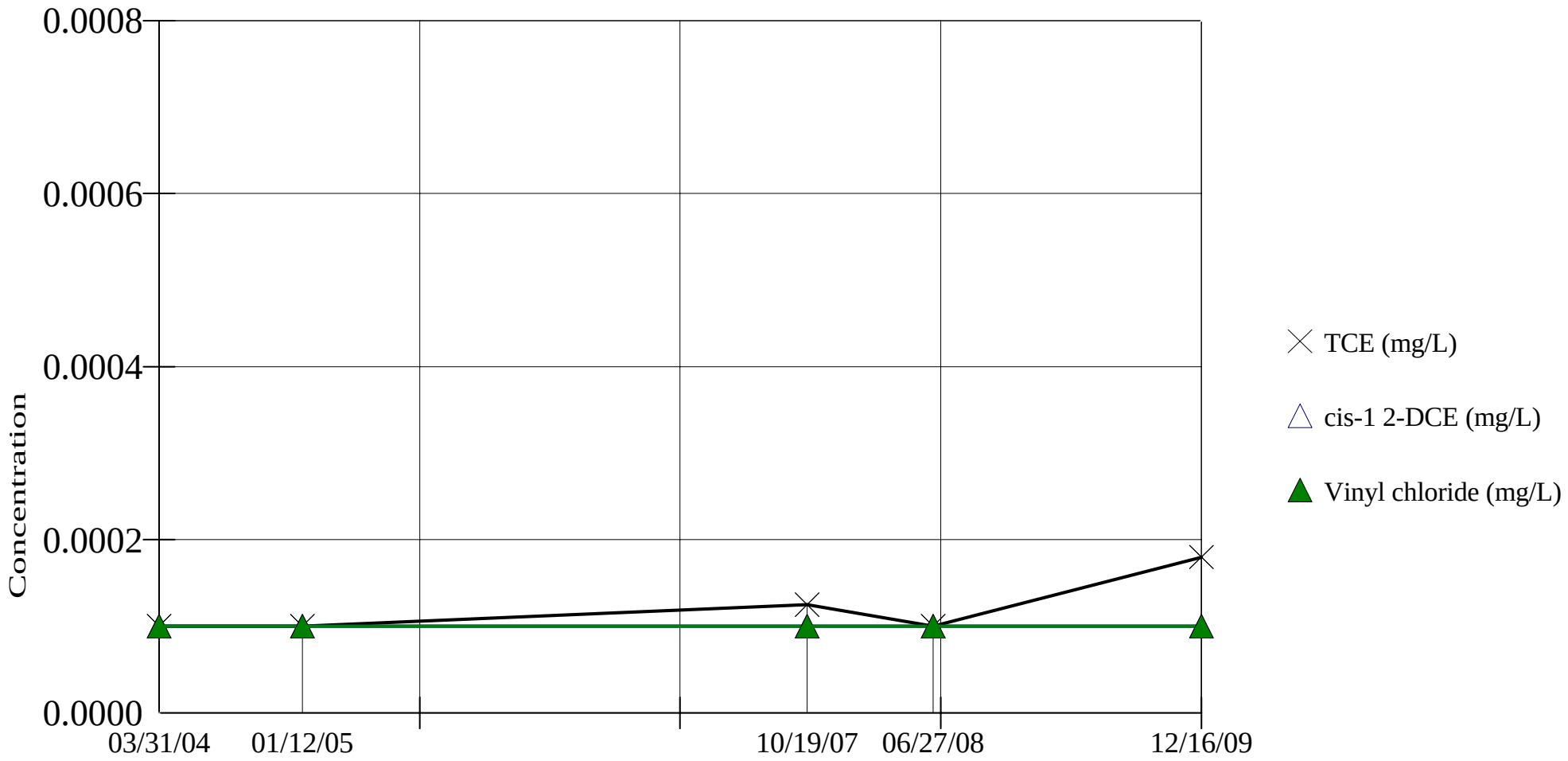
Data File: MLC2009

Date: 3/2/10

Time: 9:47 AM

View: alldata

TIME SERIES
MW46



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Data File: MLC2009

Date: 3/2/10

Time: 9:49 AM

View: alldata

TIME SERIES
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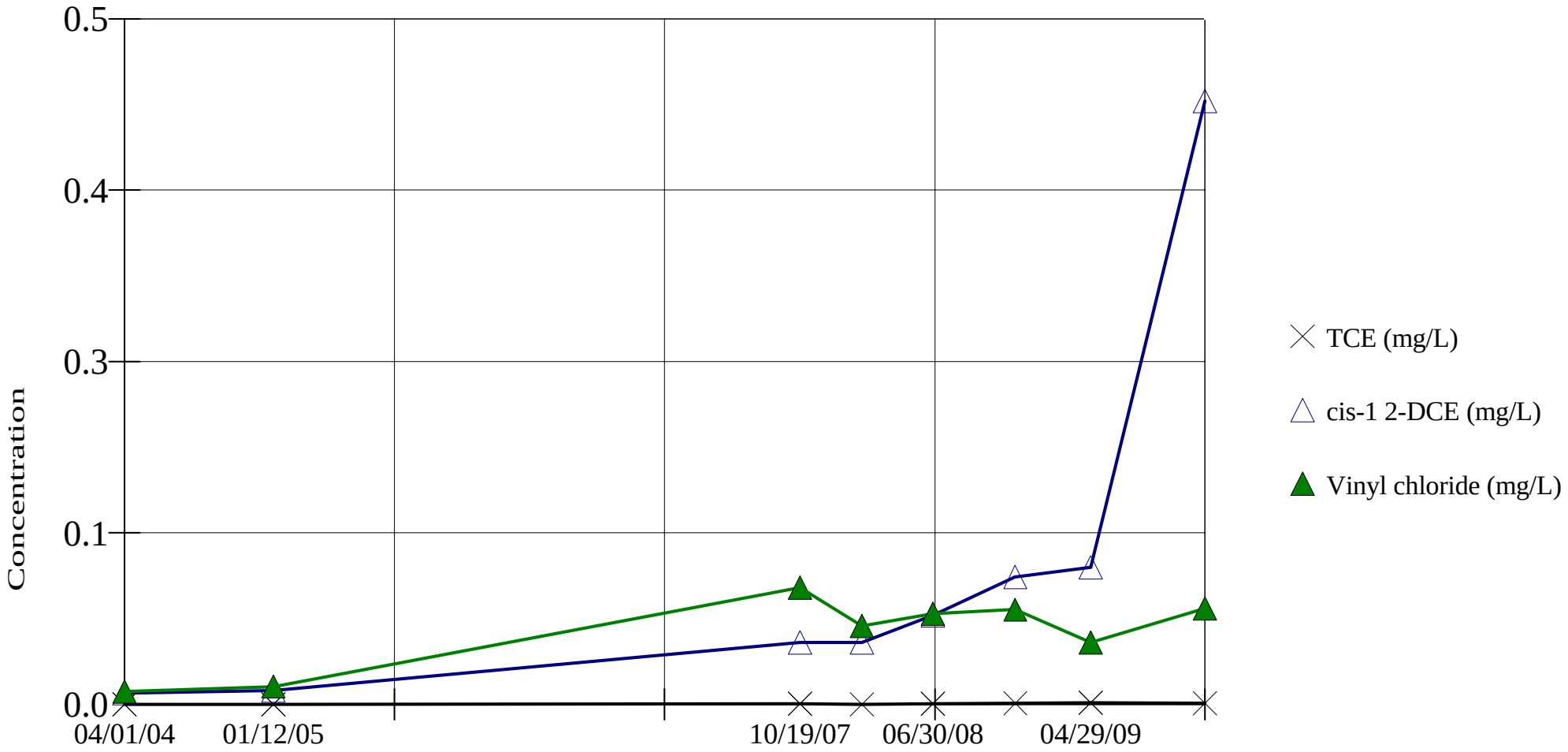

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Facility: MLC MLK

Data File: MLC2009

Date: 3/2/10

Time: 9:55 AM

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TIME SERIES
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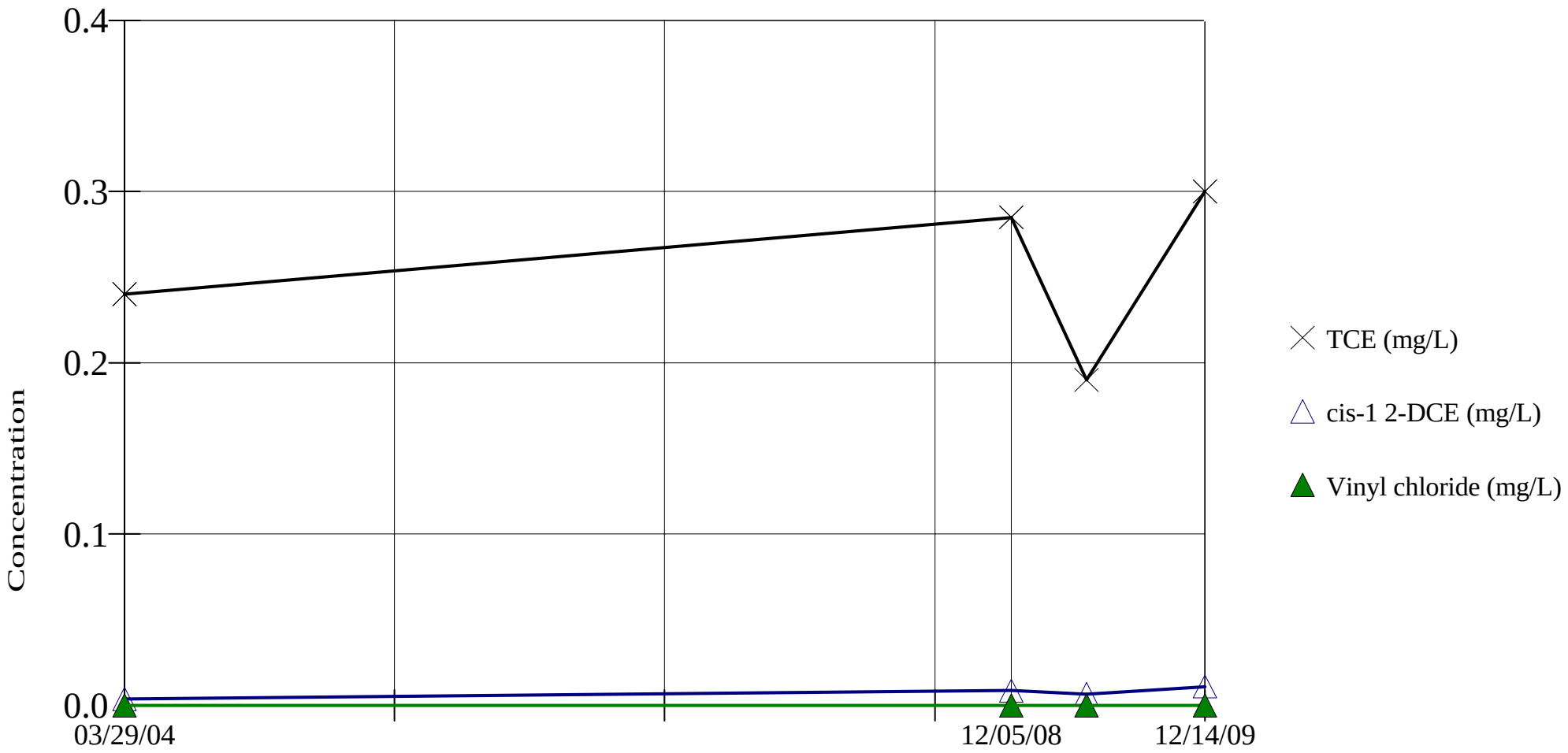

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Data File: MLC2009

Date: 3/2/10

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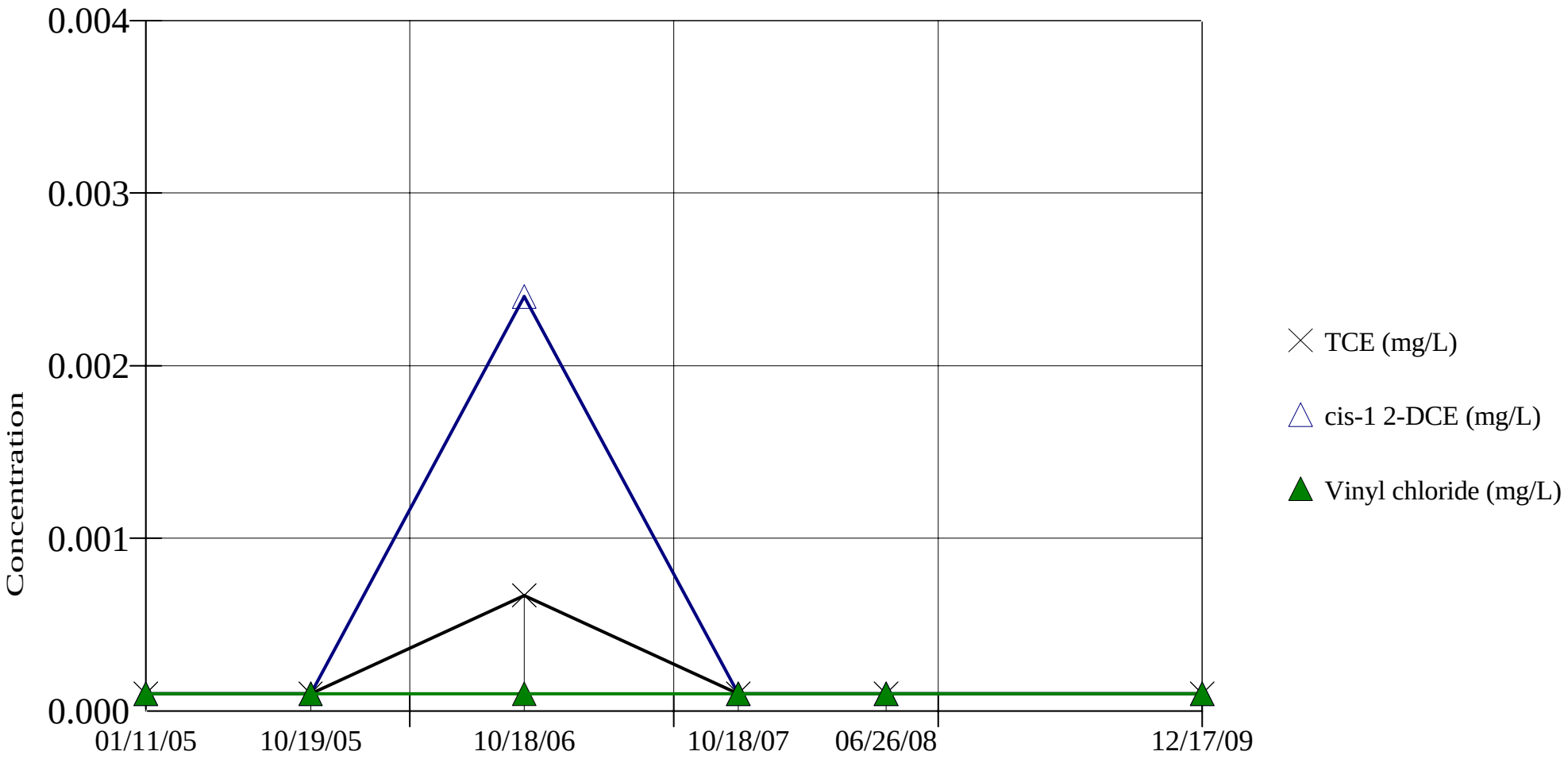
TIME SERIES
MW56



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Data File: MLC2009

Date: 3/2/10

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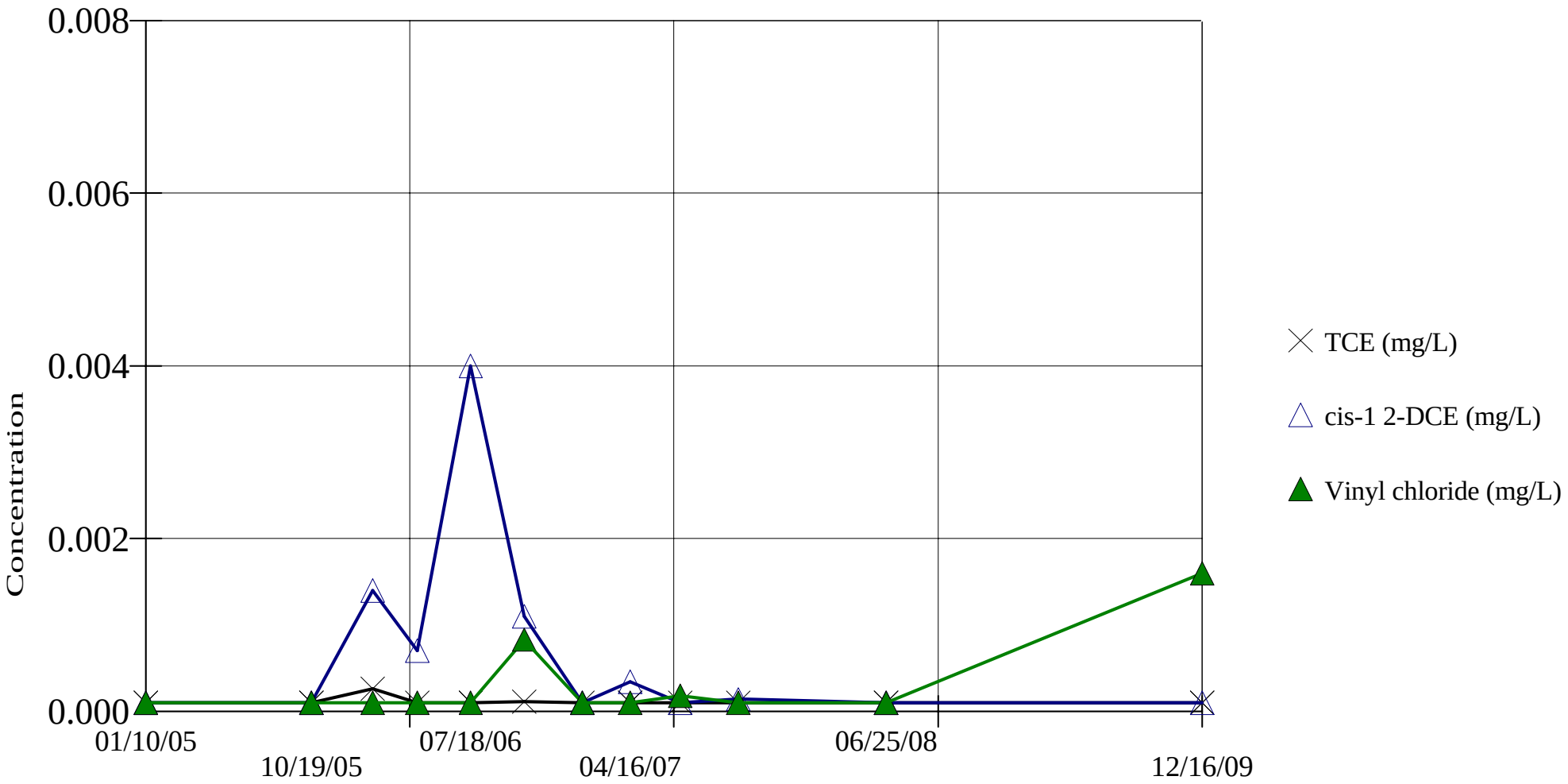
TIME SERIES
MW57



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Facility: MLC MLK

Data File: MLC2009

Date: 3/2/10

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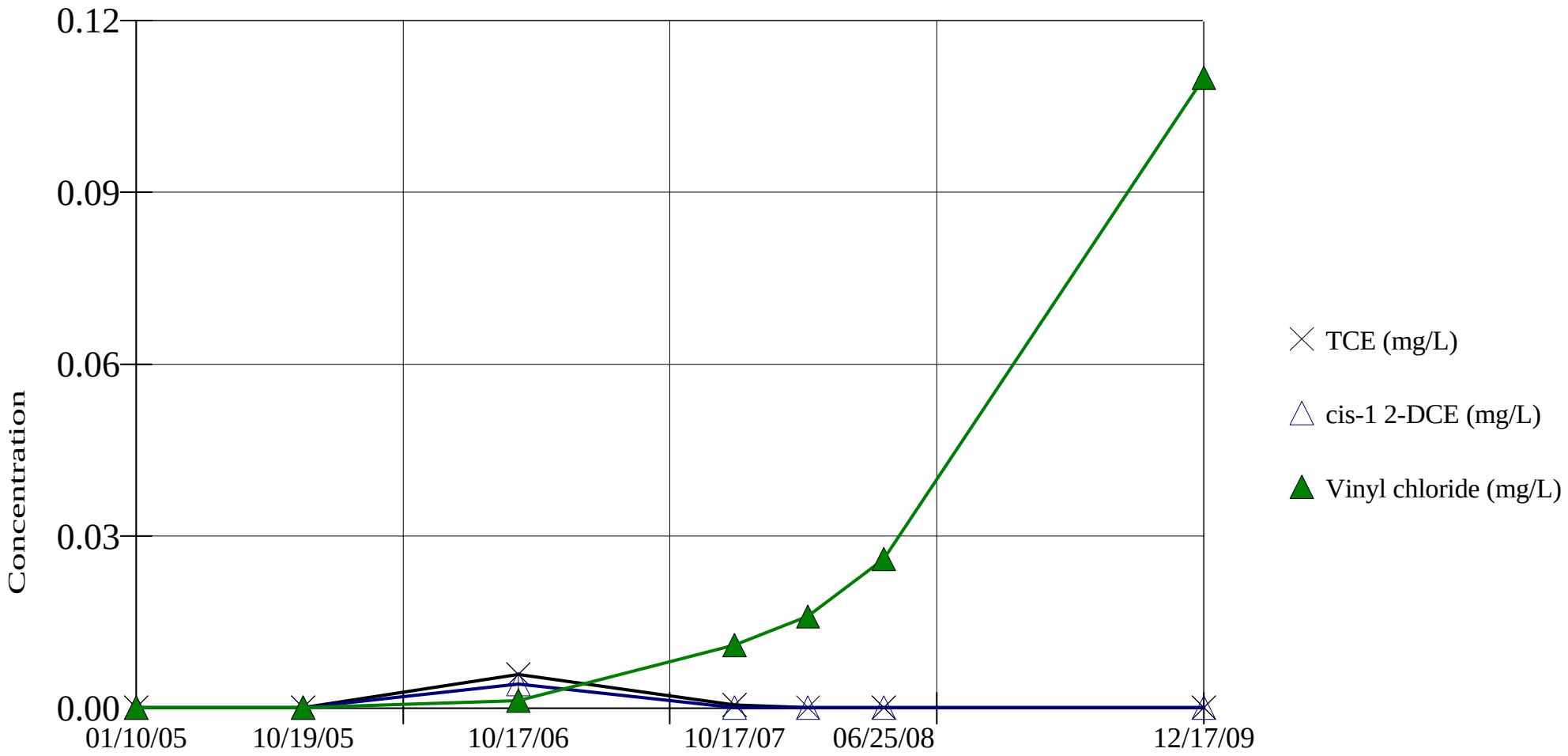
View: alldata

TIME SERIES
MW58



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Facility: MLC MLK

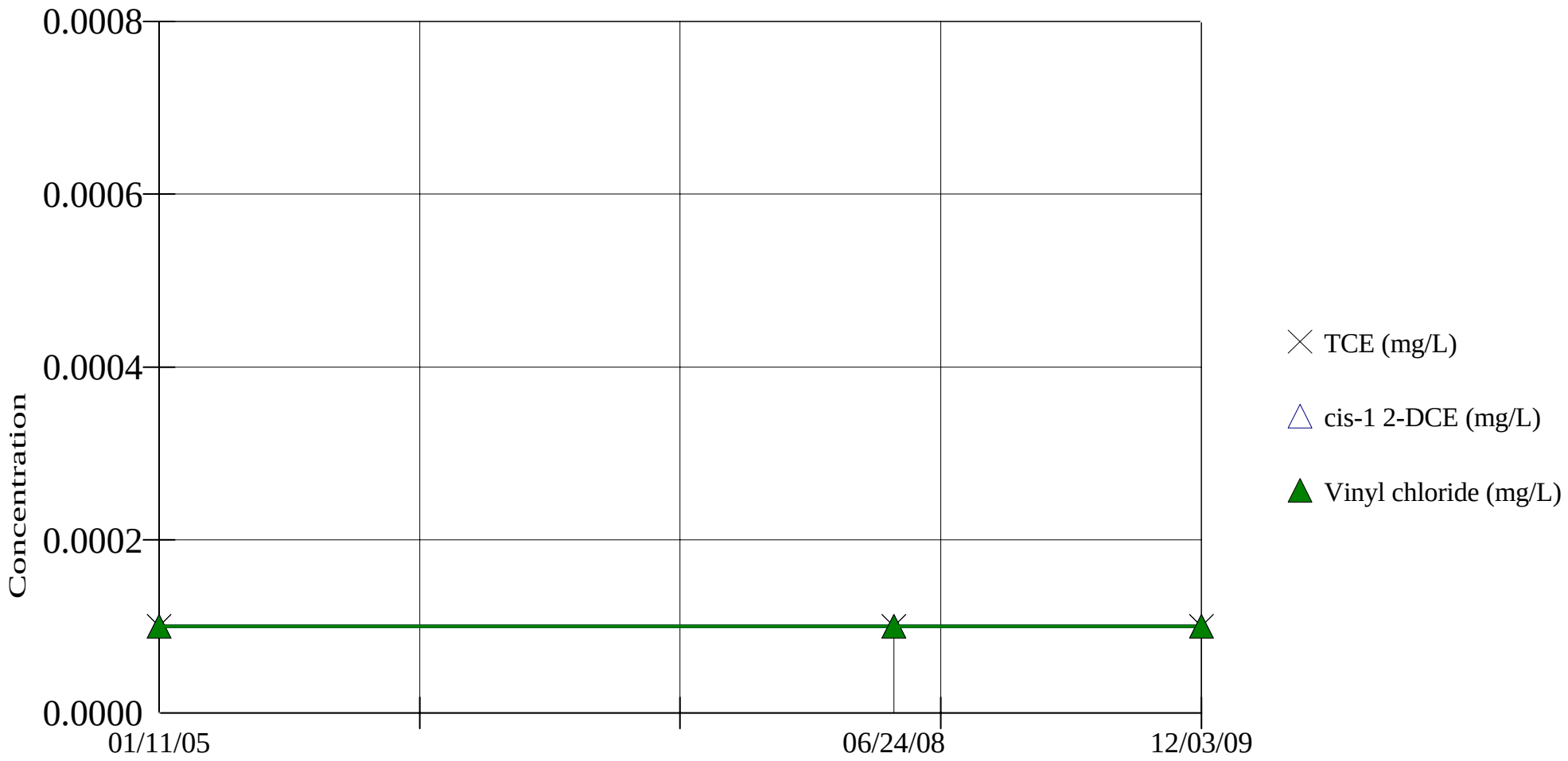
Data File: MLC2009

Date: 3/2/10

Time: 10:15 AM

View: alldata

TIME SERIES
MW61



Constituent: Multiple

Facility: MLC MLK

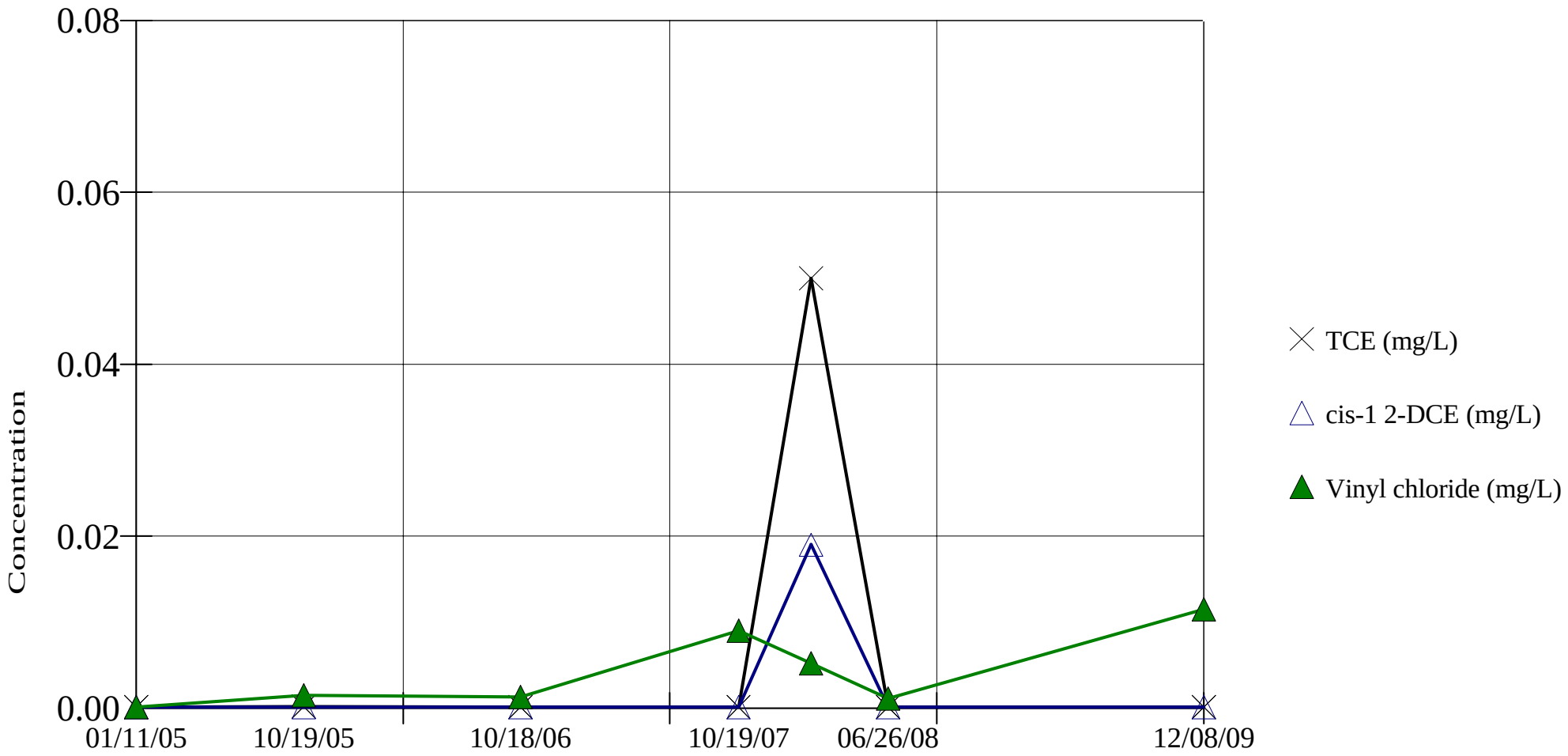
Data File: MLC2009

Date: 3/2/10

Time: 10:18 AM

View: alldata

TIME SERIES
MW64



Constituent: Multiple

Facility: MLC MLK

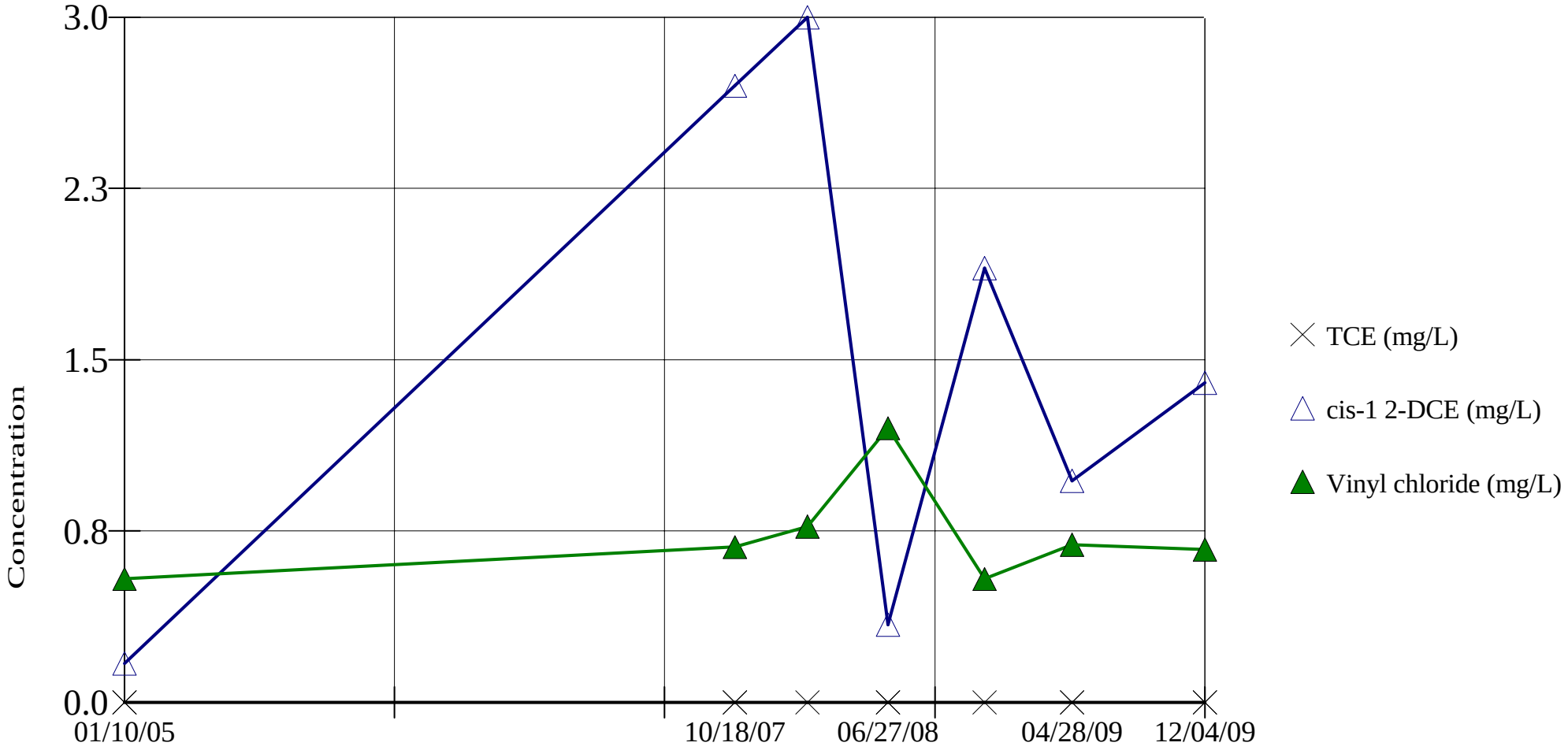
Data File: MLC2009

Date: 3/2/10

Time: 11:01 AM

View: alldata

TIME SERIES
MW65



Constituent: Multiple

Facility: MLC MLK

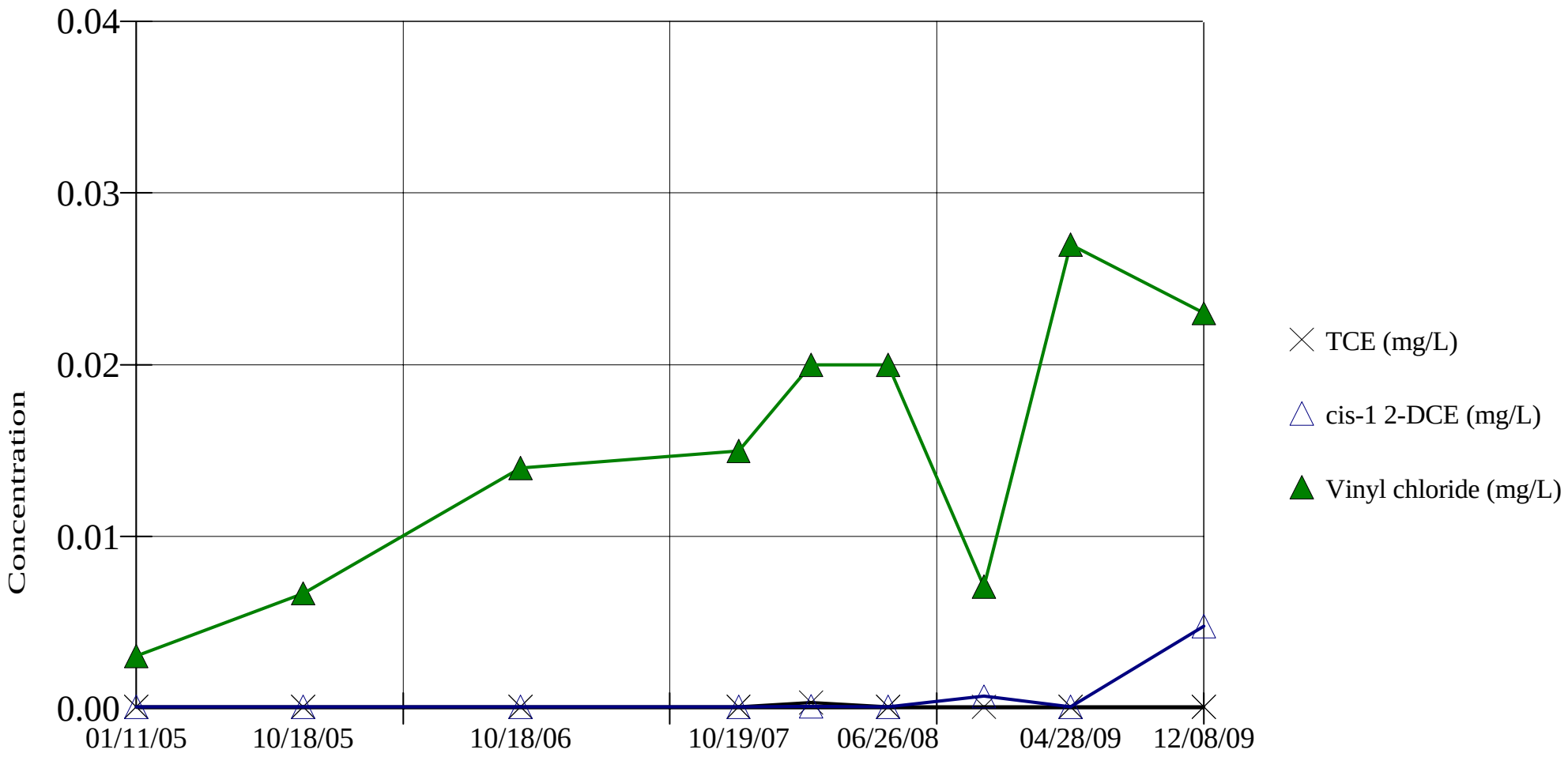
Data File: MLC2009

Date: 3/2/10

Time: 11:03 AM

View: alldata

TIME SERIES
MW66



Constituent: Multiple

Facility: MLC MLK

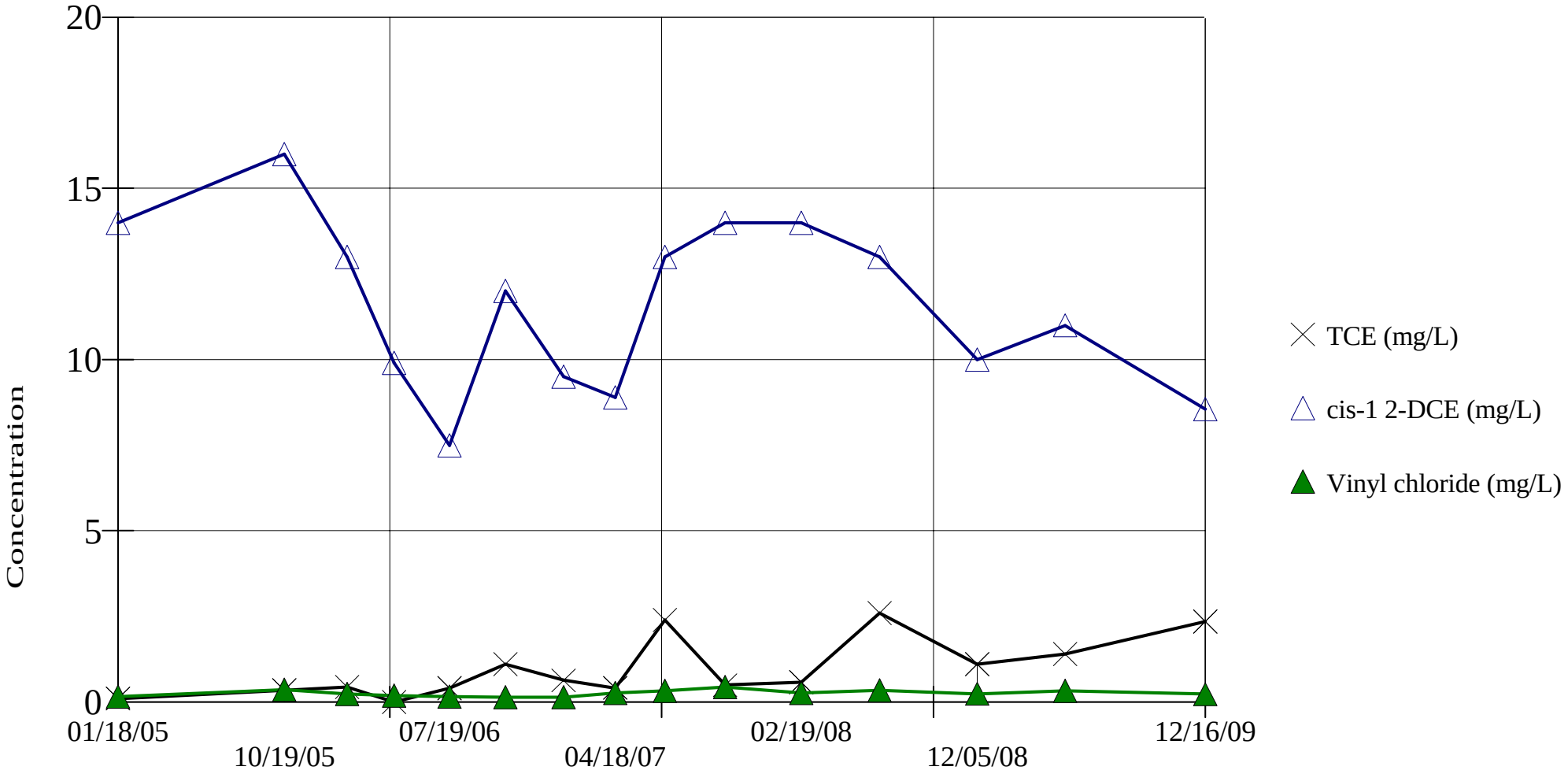
Data File: MLC2009

Date: 3/2/10

Time: 11:05 AM

View: alldata

TIME SERIES
MW68



Constituent: Multiple

Facility: MLC MLK

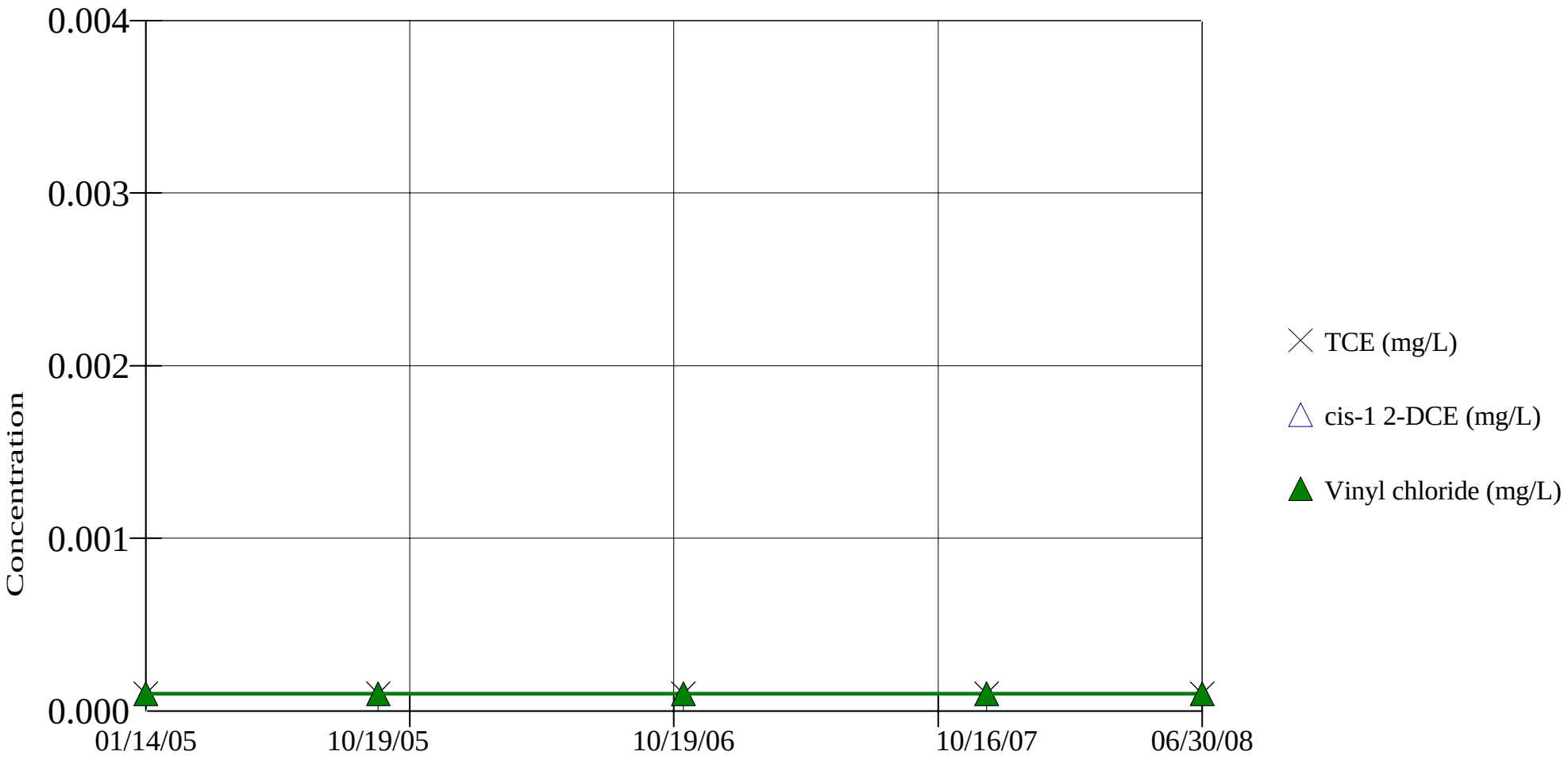
Data File: MLC2009

Date: 3/2/10

Time: 11:10 AM

View: alldata

TIME SERIES
MW75



Constituent: Multiple

Facility: MLC MLK

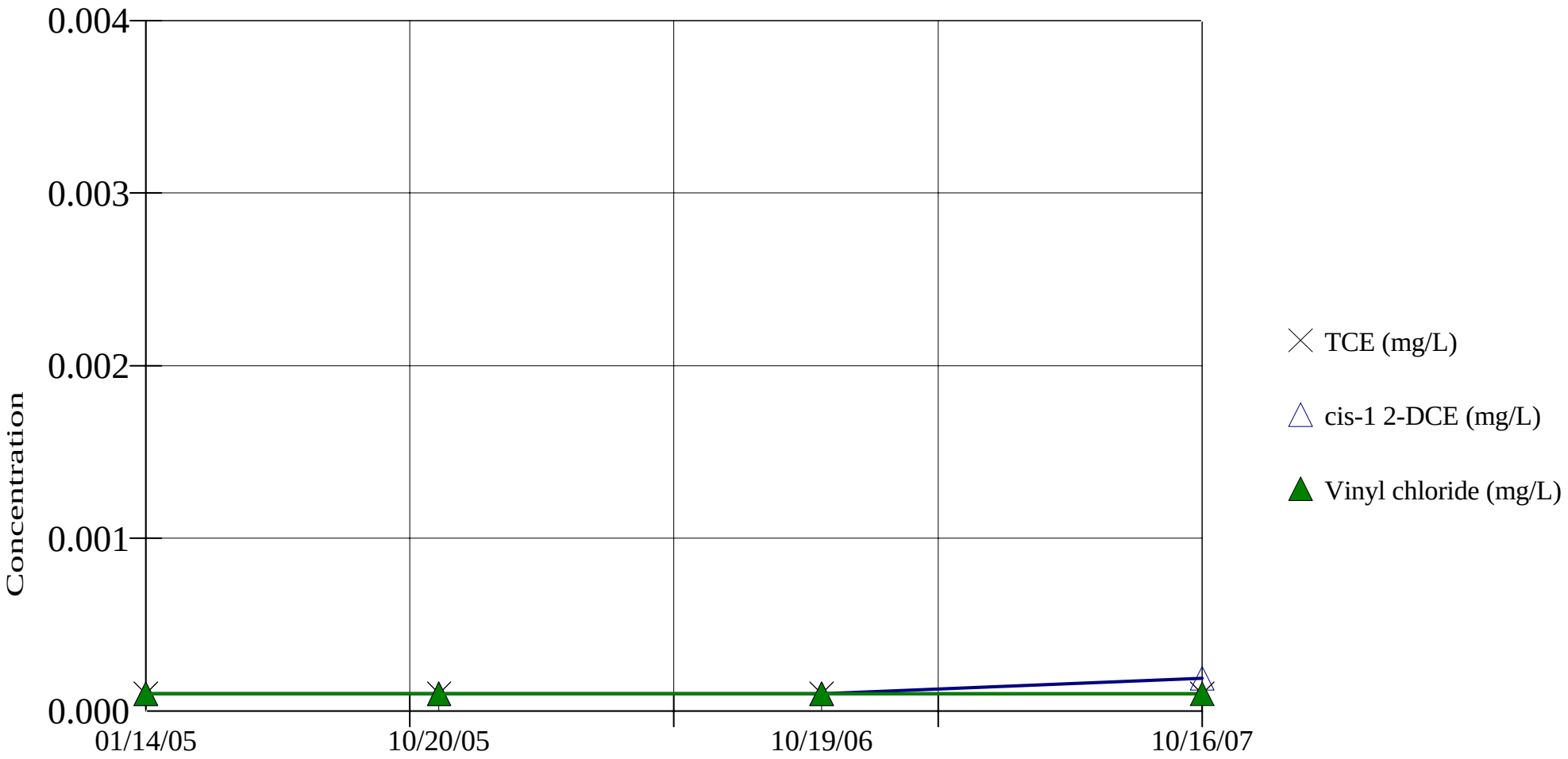
Data File: MLC2009

Date: 3/2/10

Time: 11:13 AM

View: alldata

TIME SERIES
MW76



Constituent: Multiple

Facility: MLC MLK

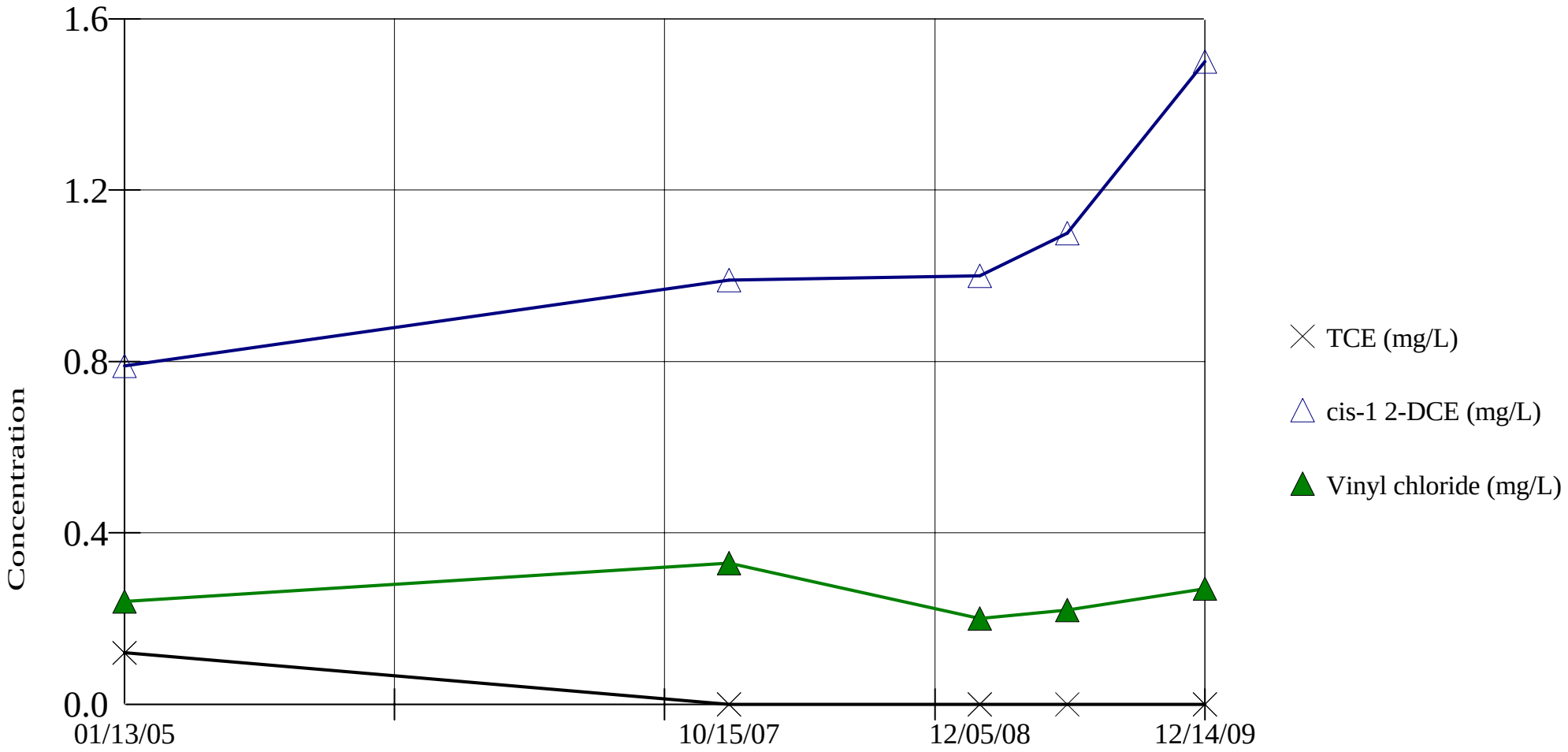
Data File: MLC2009

Date: 3/2/10

Time: 11:15 AM

View: alldata

TIME SERIES
MW79



Constituent: Multiple

Facility: MLC MLK

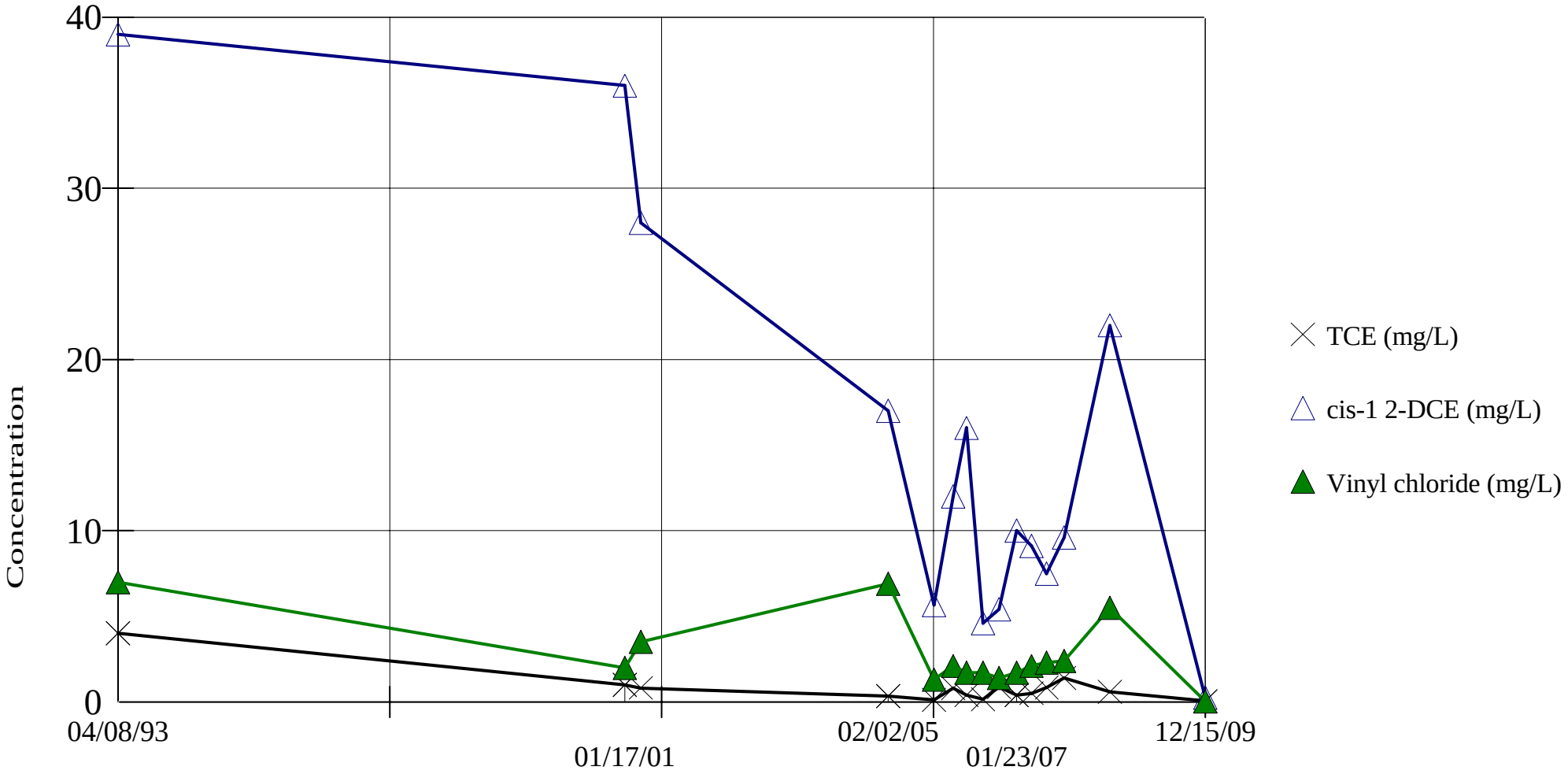
Data File: MLC2009

Date: 3/2/10

Time: 11:20 AM

View: alldata

TIME SERIES
MW8



Constituent: Multiple

Facility: MLC MLK

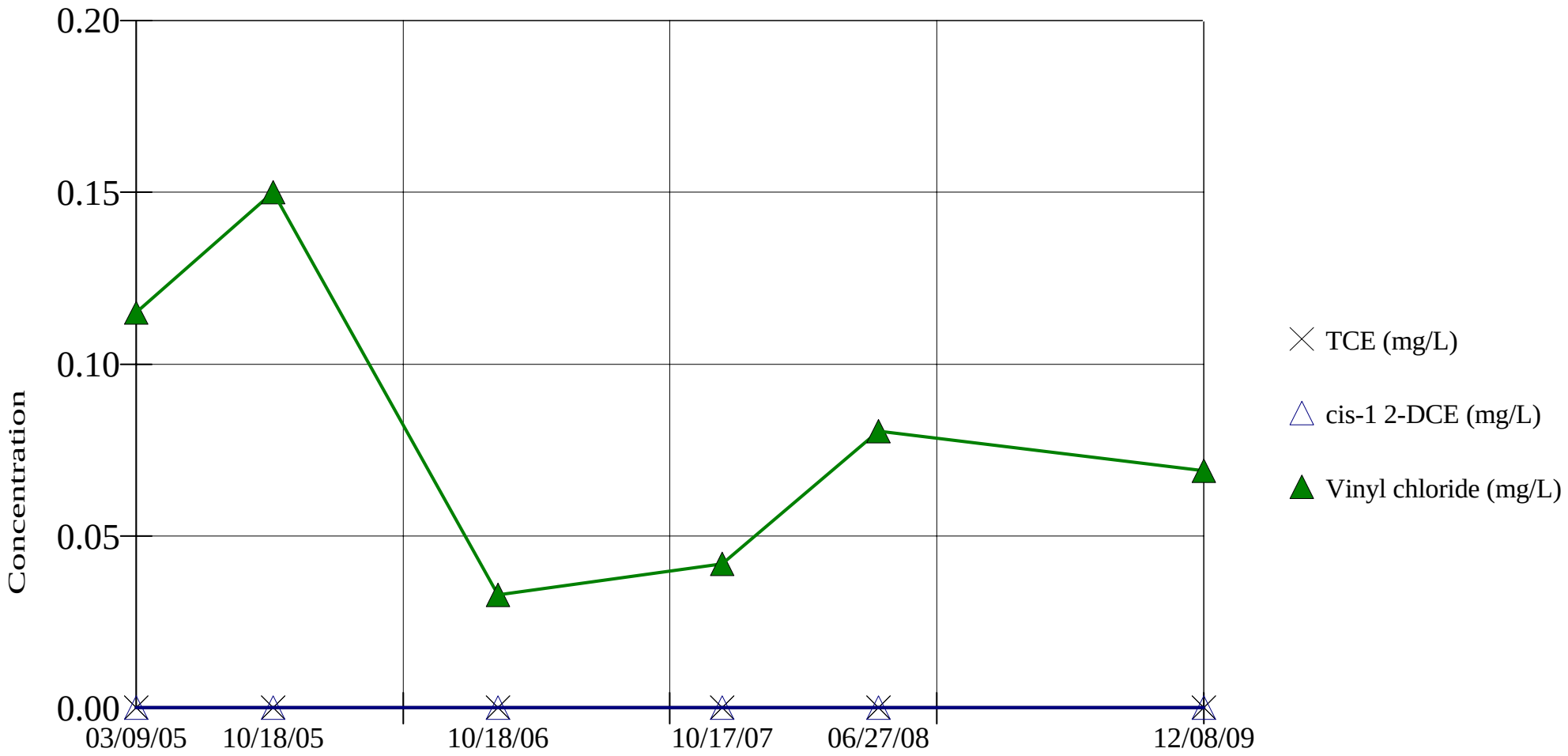
Data File: MLC2009

Date: 3/2/10

Time: 12:56 PM

View: alldata

TIME SERIES
MW80



Constituent: Multiple

Facility: MLC MLK

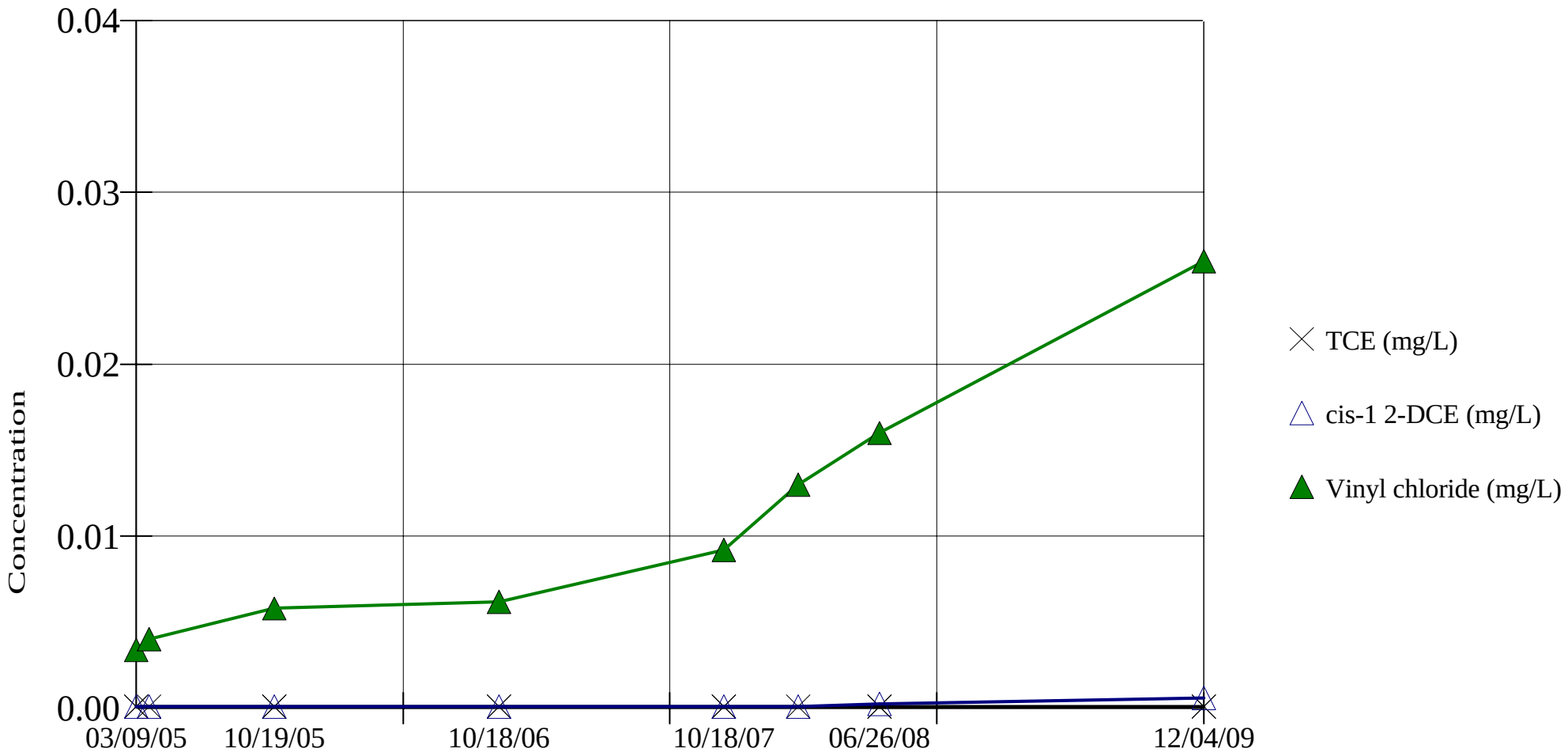
Data File: MLC2009

Date: 3/2/10

Time: 11:45 AM

View: alldata

TIME SERIES
MW81



Constituent: Multiple

Facility: MLC MLK

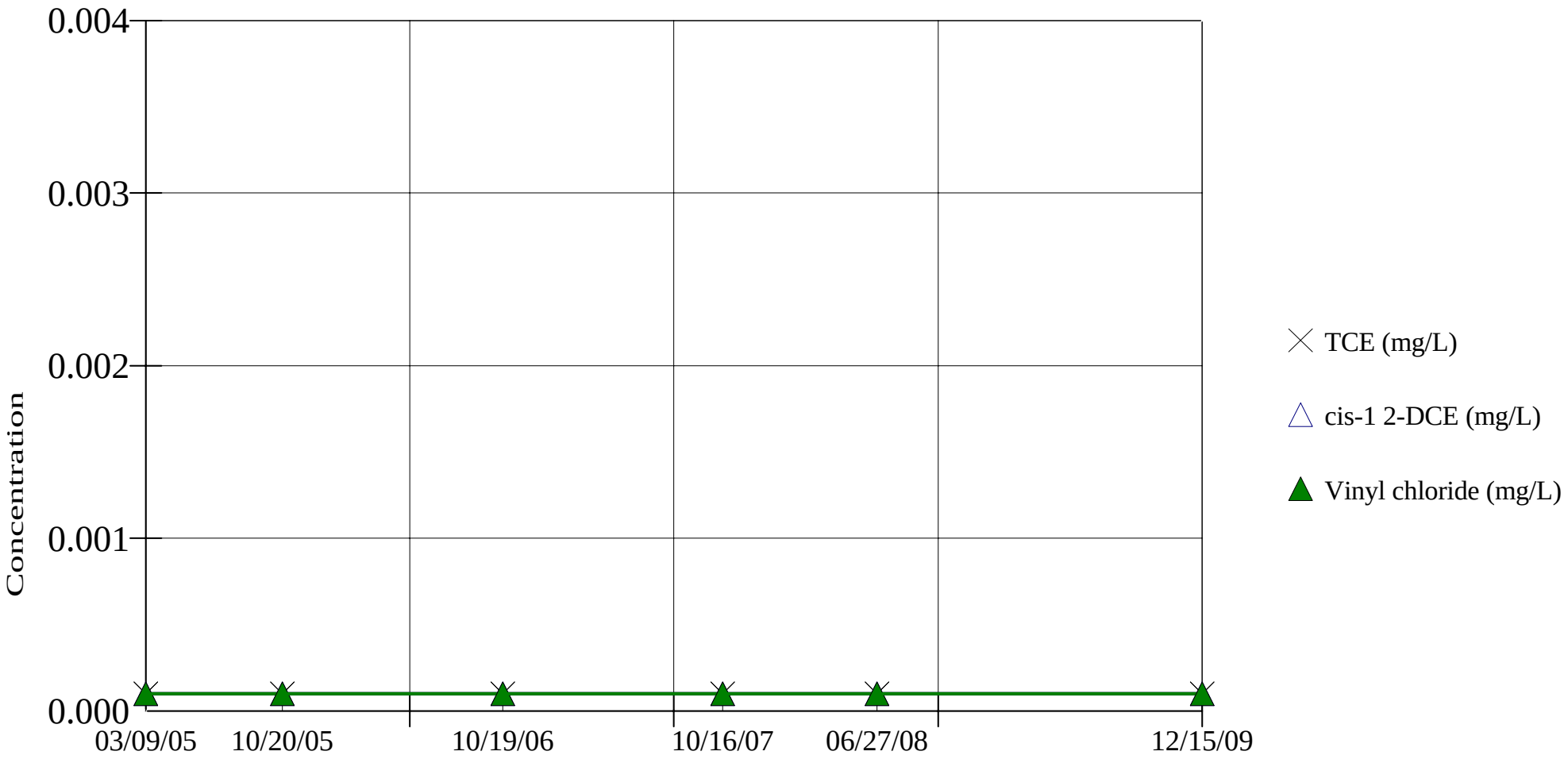
Data File: MLC2009

Date: 3/2/10

Time: 11:47 AM

View: alldata

TIME SERIES
MW82



Constituent: Multiple

Facility: MLC MLK

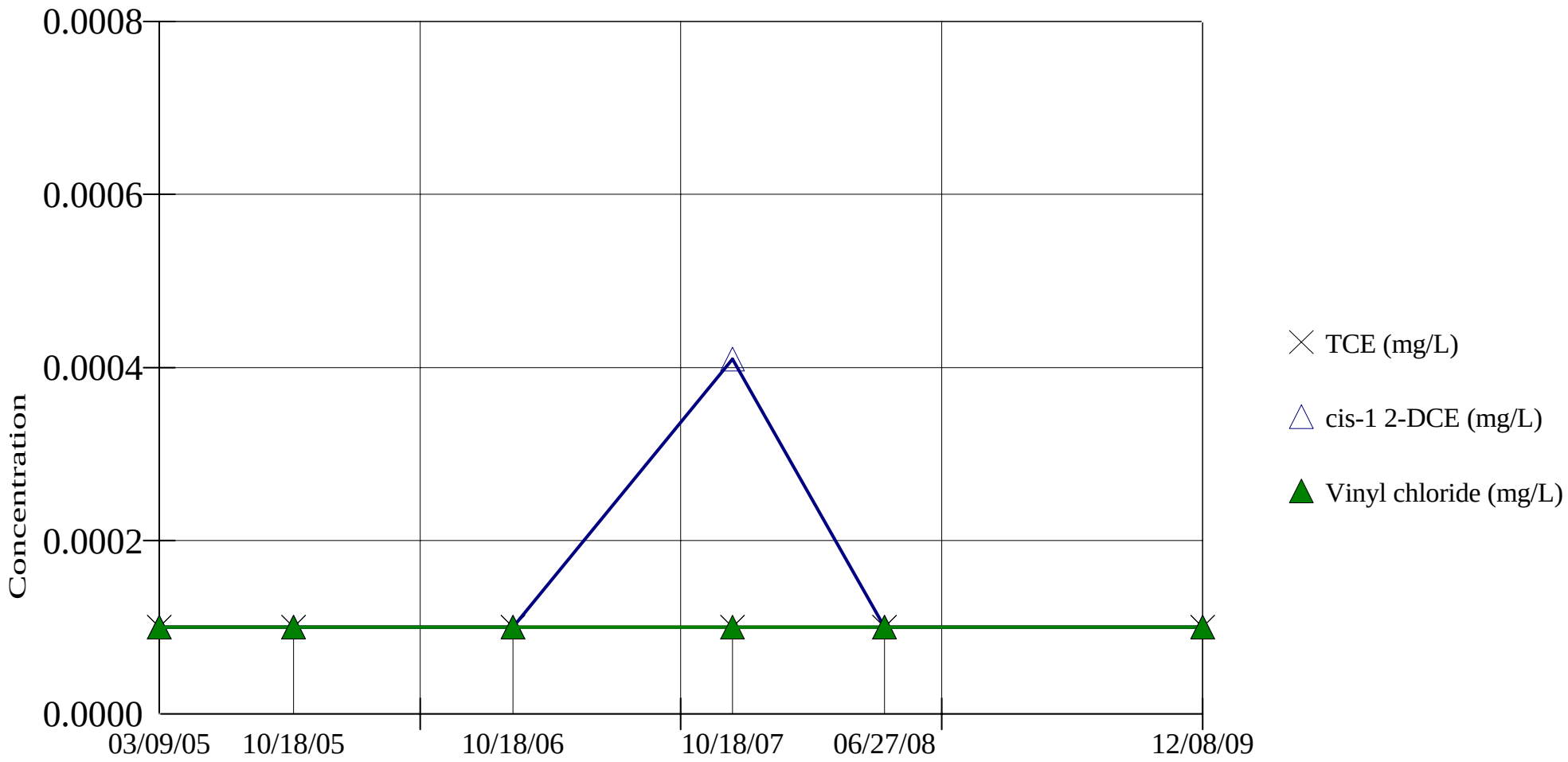
Data File: MLC2009

Date: 3/2/10

Time: 12:35 PM

View: alldata

TIME SERIES
MW83



Constituent: Multiple

Facility: MLC MLK

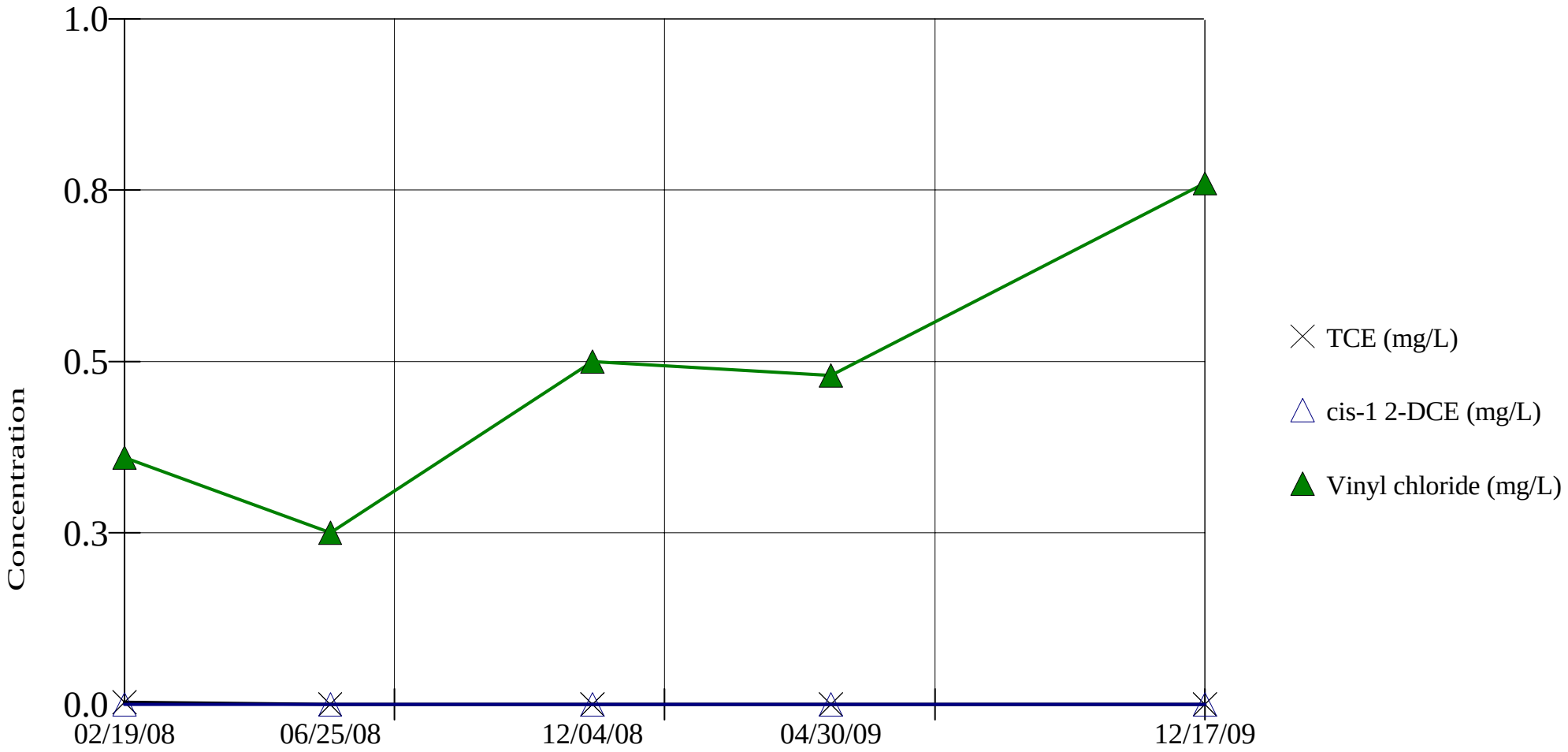
Data File: MLC2009

Date: 3/2/10

Time: 12:37 PM

View: alldata

TIME SERIES
MW85



Constituent: Multiple

Facility: MLC MLK

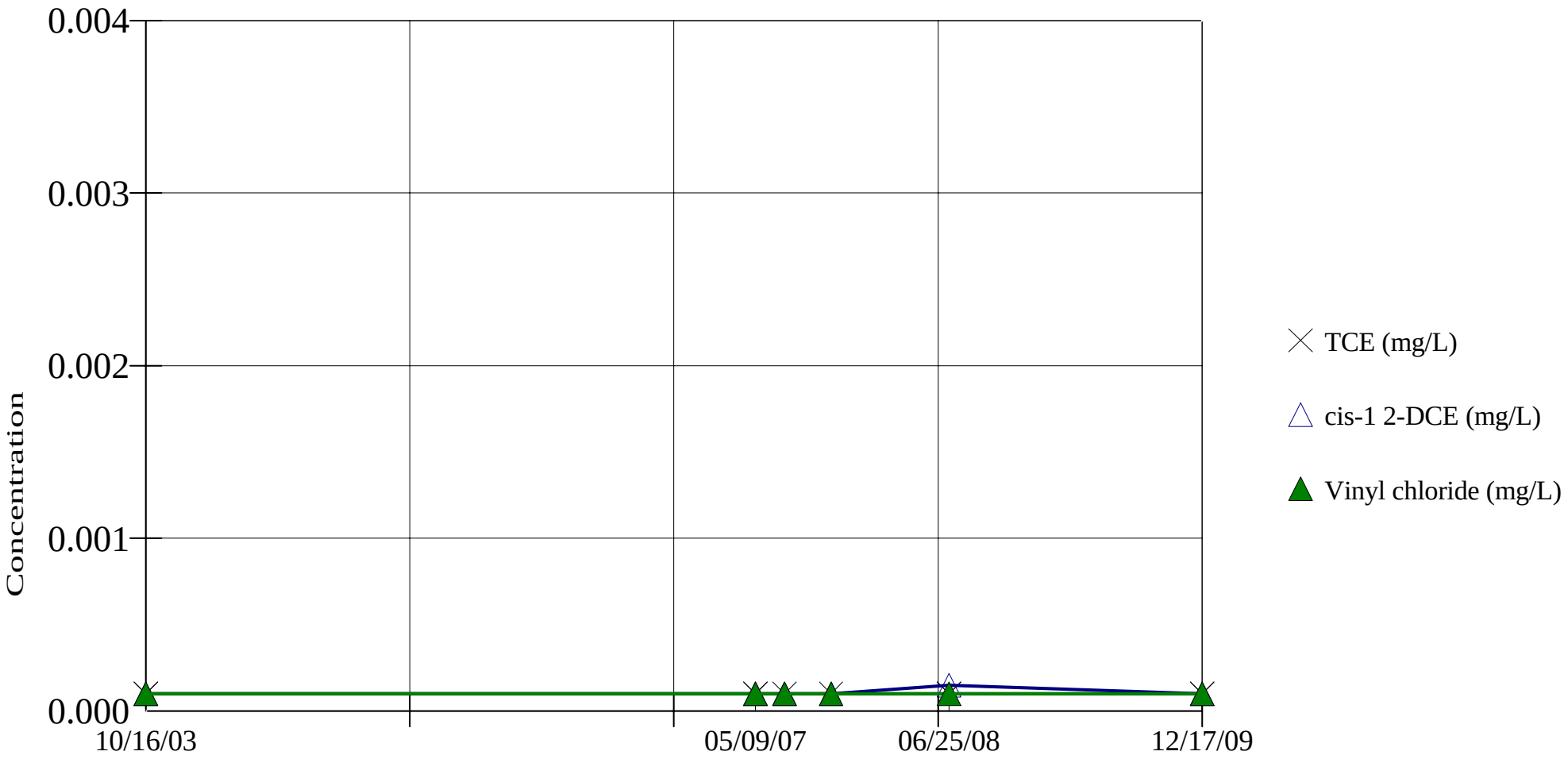
Data File: MLC2009

Date: 3/2/10

Time: 12:39 PM

View: alldata

TIME SERIES
MW-2



Constituent: Multiple

Facility: MLC MLK

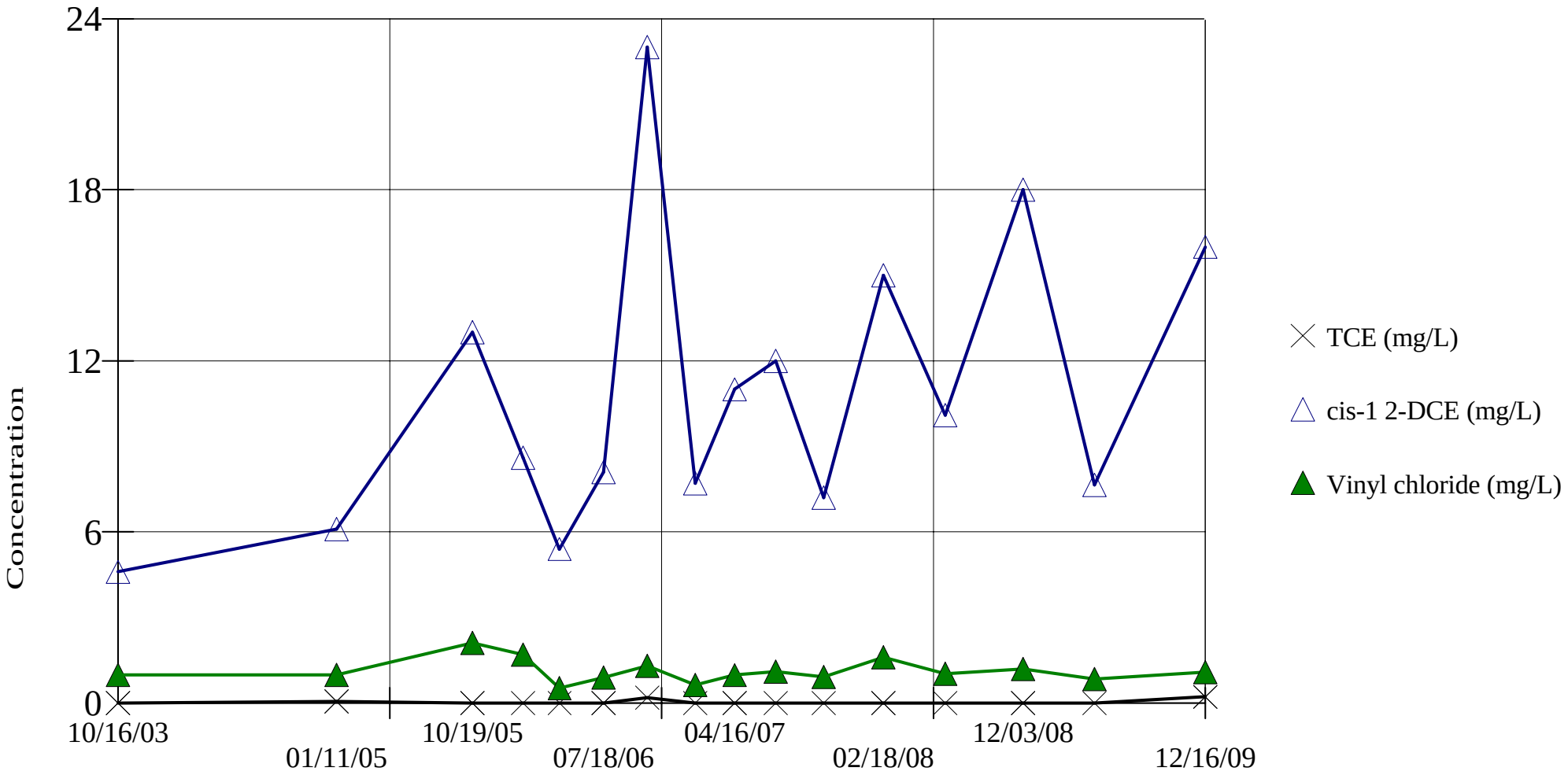
Data File: MLC2009

Date: 3/2/10

Time: 12:47 PM

View: alldata

TIME SERIES
MW-4



Constituent: Multiple

Facility: MLC MLK

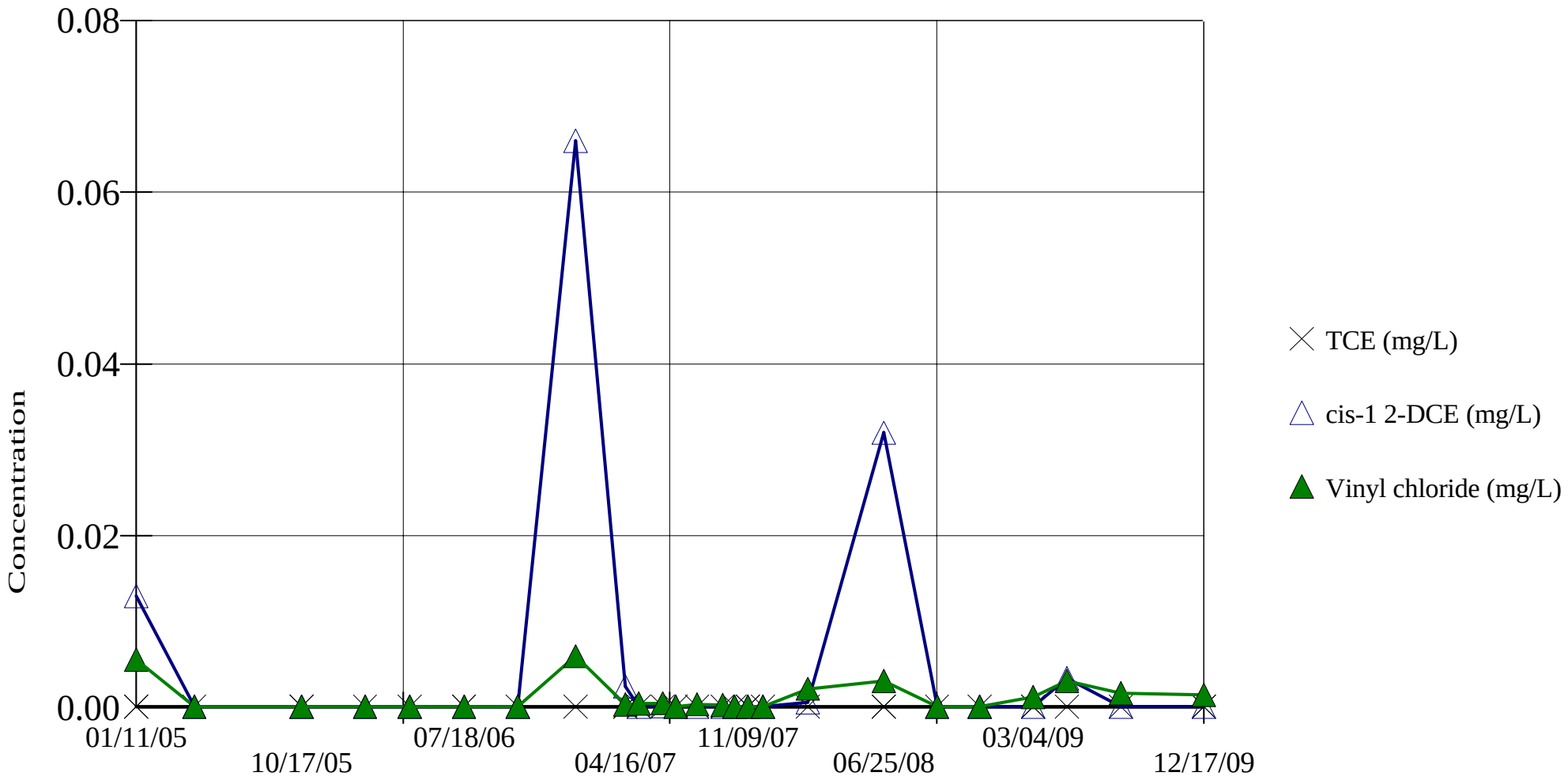
Data File: MLC2009

Date: 3/2/10

Time: 12:49 PM

View: alldata

TIME SERIES
PondIn



Constituent: Multiple

Facility: MLC MLK

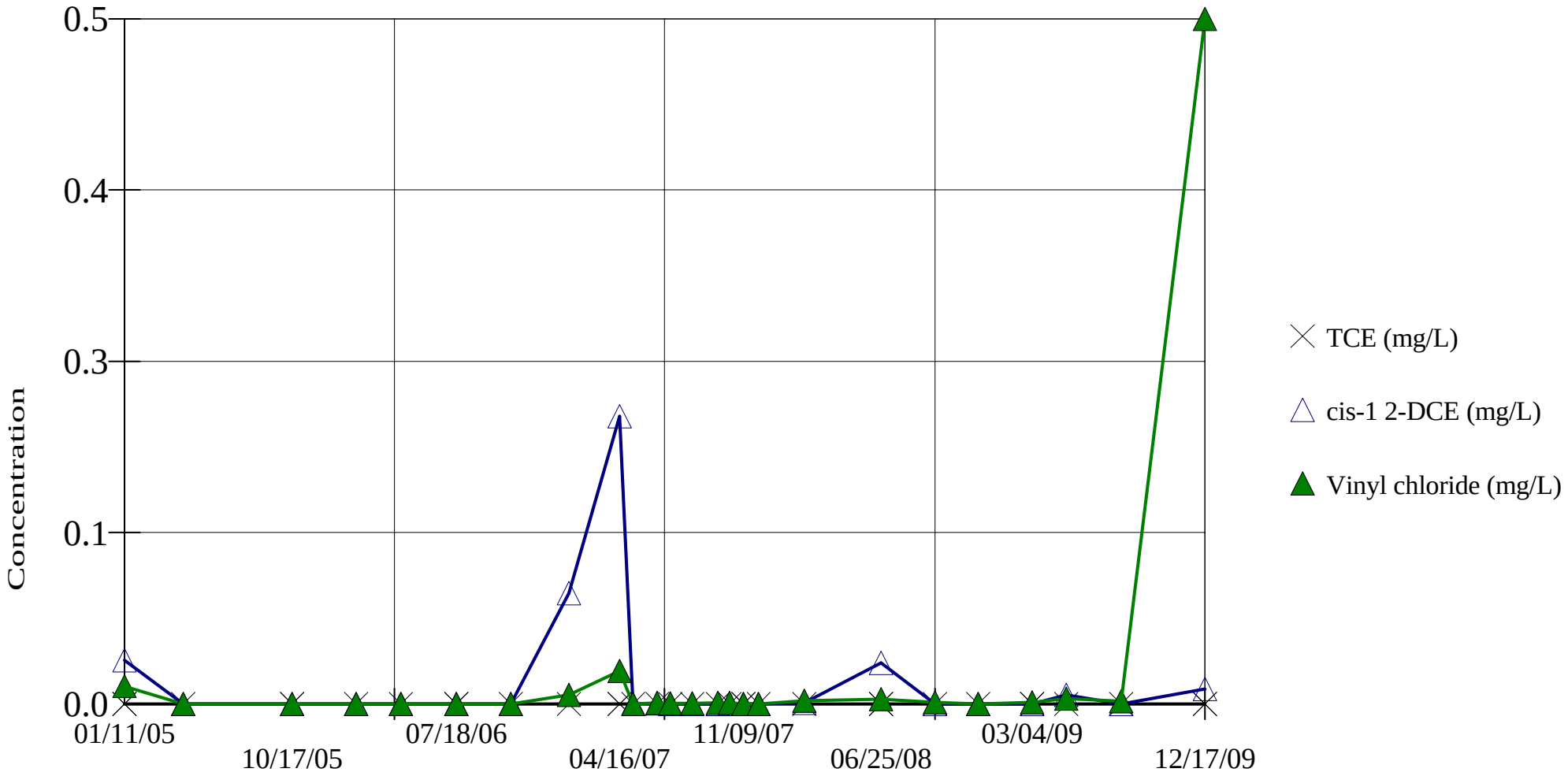
Data File: MLC2009

Date: 3/2/10

Time: 12:42 PM

View: alldata

TIME SERIES
PondN



Constituent: Multiple

Facility: MLC MLK

Data File: MLC2009

Date: 3/2/10

Time: 12:44 PM

View: alldata

Attachment C-2
Trend Analysis Results

Attachment C-2
Mann-Kendall Test Results
(1992-2009)

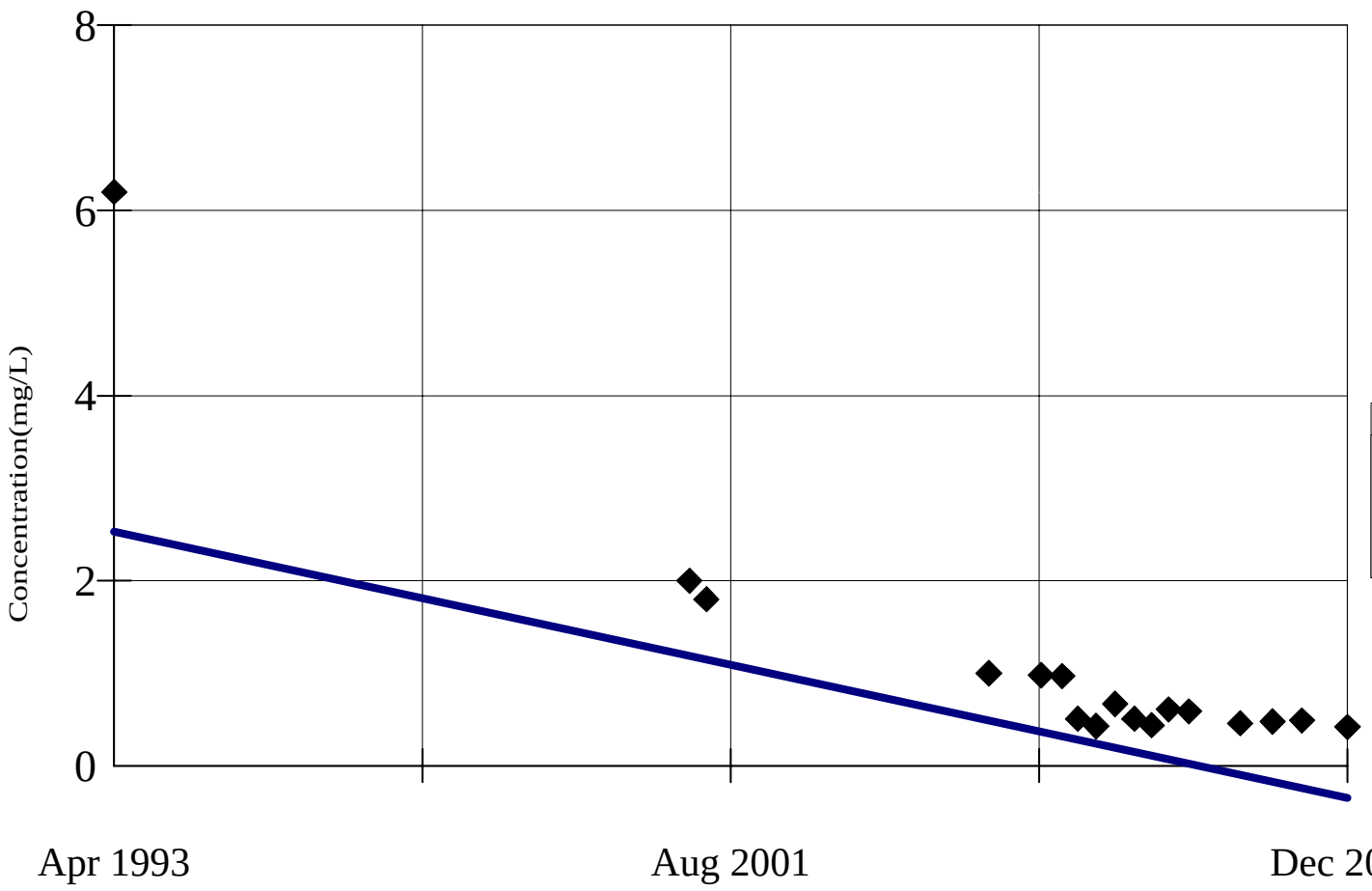
Location	Unit	Number Samples	Number Detects	Percent Detects	Coefficient of Variation	Mann-Kendall Statistic (S)	Confidence in Trend	Compound	MK Trend	Latest Sample Date
MW 12	3i	17	17	100.0%	1.28	-93	100.00%	cis-1,2-DCE	Decreasing	12/9/2009
MW 14	3s	16	16	100.0%	0.55	-29	89.45%	cis-1,2-DCE	No Trend	12/15/2009
MW 28	3d	9	0	0.0%	0.00	0	46.00%	cis-1,2-DCE	-	12/4/2009
MW 3	3s	17	17	100.0%	0.54	-32	89.80%	cis-1,2-DCE	No Trend	12/15/2009
MW 31/31R	1	16	16	100.0%	1.42	-44	97.40%	cis-1,2-DCE	Decreasing	12/15/2009
MW 37	3s	6	0	0.0%	0.00	0	42.30%	cis-1,2-DCE	-	12/16/2009
MW 40	3s	16	16	100.0%	0.22	21	81.30%	cis-1,2-DCE	No Trend	12/9/2009
MW 41	3d	15	15	100.0%	0.27	47	99.00%	cis-1,2-DCE	Increasing	12/3/2009
MW 42	3s	15	15	100.0%	0.25	-8	63.30%	cis-1,2-DCE	No Trend	12/3/2009
MW 46	3s	5	0	0.0%	0.00	0	40.80%	cis-1,2-DCE	-	12/16/2009
MW 49	3s	8	8	100.0%	1.40	27	100.00%	cis-1,2-DCE	Increasing	12/4/2009
MW 51	3s	4	4	100.0%	0.41	4	83.30%	cis-1,2-DCE	No Trend	12/14/2009
MW 56	3d	6	1	16.7%	1.94	-1	50.00%	cis-1,2-DCE	-	12/17/2009
MW 57	3d	12	6	50.0%	1.64	-15	82.80%	cis-1,2-DCE	-	12/16/2009
MW 58	3d	7	1	14.3%	2.26	-2	55.70%	cis-1,2-DCE	-	12/17/2009
MW 64	3d	7	2	28.6%	2.55	7	80.90%	cis-1,2-DCE	-	12/8/2009
MW 65	3d	7	7	100.0%	0.73	1	50.00%	cis-1,2-DCE	No Trend	12/4/2009
MW 66	3d	9	3	33.3%	2.25	15	92.50%	cis-1,2-DCE	-	12/8/2009
MW 68	3s	15	15	100.0%	0.21	-21	83.60%	cis-1,2-DCE	No Trend	12/16/2009
MW 79	3s	5	5	100.0%	0.24	10	99.20%	cis-1,2-DCE	Increasing	12/14/2009
MW 8	3s	14	14	100.0%	0.72	-35	96.90%	cis-1,2-DCE	Decreasing	12/15/2009
MW 80	3d	6	1	16.7%	0.12	1	50.00%	cis-1,2-DCE	-	12/8/2009
MW 81	B	8	2	25.0%	0.98	13	92.90%	cis-1,2-DCE	-	12/4/2009
MW 82	B	6	0	0.0%	0.00	0	42.30%	cis-1,2-DCE	-	12/15/2009
MW 83	B	6	1	16.7%	0.83	1	50.00%	cis-1,2-DCE	-	12/8/2009
MW 85	3d	5	0	0.0%	0.00	0	40.80%	cis-1,2-DCE	-	12/17/2009
MW-2	3d	6	1	16.7%	0.19	3	64.00%	cis-1,2-DCE	-	12/17/2009
MW-4	3d	16	16	100.0%	0.47	40	96.10%	cis-1,2-DCE	Increasing	12/16/2009
Pond Intake	WS	25	7	28.0%	3.02	-7	55.50%	cis-1,2-DCE	-	12/17/2009
Pond North	WS	25	9	36.0%	2.97	8	56.40%	cis-1,2-DCE	-	12/17/2009
MW 3	3s	10	10	100.0%	1.23	21	96.40%	ethene	Increasing	12/15/2009
MW 31/31R	1	10	10	100.0%	0.86	-12	83.20%	ethene	No Trend	12/15/2009
MW 40	3s	4	4	100.0%	0.34	0	37.50%	ethene	No Trend	12/9/2009
MW 57	3d	5	3	60.0%	1.33	3	67.50%	ethene	-	12/16/2009
MW 8	3s	9	9	100.0%	0.27	3	58.00%	ethene	No Trend	12/15/2009
MW-4	3d	8	8	100.0%	1.19	4	64.00%	ethene	No Trend	12/16/2009
MW 12	3i	15	15	100.0%	1.03	-87	100.00%	TCE	Decreasing	12/9/2009
MW 14	3s	17	2	11.8%	2.78	27	85.60%	TCE	-	12/15/2009
MW 28	3d	9	1	11.1%	0.16	-2	54.00%	TCE	-	12/4/2009
MW 3	3s	18	18	100.0%	0.65	-46	95.55%	TCE	Decreasing	12/15/2009
MW 31/31R	1	16	13	81.3%	3.28	-53	99.10%	TCE	Decreasing	12/15/2009
MW 37	3s	6	0	0.0%	0.00	0	42.30%	TCE	-	12/16/2009
MW 40	3s	16	2	12.5%	3.93	7	60.50%	TCE	-	12/9/2009
MW 41	3d	15	1	6.7%	0.15	-8	63.30%	TCE	-	12/3/2009
MW 42	3s	15	1	6.7%	0.03	-8	63.30%	TCE	-	12/3/2009
MW 46	3s	5	2	40.0%	0.29	5	82.10%	TCE	-	12/16/2009
MW 49	3s	8	5	62.5%	0.87	17	97.70%	TCE	-	12/4/2009
MW 51	3s	4	4	100.0%	0.20	2	62.50%	TCE	No Trend	12/14/2009
MW 56	3d	6	1	16.7%	1.19	-1	50.00%	TCE	-	12/17/2009
MW 57	3d	12	2	16.7%	0.40	-9	70.40%	TCE	-	12/16/2009
MW 58	3d	7	2	28.6%	2.17	-3	61.40%	TCE	-	12/17/2009

Attachment C-2
Mann-Kendall Test Results
(1992-2009)

Location	Unit	Number Samples	Number Detects	Percent Detects	Coefficient of Variation	Mann-Kendall Statistic (S)	Confidence in Trend	Compound	MK Trend	Latest Sample Date
MW 64	3d	7	5	71.4%	2.60	2	55.70%	TCE	-	12/8/2009
MW 65	3d	7	0	0.0%	0.00	0	43.70%	TCE	-	12/4/2009
MW 66	3d	9	1	11.1%	0.63	0	46.00%	TCE	-	12/8/2009
MW 68	3s	15	14	93.3%	0.90	64	100.00%	TCE	Increasing	12/16/2009
MW 79	3s	5	1	20.0%	2.23	-4	75.80%	TCE	-	12/14/2009
MW 8	3s	15	15	100.0%	1.16	-16	76.70%	TCE	No Trend	12/15/2009
MW 80	3d	6	1	16.7%	0.38	-1	50.00%	TCE	-	12/8/2009
MW 81	B	8	0	0.0%	0.00	0	45.20%	TCE	-	12/4/2009
MW 82	B	6	0	0.0%	0.00	0	42.30%	TCE	-	12/15/2009
MW 83	B	6	0	0.0%	0.00	0	42.30%	TCE	-	12/8/2009
MW 85	3d	5	1	20.0%	1.93	-4	75.80%	TCE	-	12/17/2009
MW-2	3d	6	0	0.0%	0.00	0	42.30%	TCE	-	12/17/2009
MW-4	3d	16	3	18.8%	2.43	2	51.80%	TCE	-	12/16/2009
Pond Intake	WS	25	0	0.0%	0.00	0	49.10%	TCE	-	12/17/2009
Pond North	WS	25	0	0.0%	0.00	0	49.10%	TCE	-	12/17/2009
MW 12	3i	17	1	5.9%	1.10	6	58.00%	VC	-	12/9/2009
MW 14	3s	16	16	100.0%	0.53	-22	82.50%	VC	No Trend	12/15/2009
MW 28	3d	9	9	100.0%	0.35	1	50.00%	VC	No Trend	12/4/2009
MW 3	3s	19	15	78.9%	1.13	-3	52.70%	VC	No Trend	12/15/2009
MW 31/31R	1	14	14	100.0%	0.63	-39	98.20%	VC	Decreasing	12/15/2009
MW 37	3s	6	0	0.0%	0.00	0	42.30%	VC	-	12/16/2009
MW 40	3s	16	16	100.0%	0.49	79	100.00%	VC	Increasing	12/9/2009
MW 41	3d	15	15	100.0%	0.32	47	99.00%	VC	Increasing	12/3/2009
MW 42	3s	15	13	86.7%	0.54	34	94.90%	VC	Increasing	12/3/2009
MW 46	3s	5	0	0.0%	0.00	0	40.80%	VC	-	12/16/2009
MW 49	3s	8	8	100.0%	0.53	12	91.10%	VC	Increasing	12/4/2009
MW 51	3s	4	0	0.0%	0.00	0	37.50%	VC	-	12/14/2009
MW 56	3d	6	0	0.0%	0.00	0	42.30%	VC	-	12/17/2009
MW 57	3d	12	3	25.0%	1.58	16	84.50%	VC	-	12/16/2009
MW 58	3d	7	5	71.4%	1.67	20	100.00%	VC	-	12/17/2009
MW 64	3d	7	6	85.7%	1.05	9	88.10%	VC	No Trend	12/8/2009
MW 65	3d	7	7	100.0%	0.31	2	55.70%	VC	No Trend	12/4/2009
MW 66	3d	9	9	100.0%	0.54	25	99.60%	VC	Increasing	12/8/2009
MW 68	3s	15	15	100.0%	0.35	19	81.00%	VC	No Trend	12/16/2009
MW 79	3s	5	5	100.0%	0.20	0	40.80%	VC	No Trend	12/14/2009
MW 8	3s	14	14	100.0%	0.67	1	50.00%	VC	No Trend	12/15/2009
MW 80	3d	6	6	100.0%	0.54	-3	64.00%	VC	No Trend	12/8/2009
MW 81	B	8	8	100.0%	0.73	28	100.00%	VC	Increasing	12/4/2009
MW 82	B	6	0	0.0%	0.00	0	42.30%	VC	-	12/15/2009
MW 83	B	6	0	0.0%	0.00	0	42.30%	VC	-	12/8/2009
MW 85	3d	5	5	100.0%	0.41	6	88.30%	VC	No Trend	12/17/2009
MW-2	3d	6	0	0.0%	0.00	0	42.30%	VC	-	12/17/2009
MW-4	3d	16	16	100.0%	0.36	-3	53.60%	VC	No Trend	12/16/2009
Pond Intake	WS	25	13	52.0%	1.52	59	91.10%	VC	-	12/17/2009
Pond North	WS	25	15	60.0%	4.43	91	98.30%	VC	-	12/17/2009

Notes:
Increasing means increasing trend based on Mann-Kendall nonparametric test for trend at 0.1 significance level.
Decreasing means decreasing trend based on Mann-Kendall nonparametric test for trend at 0.1 significance level.
No data means no significant data trend at the 0.1 significance level.
"-" means trend not determinable (frequency of non-detect values exceeds 25 percent, or fewer than four data points).

SEN'S SLOPE ESTIMATOR
MW12



n = 17

Slope = -0.172 units per year.

Mann Kendall statistic = -93

Alpha	Critical	Signif.
0.01	-63	Down
0.05	-49	Down
0.1	-42	Down
0.2	-33	Down

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

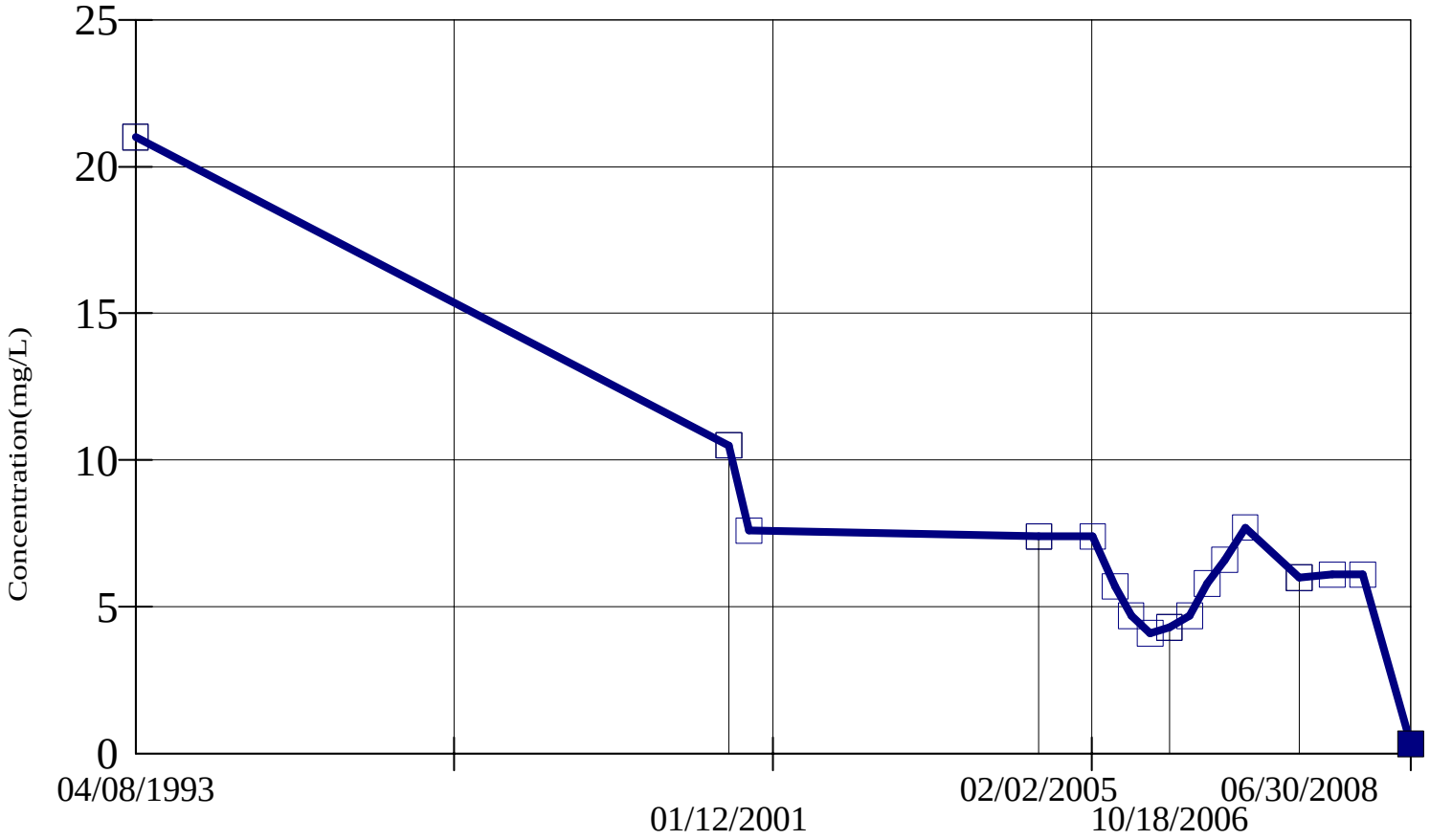
Data File: MLC2009

Date: 3/2/10

Time: 2:07 PM

View: alldata

OUTLIER ANALYSIS
MW14



Log-transformed:
Mean = 1.713
Std. Dev. = 0.821
Critical Tn = 2.475

Statistical outliers
are shown as solid squares.

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

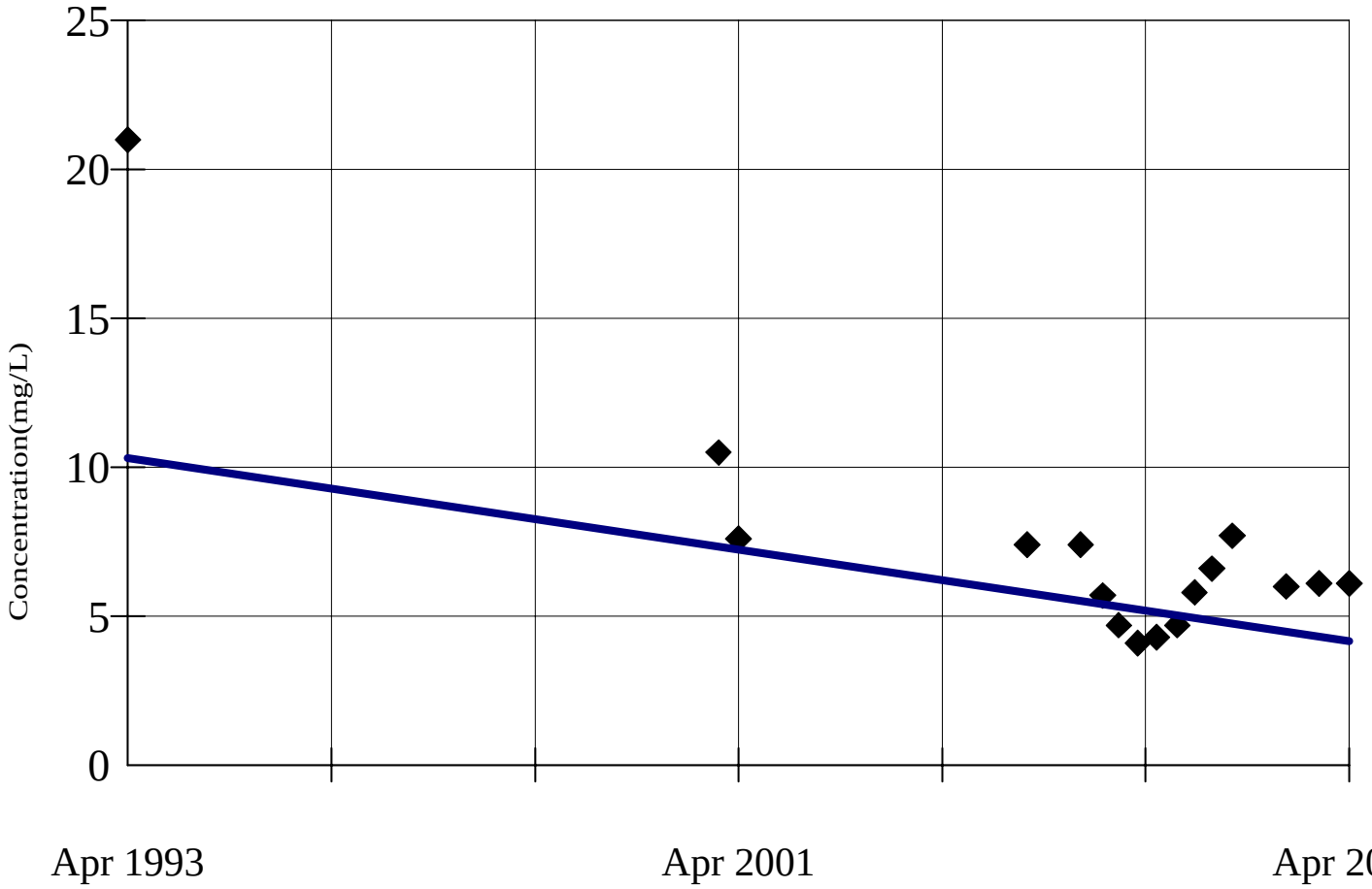
Data File: MLC2009

Date: 3/2/10

Time: 2:10 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW14



n = 16

Slope = -0.382
units per year.

Mann Kendall
statistic = -29

Alpha	Critical	Signif.
0.01	-58	No
0.05	-45	No
0.1	-38	No
0.2	-30	No

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

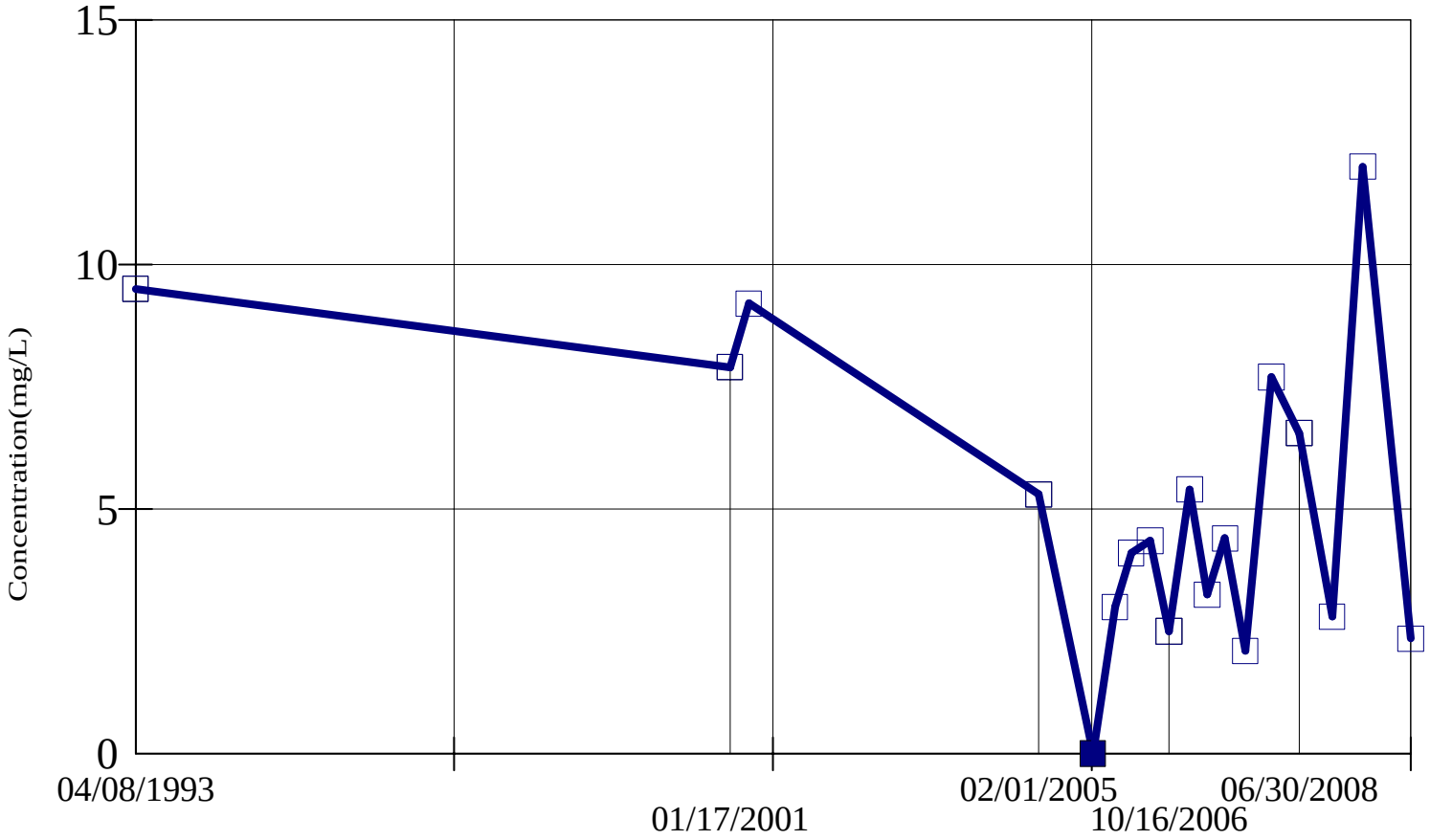
Data File: MLC2009

Date: 3/2/10

Time: 2:17 PM

View: alldata

OUTLIER ANALYSIS
MW3



Log-transformed:
Mean = 0.959
Std. Dev. = 2.591
Critical Tn = 2.504

Statistical outliers
are shown as solid squares.

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

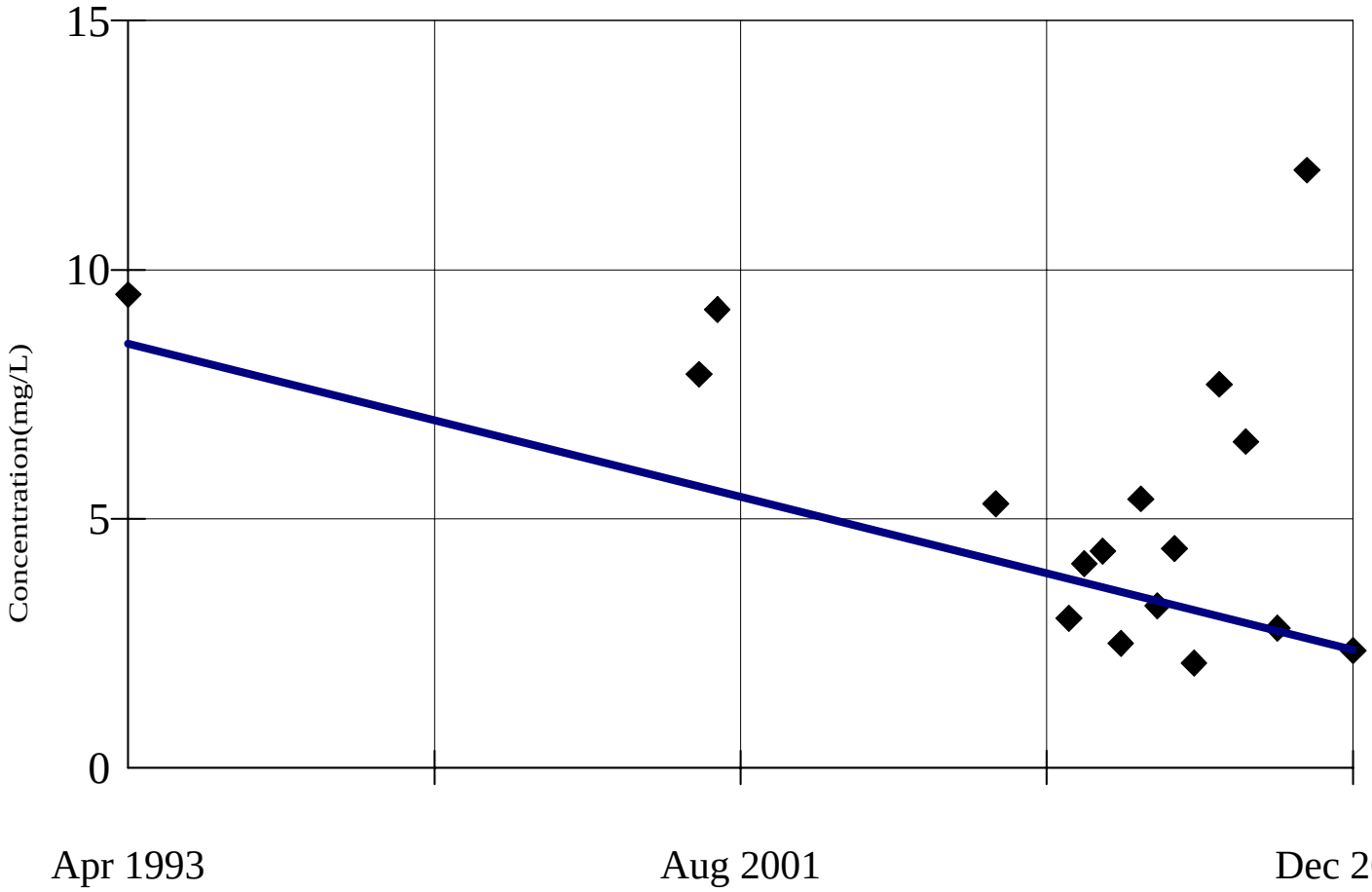
Data File: MLC2009

Date: 3/2/10

Time: 1:46 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW3



n = 17

Slope = -0.368 units per year.

Mann Kendall statistic = -32

Alpha	Critical	Signif.
0.01	-63	No
0.05	-49	No
0.1	-42	No
0.2	-33	No

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

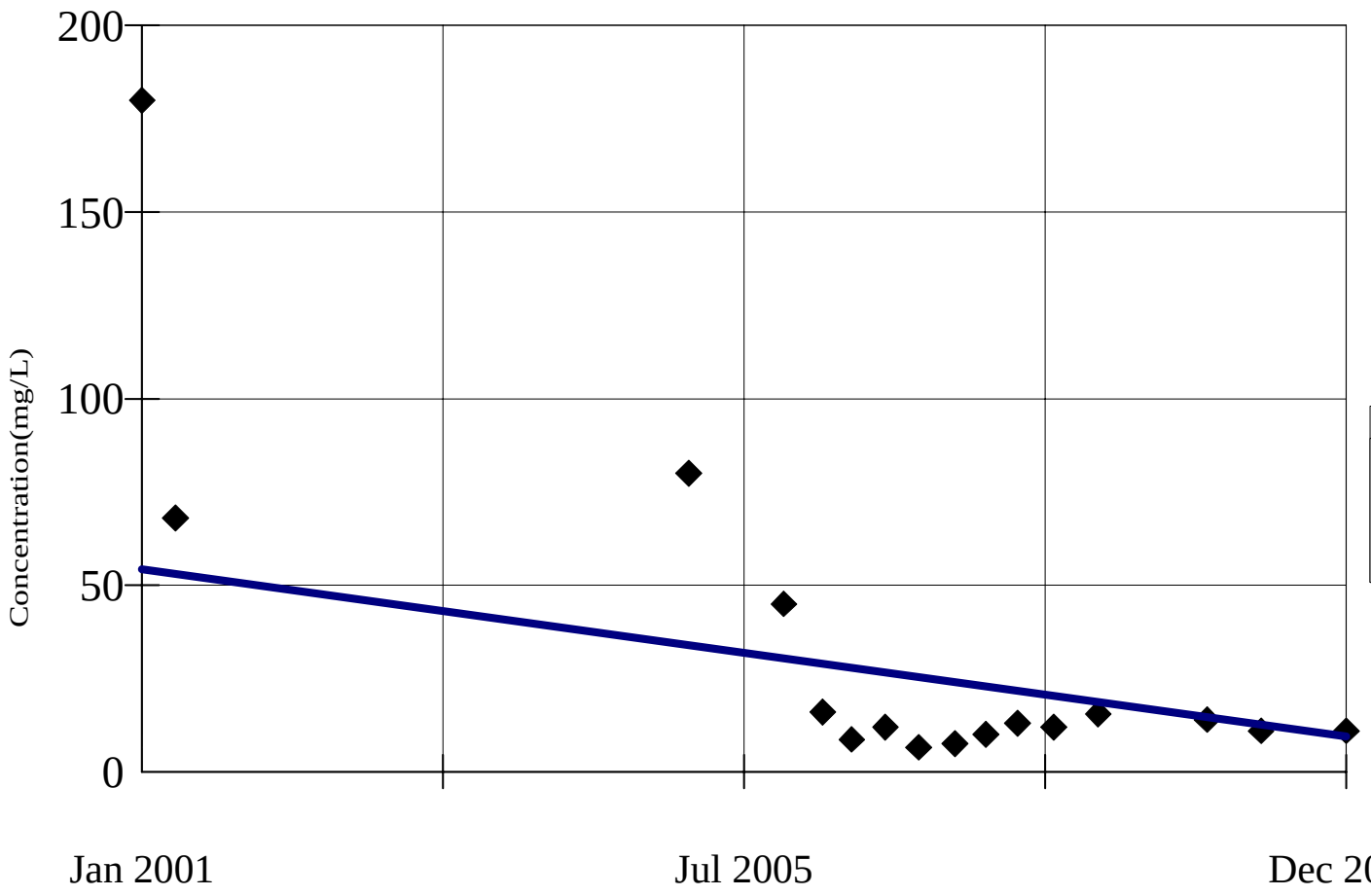
Data File: MLC2009

Date: 3/2/10

Time: 2:22 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW31/31R



n = 16

Slope = -5.037 units per year.

Mann Kendall statistic = -44

Alpha	Critical	Signif.
0.01	-58	No
0.05	-45	No
0.1	-38	Down
0.2	-30	Down

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

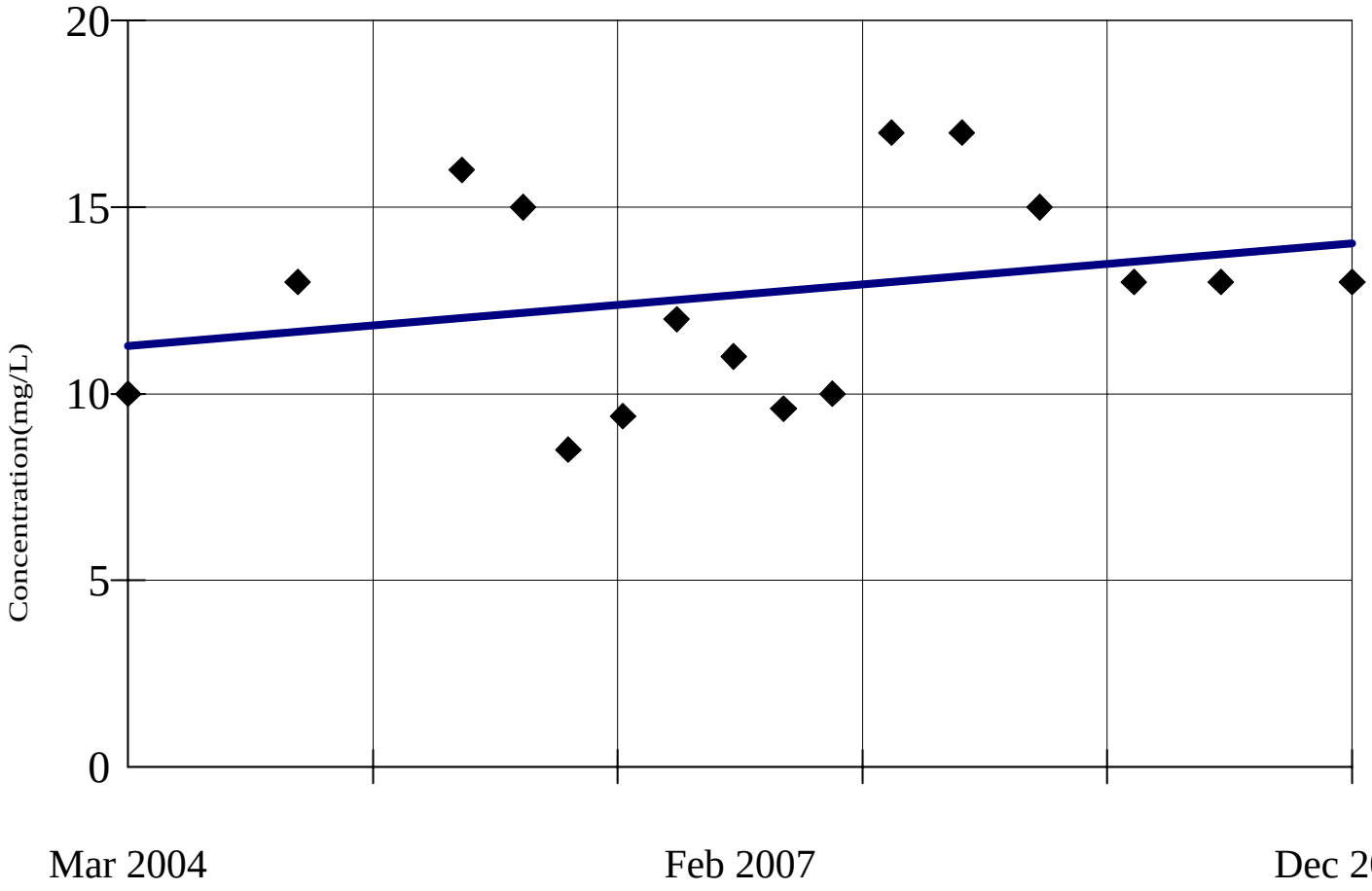
Data File: MLC2009

Date: 3/2/10

Time: 2:25 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW40



n = 16

Slope = 0.485 units per year.

Mann Kendall statistic = 21

Alpha	Critical	Signif.
0.01	58	No
0.05	45	No
0.1	38	No
0.2	30	No

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

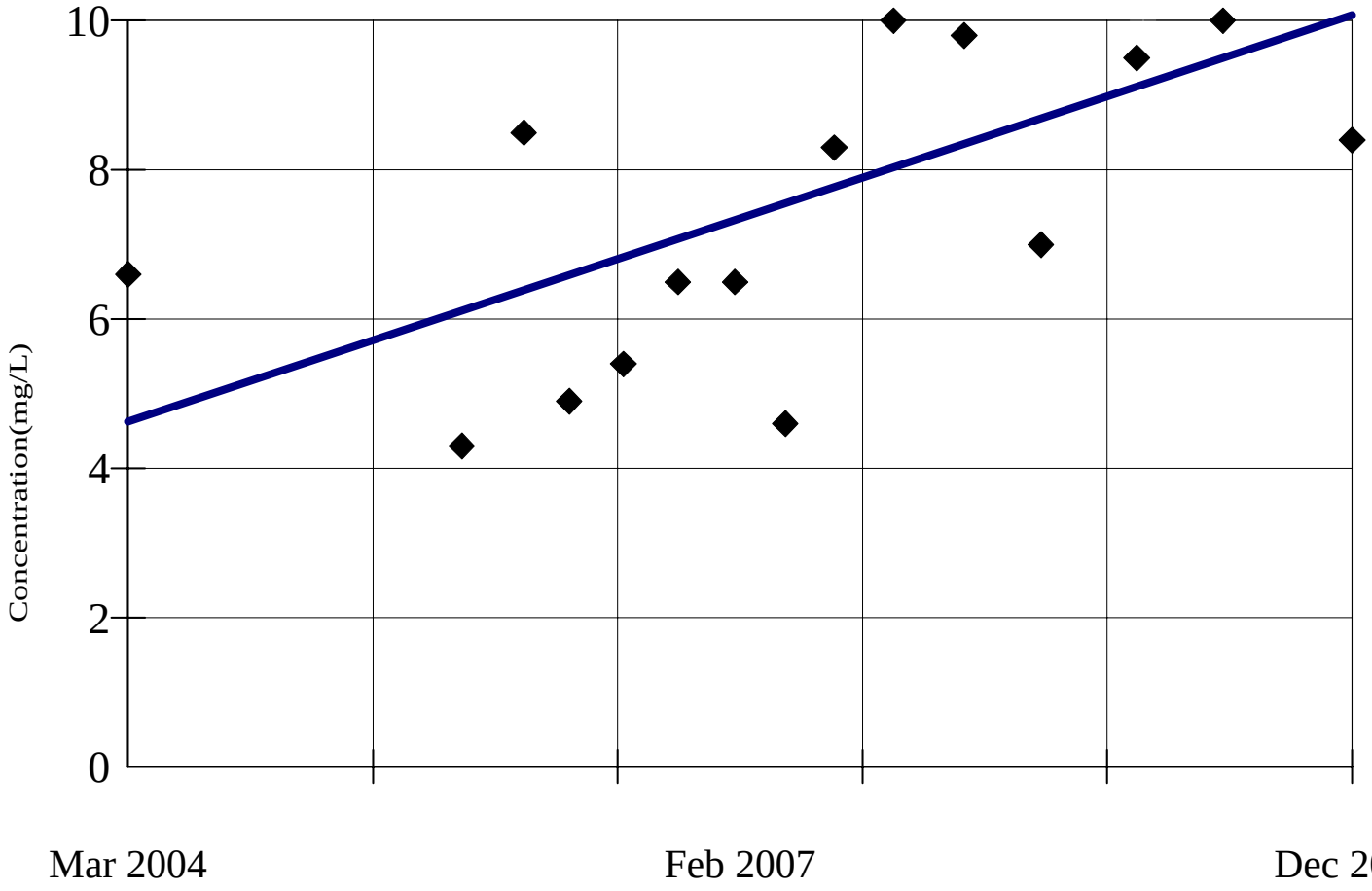
Data File: MLC2009

Date: 3/2/10

Time: 2:27 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW41



n = 15

Slope = 0.959 units per year.

Mann Kendall statistic = 47

Alpha	Critical	Signif.
0.01	53	No
0.05	41	Up
0.1	35	Up
0.2	28	Up

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

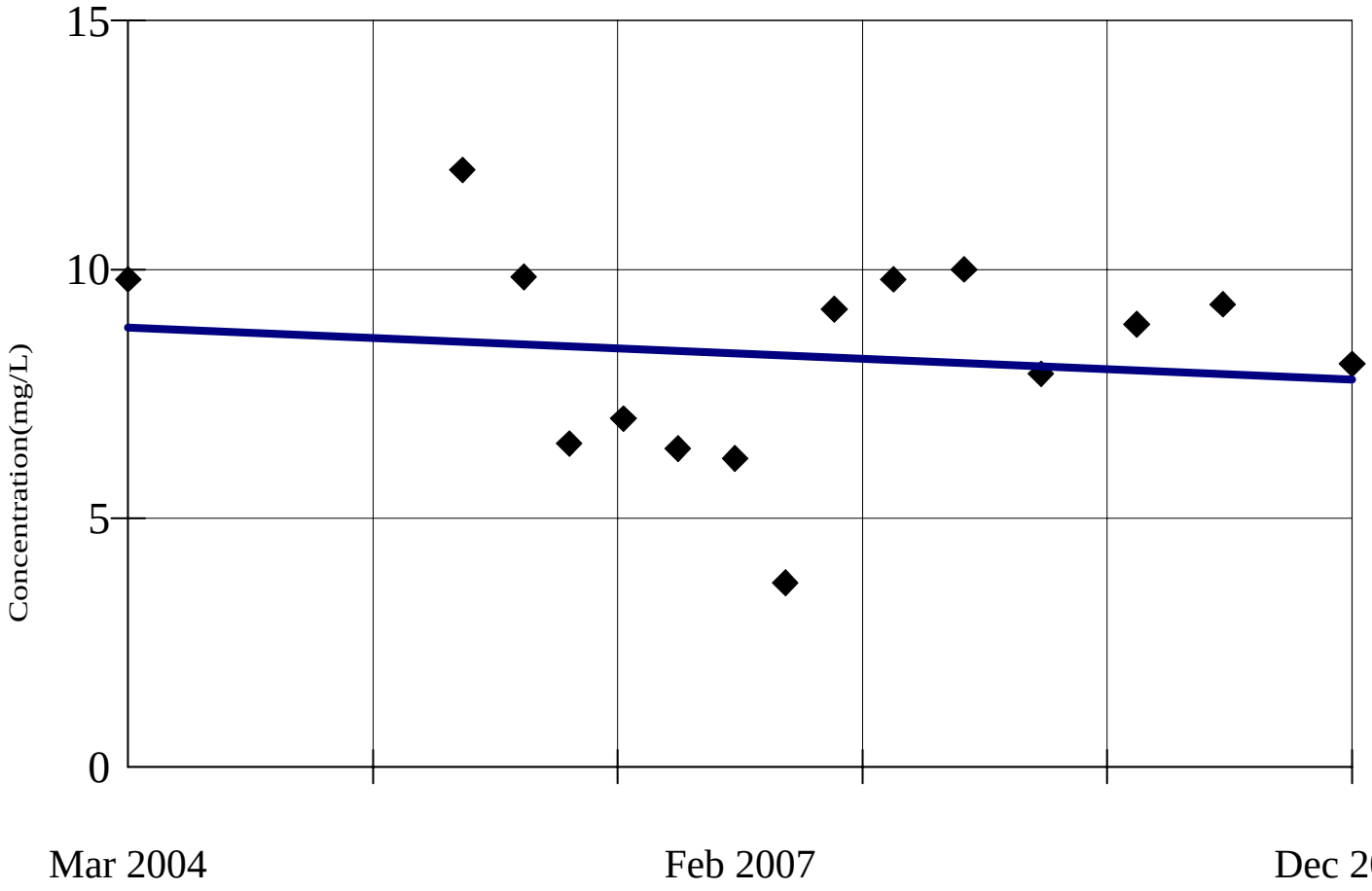
Data File: MLC2009

Date: 3/2/10

Time: 2:28 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW42



n = 15

Slope = -0.183 units per year.

Mann Kendall statistic = -8

Alpha	Critical	Signif.
0.01	-53	No
0.05	-41	No
0.1	-35	No
0.2	-28	No

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

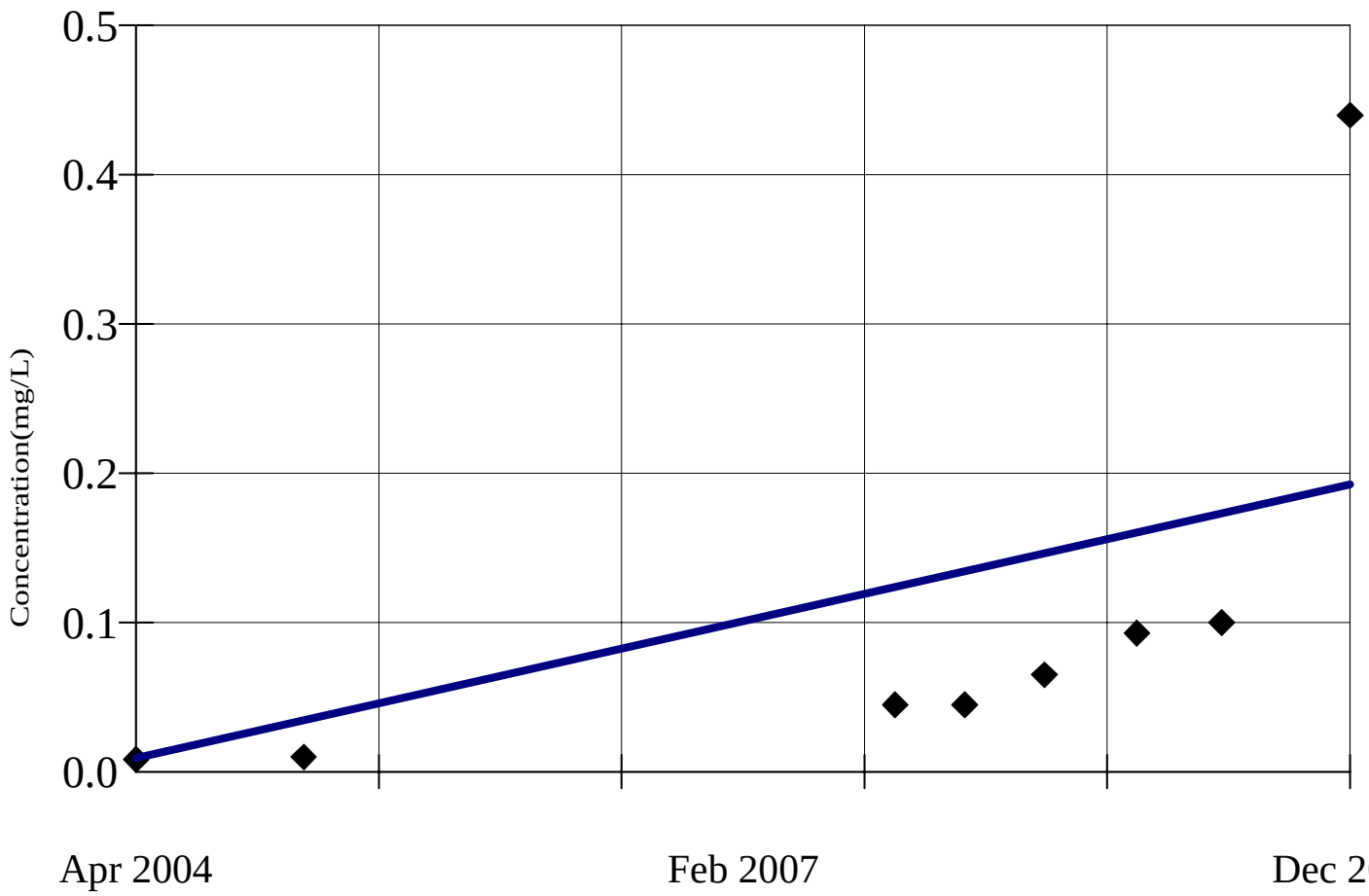
Data File: MLC2009

Date: 3/2/10

Time: 2:30 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW49



n = 8

Slope = 0.032
units per year.

Mann Kendall
statistic = 27

Alpha	Critical	Signif.
0.01	21	Up
0.05	17	Up
0.1	15	Up
0.2	12	Up

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

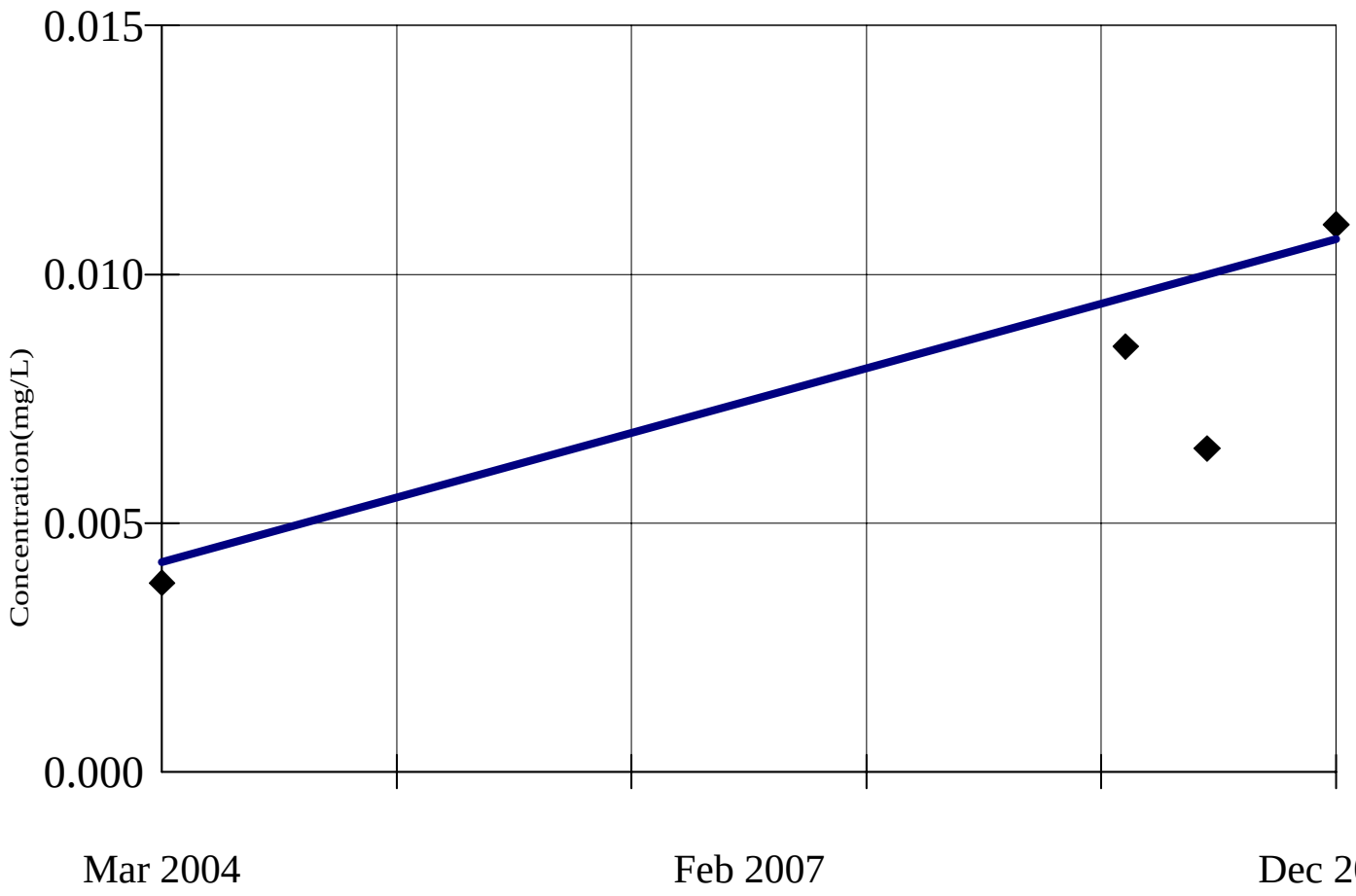
Data File: MLC2009

Date: 3/2/10

Time: 2:33 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW51



n = 4

Slope = 0.001 units per year.

Mann Kendall statistic = 4

Alpha	Critical	Signif.
0.01	8	No
0.05	8	No
0.1	6	No
0.2	6	No

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

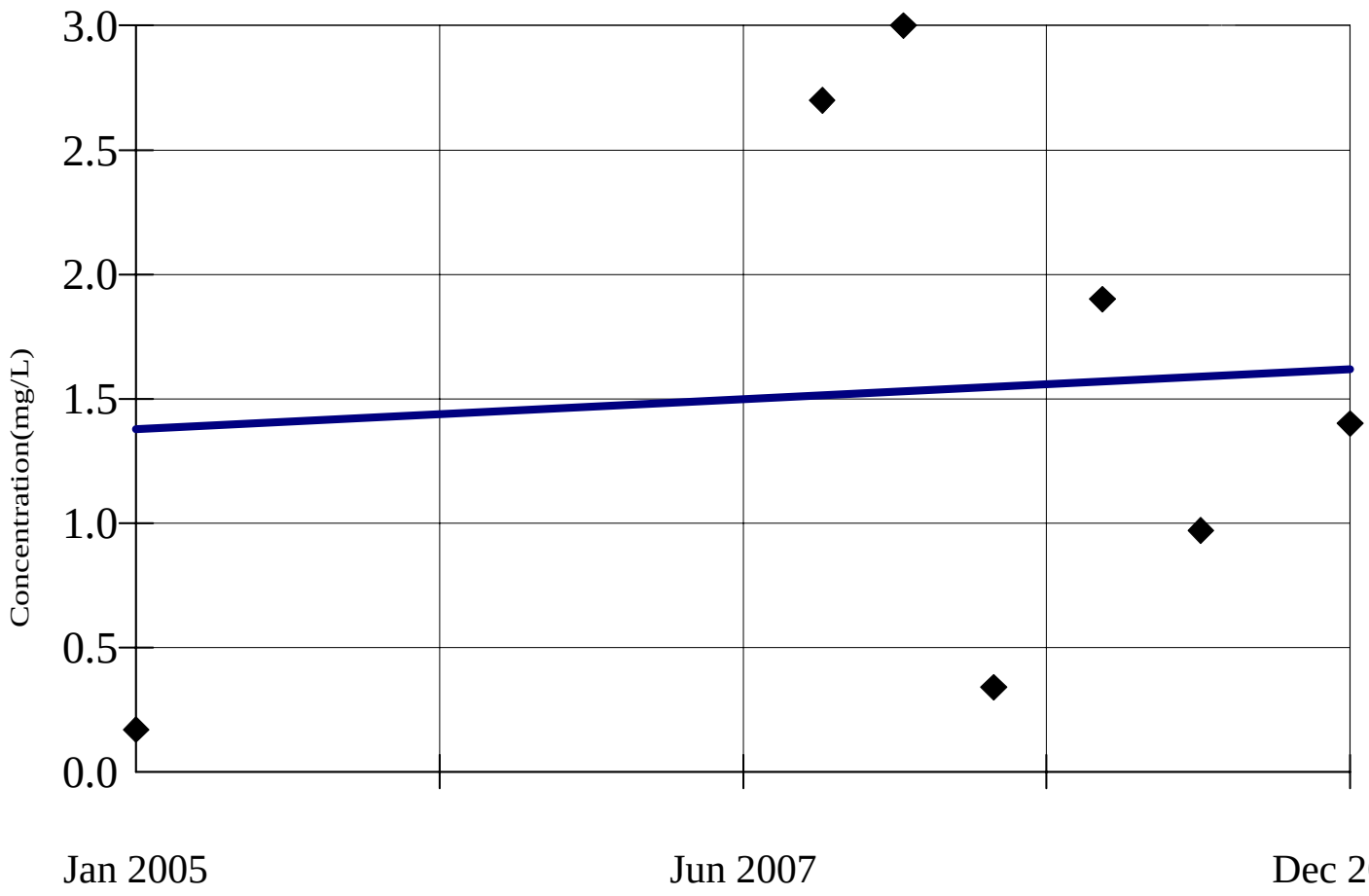
Data File: MLC2009

Date: 3/12/10

Time: 9:51 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW65



n = 7

Slope = 0.049 units per year.

Mann Kendall statistic = 1

Alpha	Critical	Signif.
0.01	18	No
0.05	15	No
0.1	13	No
0.2	10	No

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

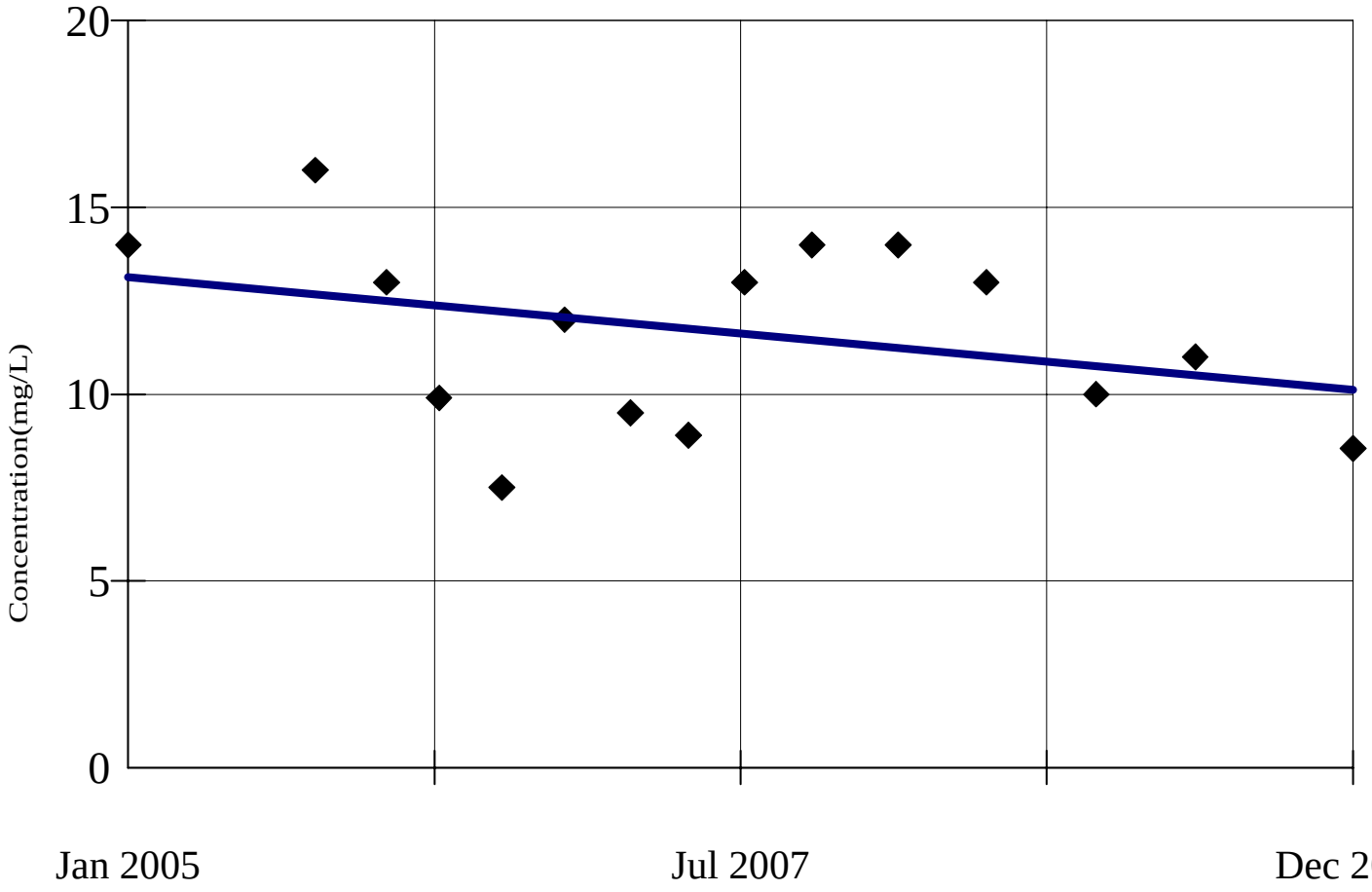
Data File: MLC2009

Date: 3/2/10

Time: 2:36 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW68



n = 15

Slope = -0.616 units per year.

Mann Kendall statistic = -21

Alpha	Critical	Signif.
0.01	-53	No
0.05	-41	No
0.1	-35	No
0.2	-28	No

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

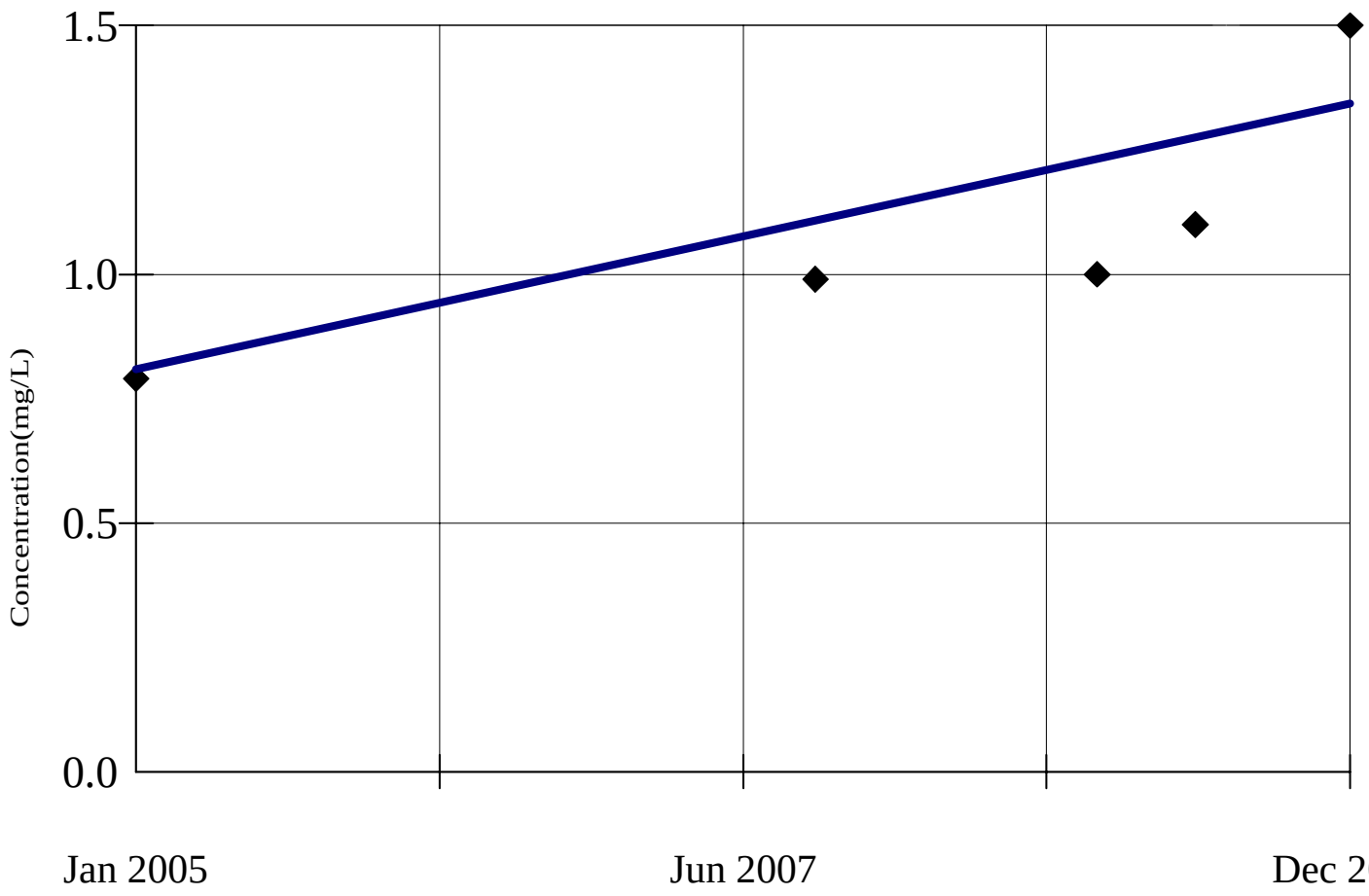
Data File: MLC2009

Date: 3/2/10

Time: 2:39 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW79



n = 5

Slope = 0.108 units per year.

Mann Kendall statistic = 10

Alpha	Critical	Signif.
0.01	12	No
0.05	10	Up
0.1	8	Up
0.2	7	Up

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

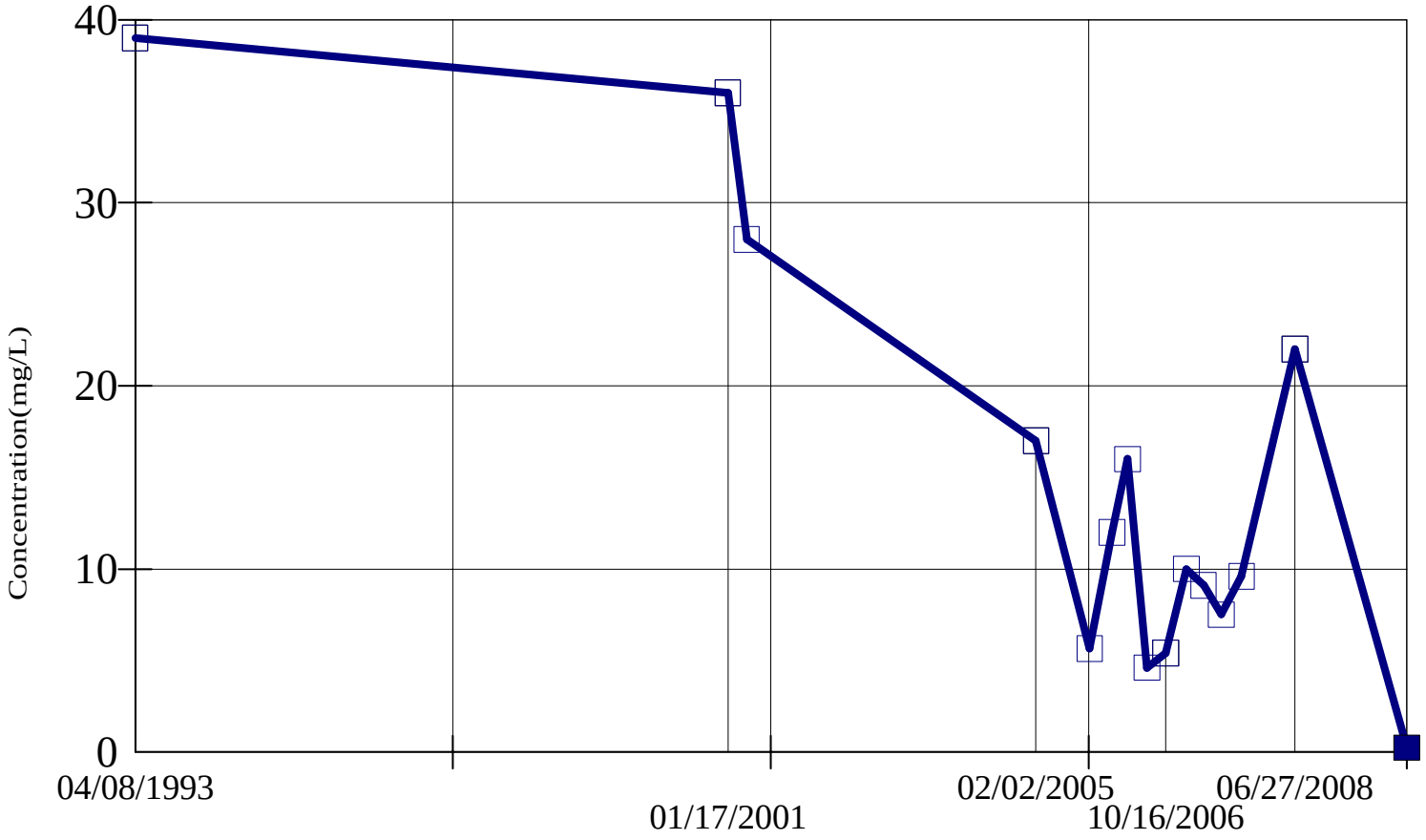
Data File: MLC2009

Date: 3/2/10

Time: 2:43 PM

View: alldata

OUTLIER ANALYSIS
MW8



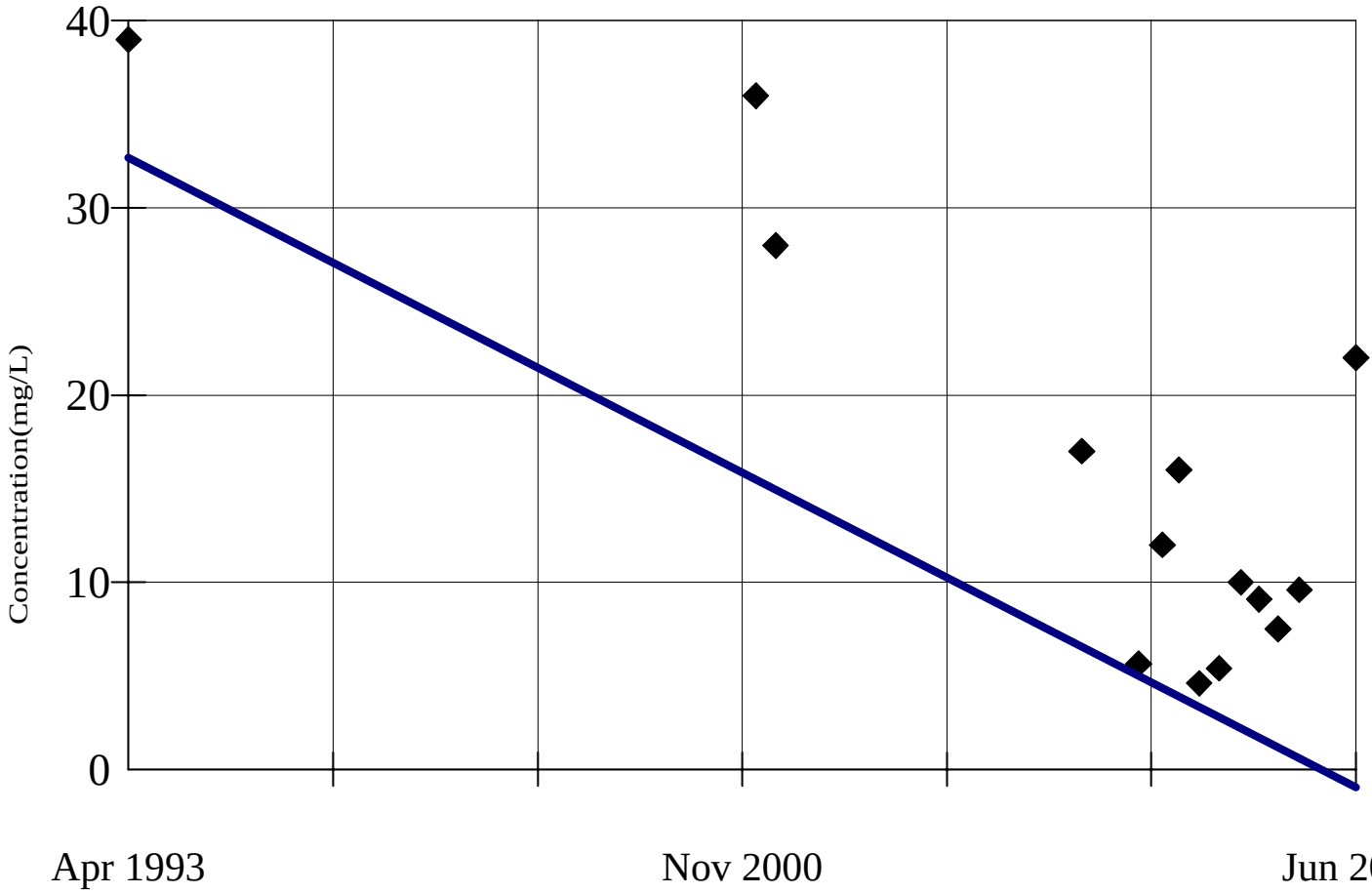
Log-transformed:
Mean = 2.271
Std. Dev. = 1.225
Critical Tn = 2.409

Statistical outliers
are shown as solid squares.

Constituent: cis-1,2-DCE (mg/L) Facility: MLC MLK Data File: MLC2009

Date: 3/2/10 Time: 1:44 PM View: alldata

SEN'S SLOPE ESTIMATOR
MW8



n = 14

Slope = -2.209 units per year.

Mann Kendall statistic = -35

Alpha	Critical	Signif.
0.01	-48	No
0.05	-37	No
0.1	-32	Down
0.2	-25	Down

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

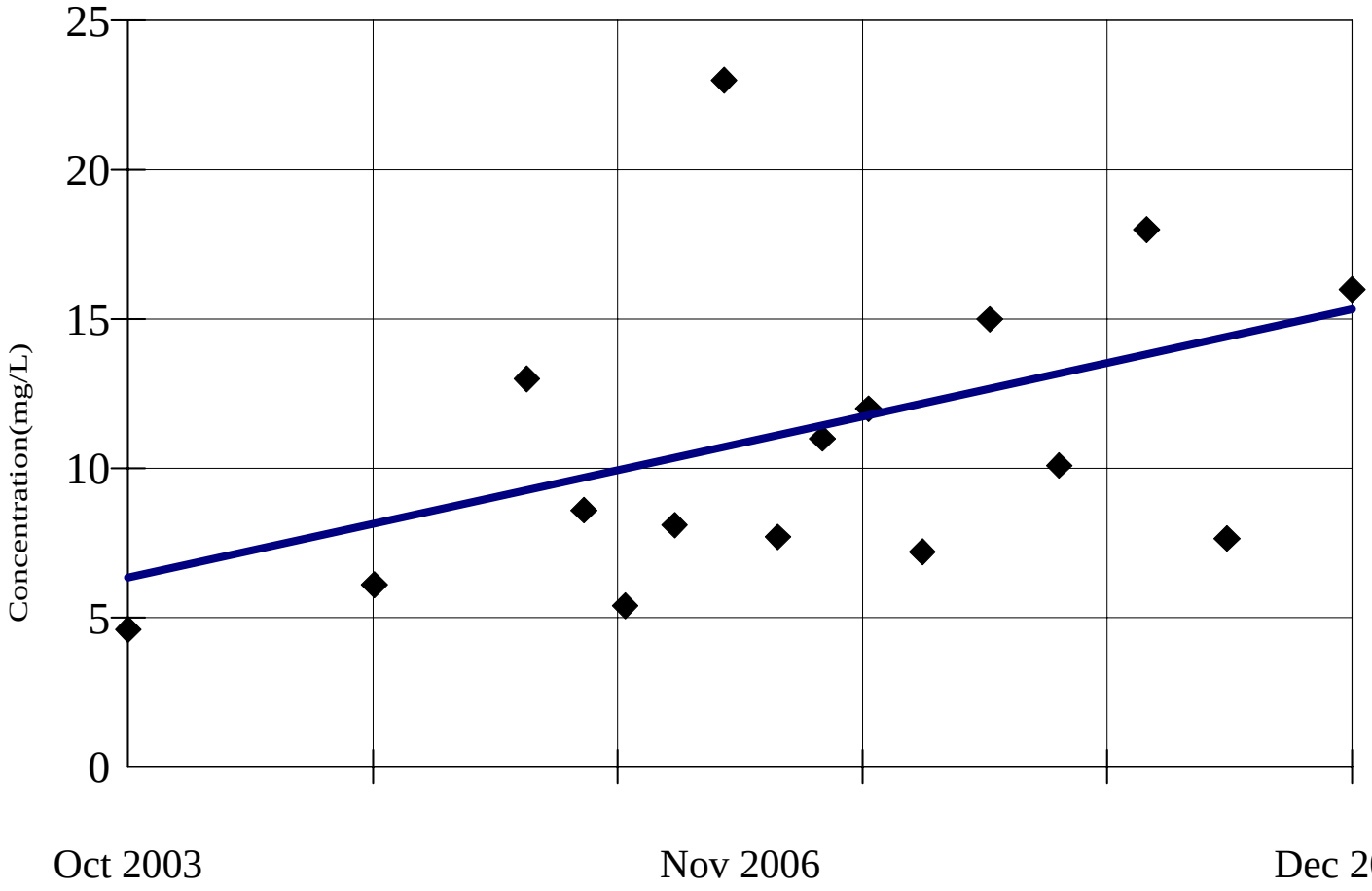
Data File: MLC2009

Date: 3/2/10

Time: 3:01 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW-4



n = 16

Slope = 1.46 units per year.

Mann Kendall statistic = 40

Alpha	Critical	Signif.
0.01	58	No
0.05	45	No
0.1	38	Up
0.2	30	Up

Constituent: cis-1,2-DCE (mg/L)

Facility: MLC MLK

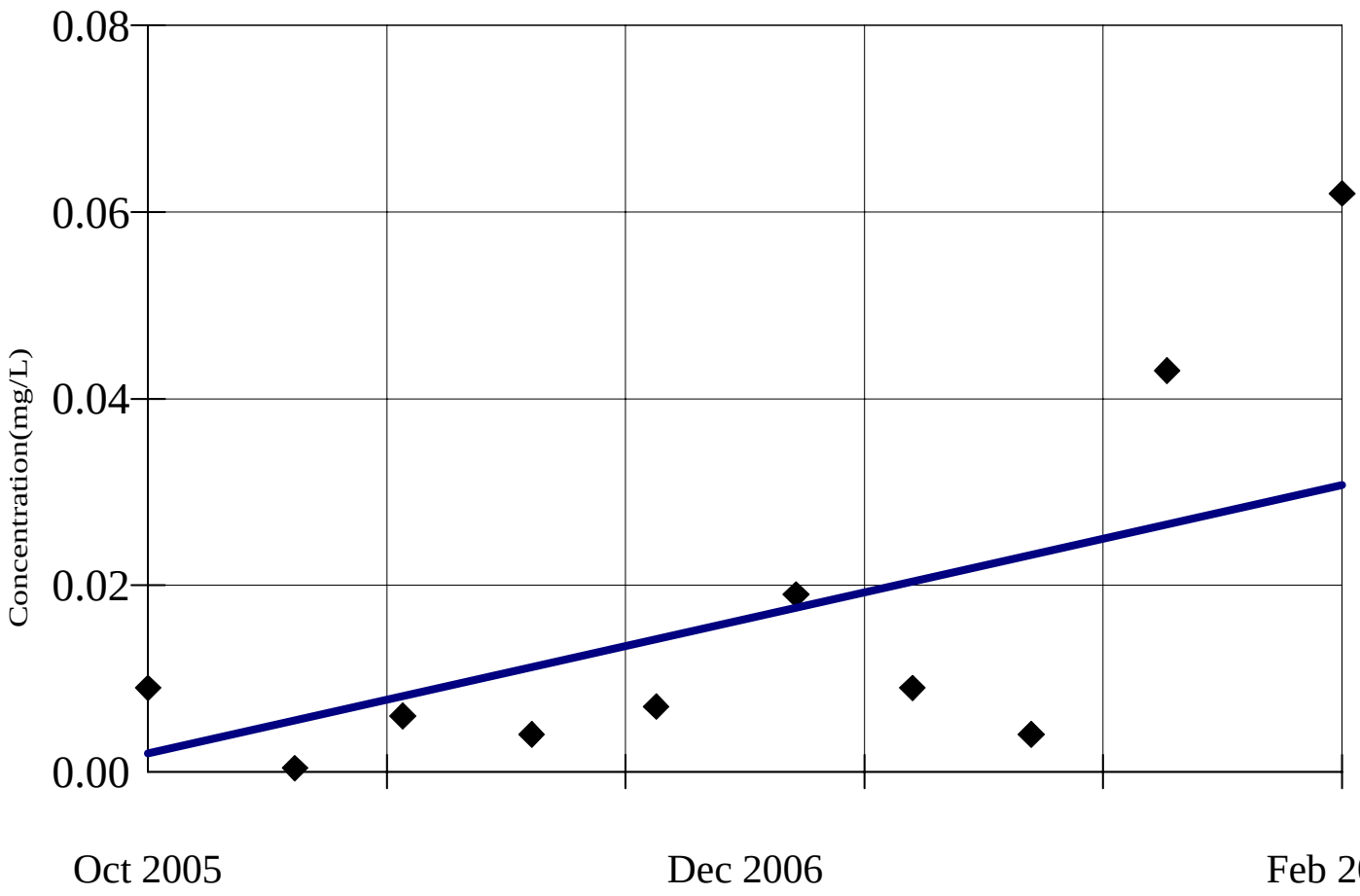
Data File: MLC2009

Date: 3/2/10

Time: 3:03 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW3



n = 10

Slope = 0.012 units per year.

Mann Kendall statistic = 21

Alpha	Critical	Signif.
0.01	30	No
0.05	23	No
0.1	20	Up
0.2	16	Up

Constituent: Ethene (mg/L)

Facility: MLC MLK

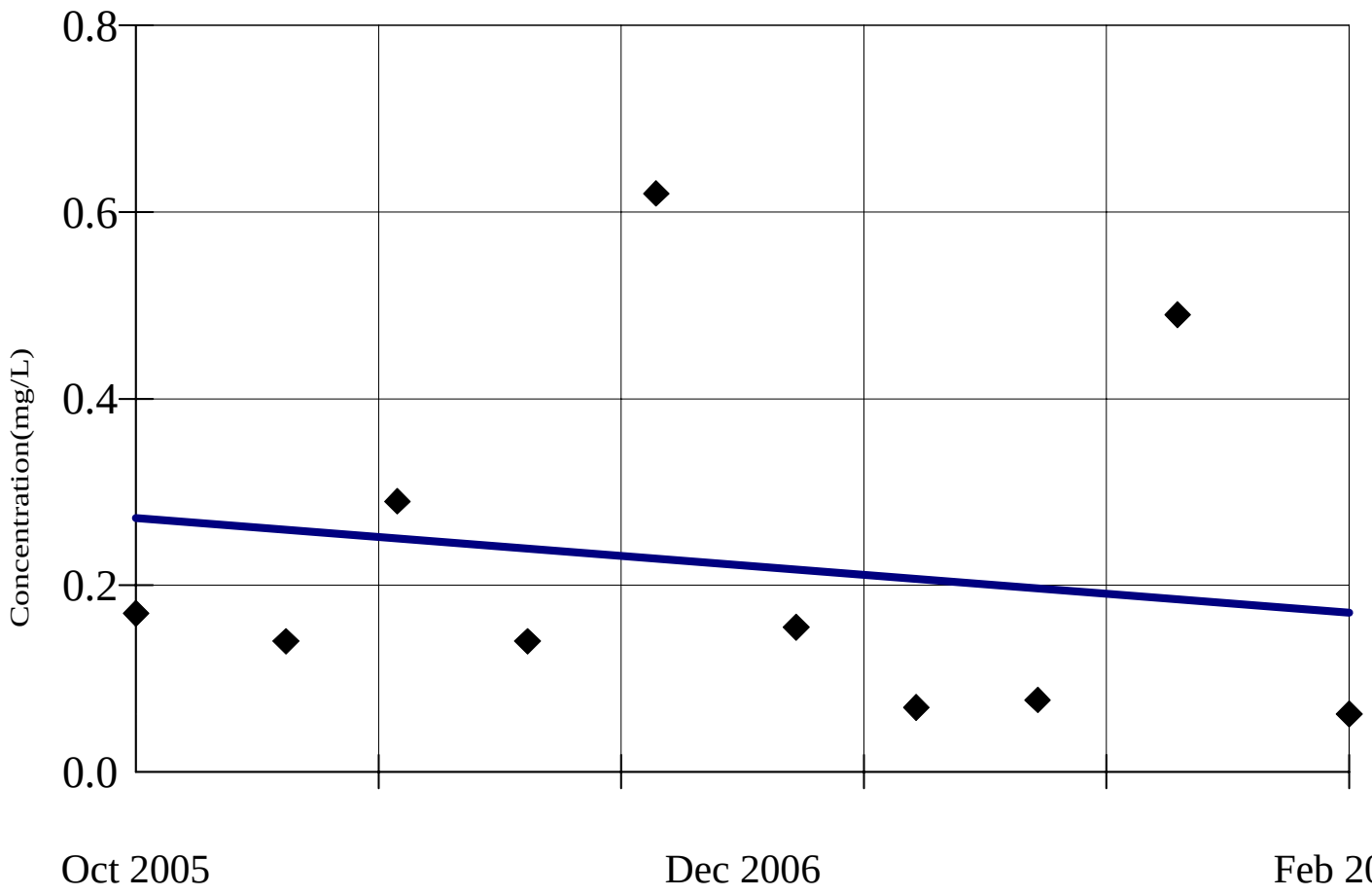
Data File: MLC2009

Date: 3/12/10

Time: 10:04 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW31/31R



n = 10

Slope = -0.044 units per year.

Mann Kendall statistic = -12

Alpha	Critical	Signif.
0.01	-30	No
0.05	-23	No
0.1	-20	No
0.2	-16	No

Constituent: Ethene (mg/L)

Facility: MLC MLK

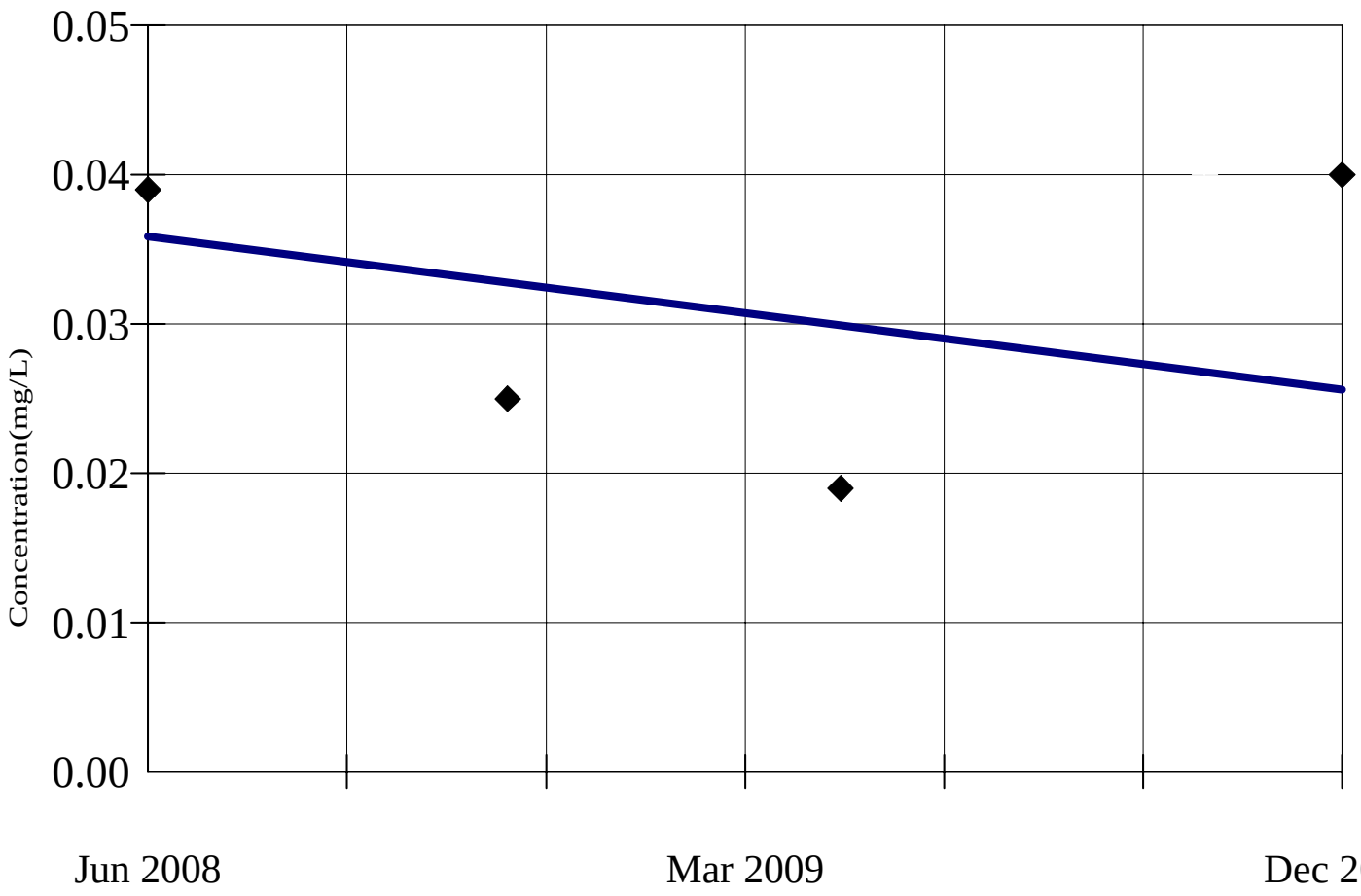
Data File: MLC2009

Date: 3/12/10

Time: 10:09 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW40



n = 4

Slope = -0.007 units per year.

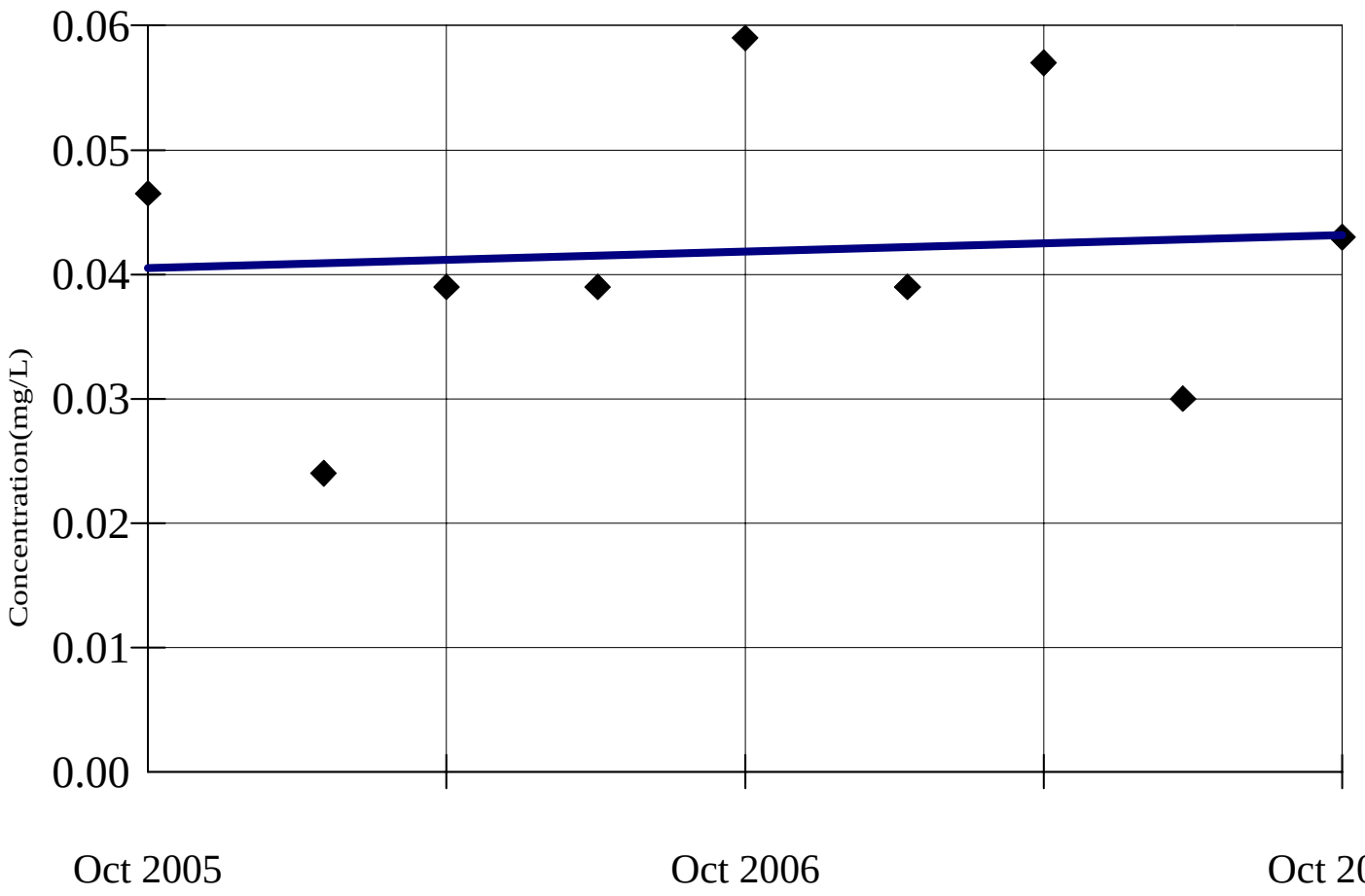
Mann Kendall statistic = 0

Alpha	Critical	Signif.
0.01	8	No
0.05	8	No
0.1	6	No
0.2	6	No

Constituent: Ethene (mg/L) Facility: MLC MLK Data File: MLC2009

Date: 3/12/10 Time: 10:11 AM View: alldata

SEN'S SLOPE ESTIMATOR
MW8



n = 9

Slope = 0.001 units per year.

Mann Kendall statistic = 3

Alpha	Critical	Signif.
0.01	25	No
0.05	20	No
0.1	17	No
0.2	14	No

Constituent: Ethene (mg/L)

Facility: MLC MLK

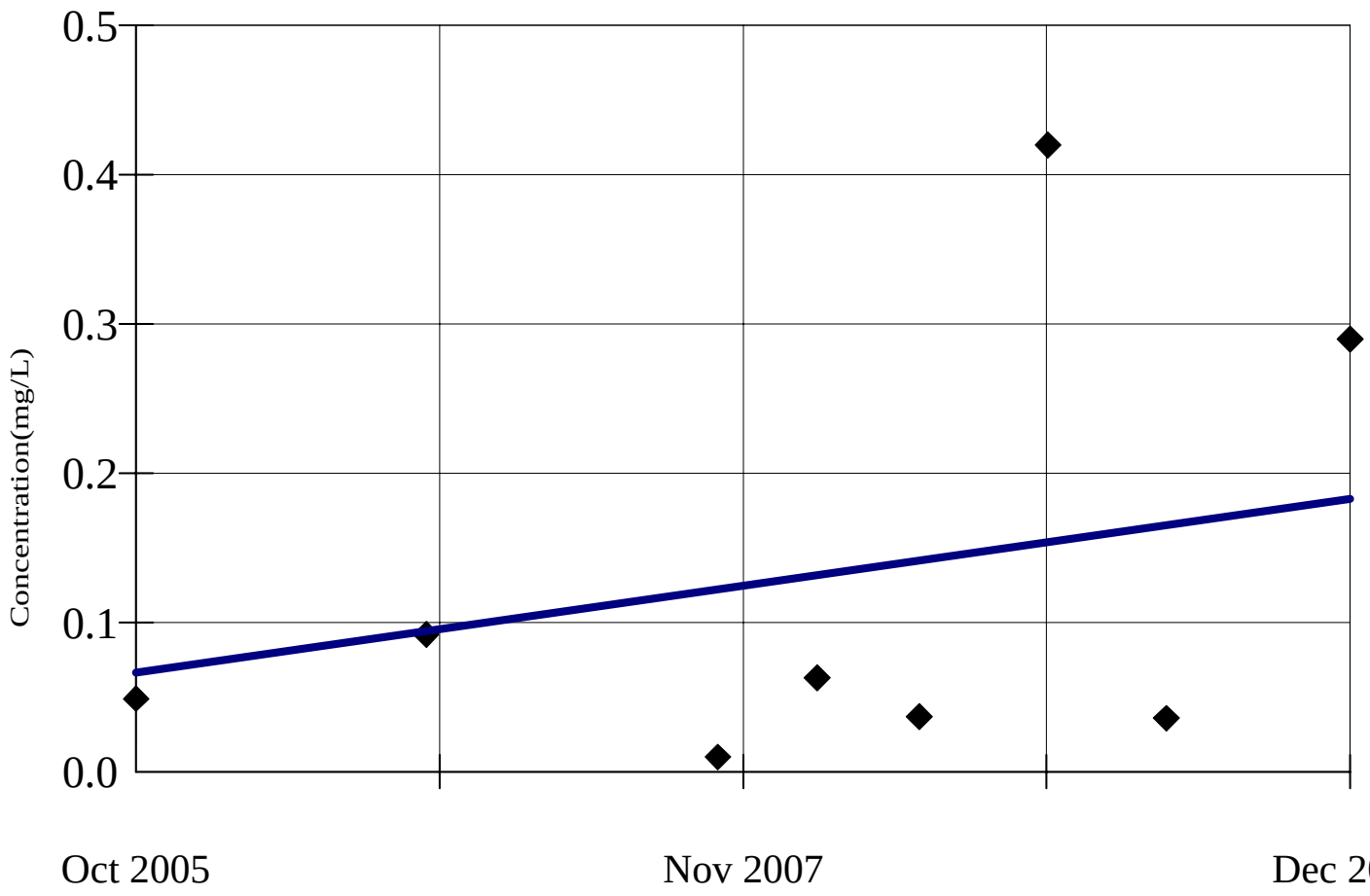
Data File: MLC2009

Date: 3/12/10

Time: 10:17 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW-4



n = 8

Slope = 0.028
units per year.

Mann Kendall
statistic = 4

Alpha	Critical	Signif.
0.01	21	No
0.05	17	No
0.1	15	No
0.2	12	No

Constituent: Ethene (mg/L)

Facility: MLC MLK

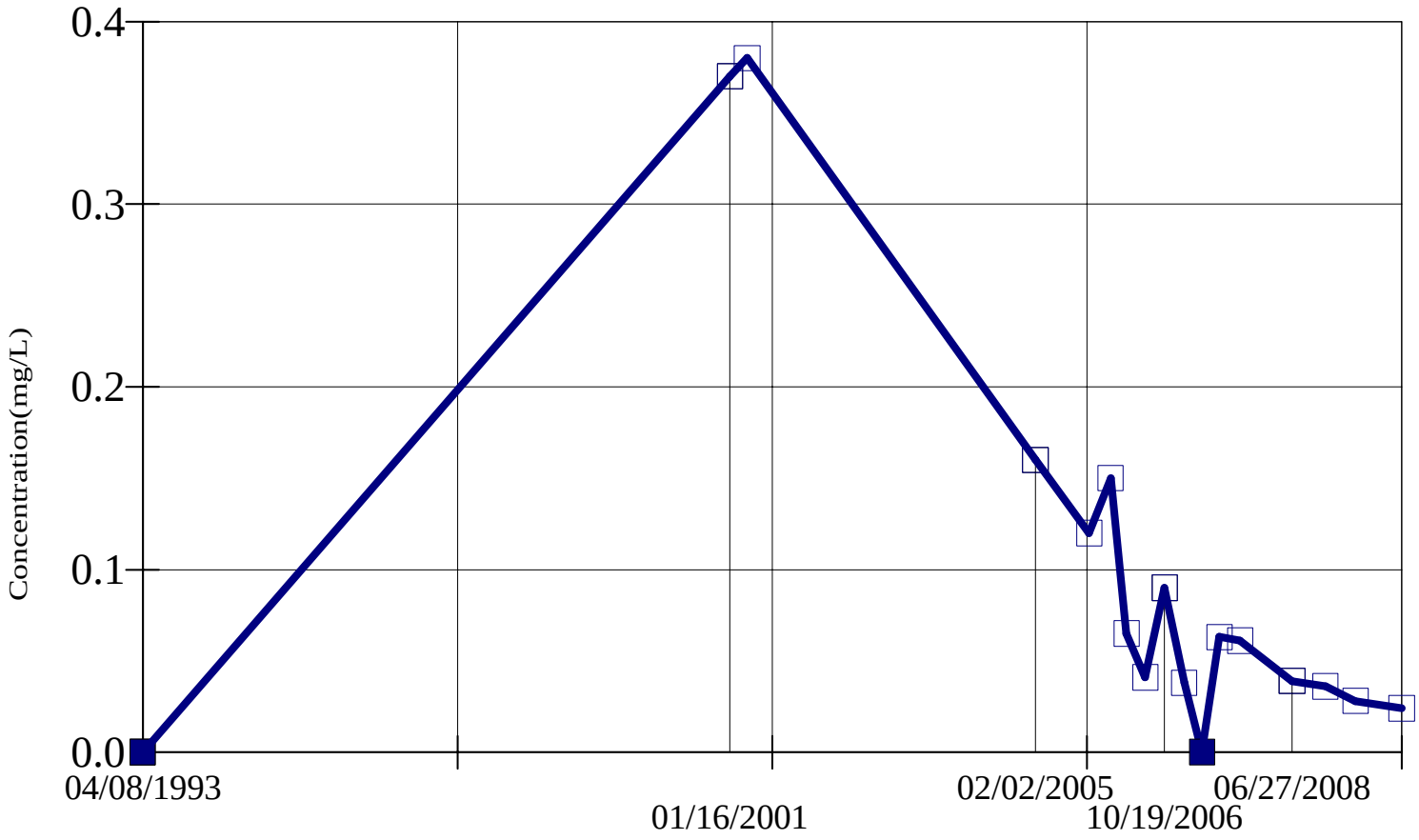
Data File: MLC2009

Date: 3/12/10

Time: 10:19 AM

View: alldata

OUTLIER ANALYSIS
MW12



Log-transformed:
Mean = -3.369
Std. Dev. = 2.345
Critical Tn = 2.475

Statistical outliers
are shown as solid squares.

Constituent: TCE (mg/L)

Facility: MLC MLK

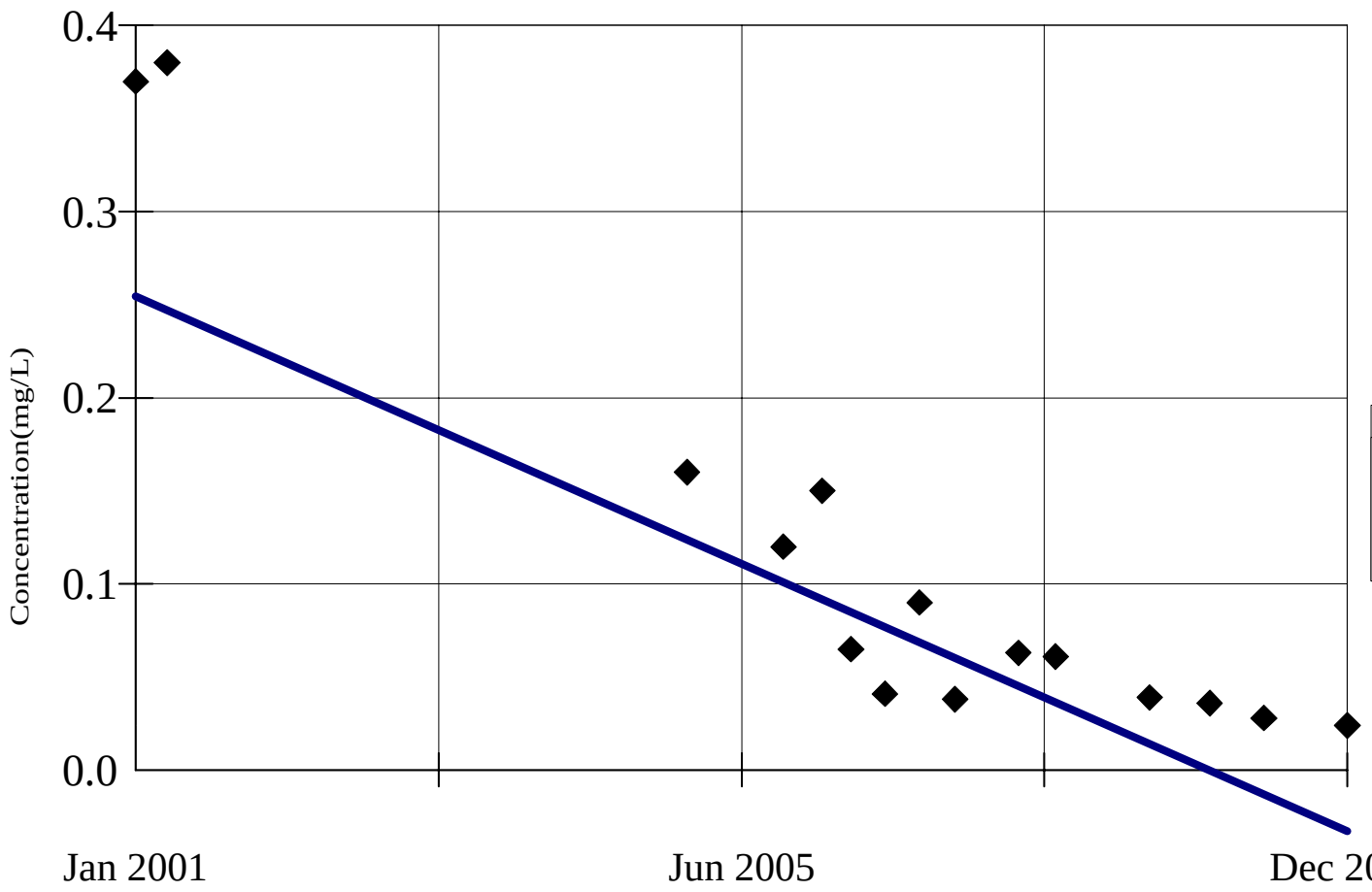
Data File: MLC2009

Date: 3/12/10

Time: 10:24 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW12



n = 15

Slope = -0.032
units per year.

Mann Kendall
statistic = -87

Alpha	Critical	Signif.
0.01	-53	Down
0.05	-41	Down
0.1	-35	Down
0.2	-28	Down

Constituent: TCE (mg/L)

Facility: MLC MLK

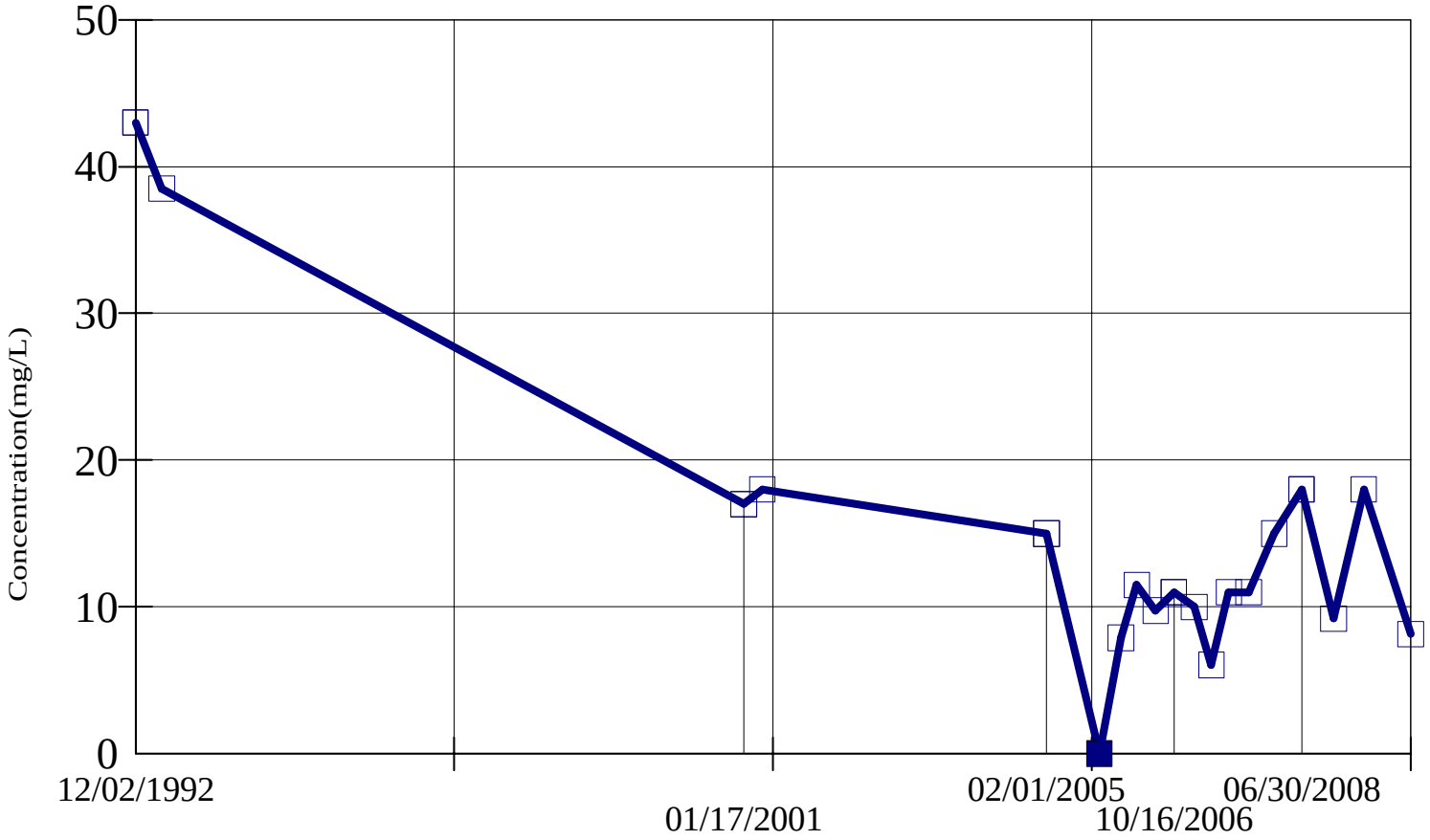
Data File: MLC2009

Date: 3/12/10

Time: 10:26 AM

View: alldata

OUTLIER ANALYSIS
MW3



Log-transformed:
Mean = 2.231
Std. Dev. = 1.668
Critical Tn = 2.532

Statistical outliers
are shown as solid squares.

Constituent: TCE (mg/L)

Facility: MLC MLK

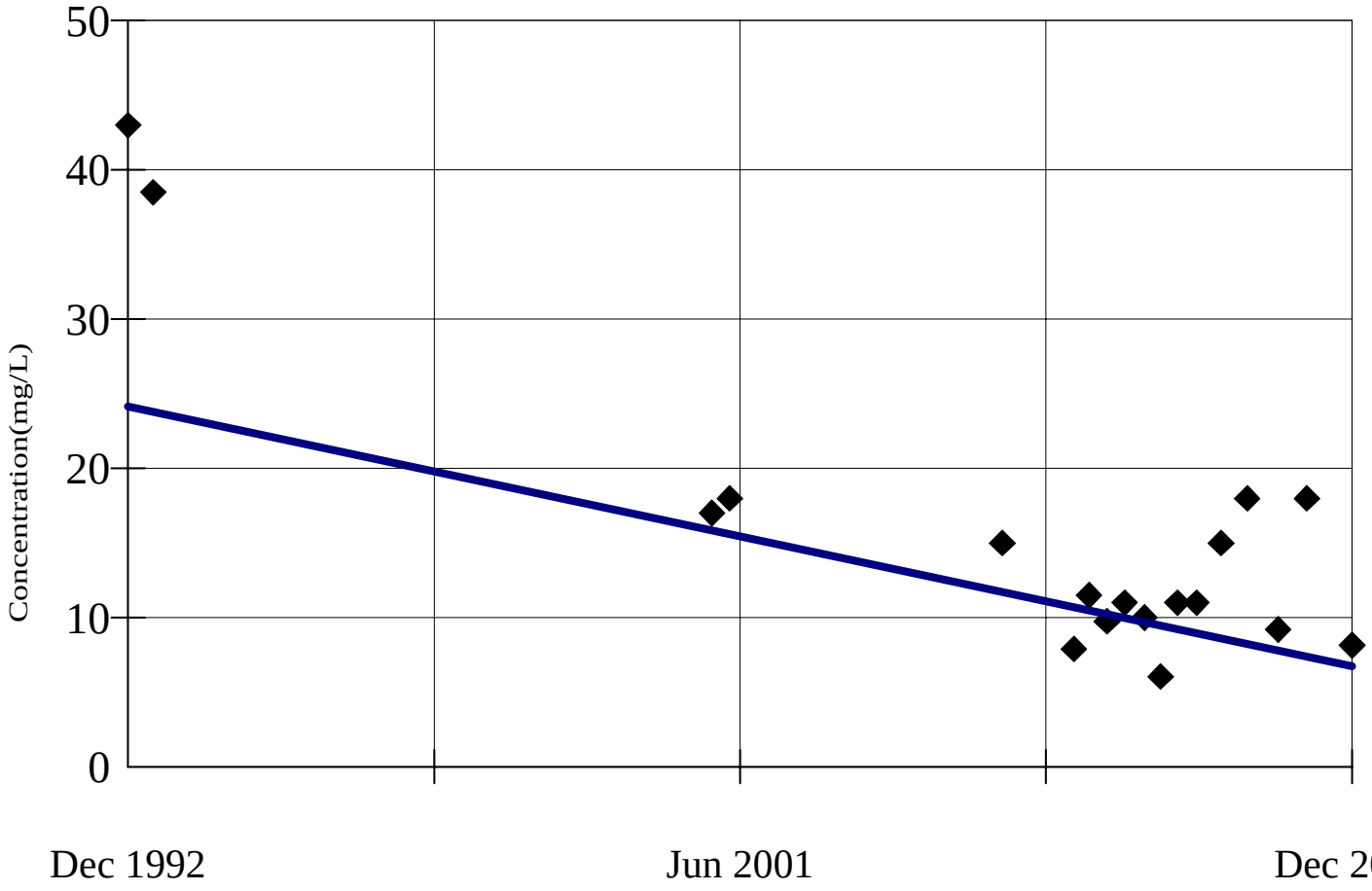
Data File: MLC2009

Date: 3/12/10

Time: 11:17 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW3



n = 18

Slope = -1.019
units per year.

Mann Kendall
statistic = -46

Alpha	Critical	Signif.
0.01	-68	No
0.05	-53	No
0.1	-45	Down
0.2	-36	Down

Constituent: TCE (mg/L)

Facility: MLC MLK

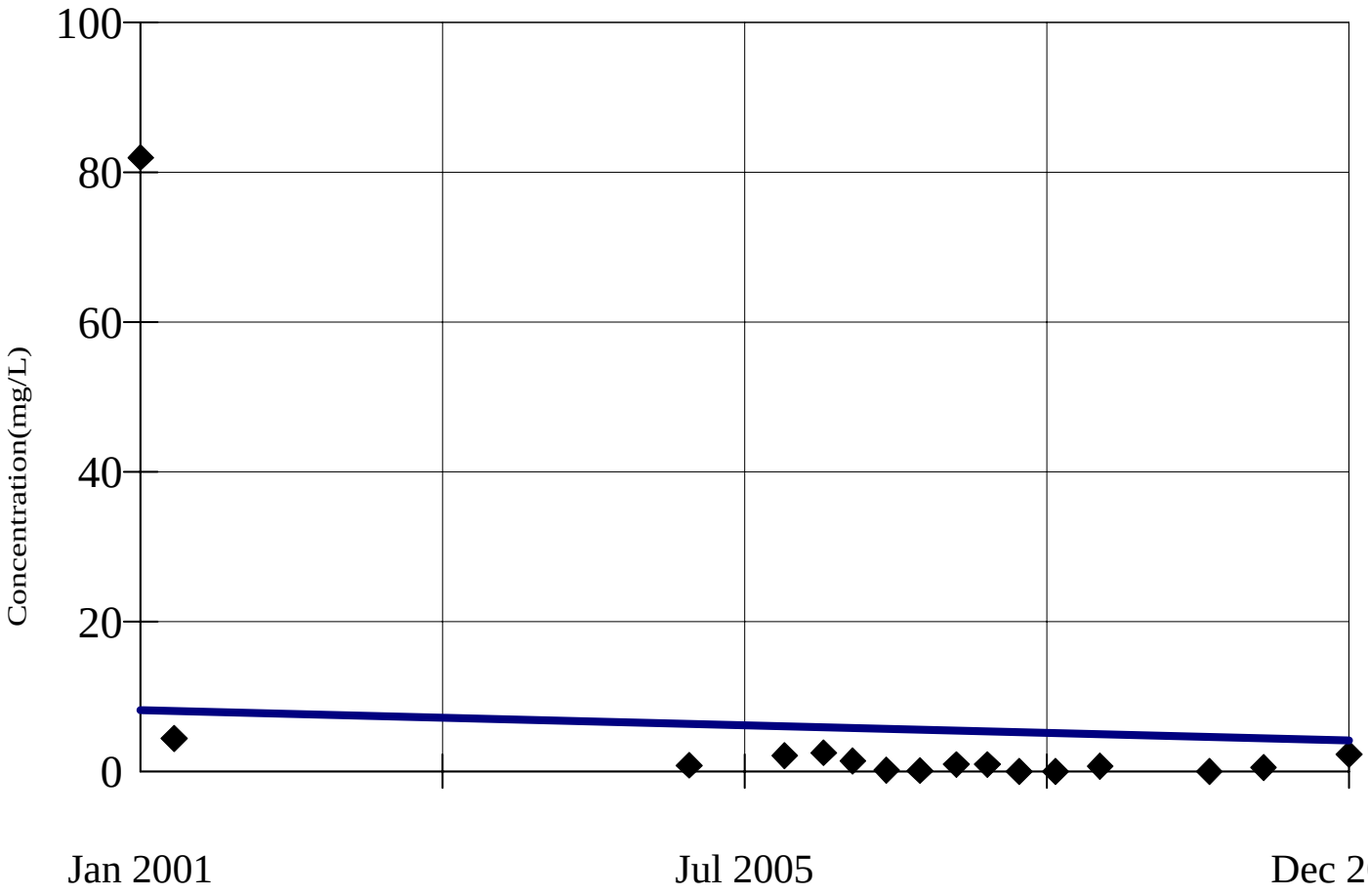
Data File: MLC2009

Date: 3/12/10

Time: 11:20 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW31/31R



n = 16

Slope = -0.457
units per year.

Mann Kendall
statistic = -53

Alpha	Critical	Signif.
0.01	-58	No
0.05	-45	Down
0.1	-38	Down
0.2	-30	Down

Constituent: TCE (mg/L)

Facility: MLC MLK

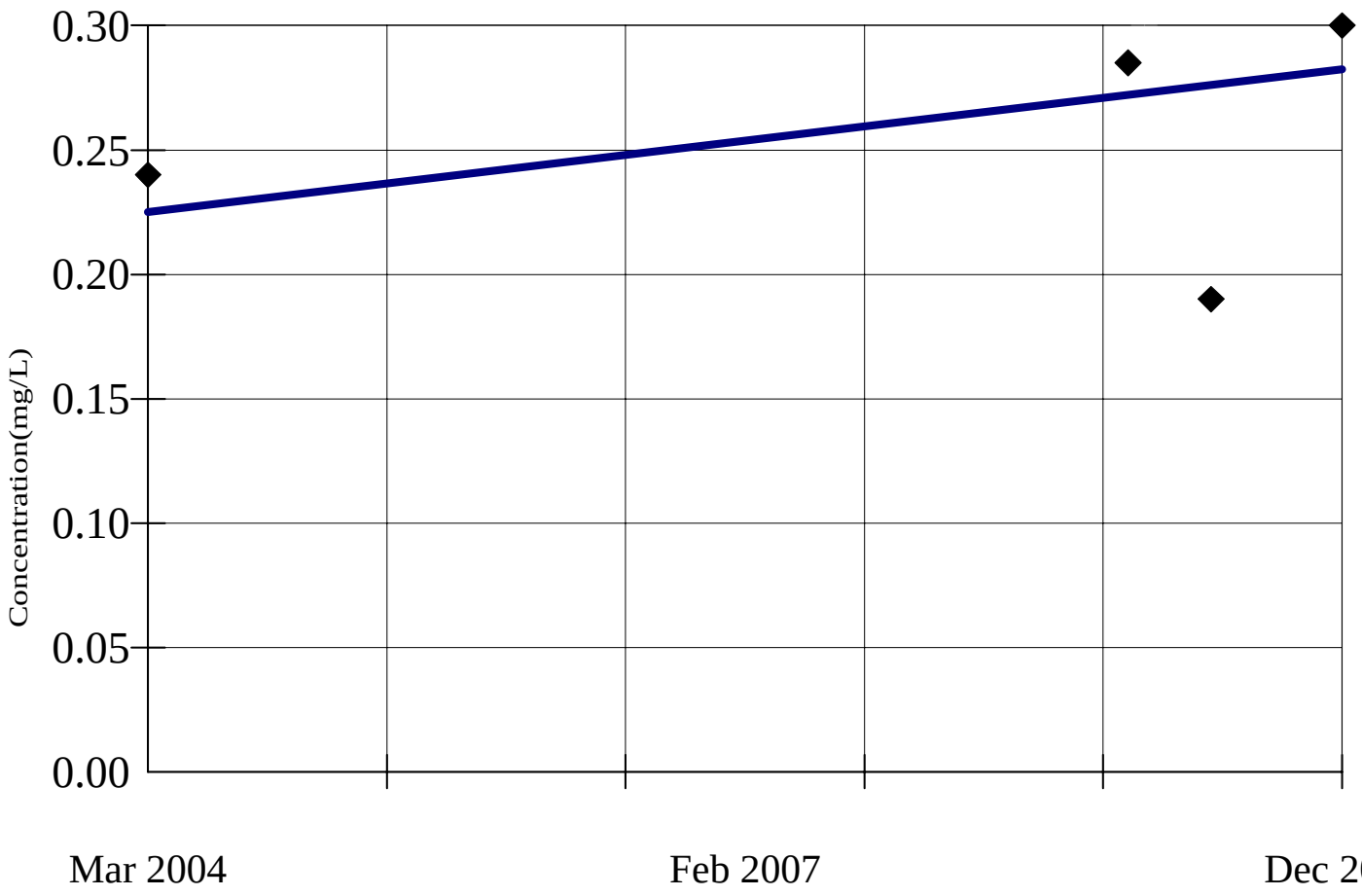
Data File: MLC2009

Date: 3/12/10

Time: 11:28 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW51



n = 4

Slope = 0.01
units per year.

Mann Kendall
statistic = 2

Alpha	Critical	Signif.
0.01	8	No
0.05	8	No
0.1	6	No
0.2	6	No

Constituent: TCE (mg/L)

Facility: MLC MLK

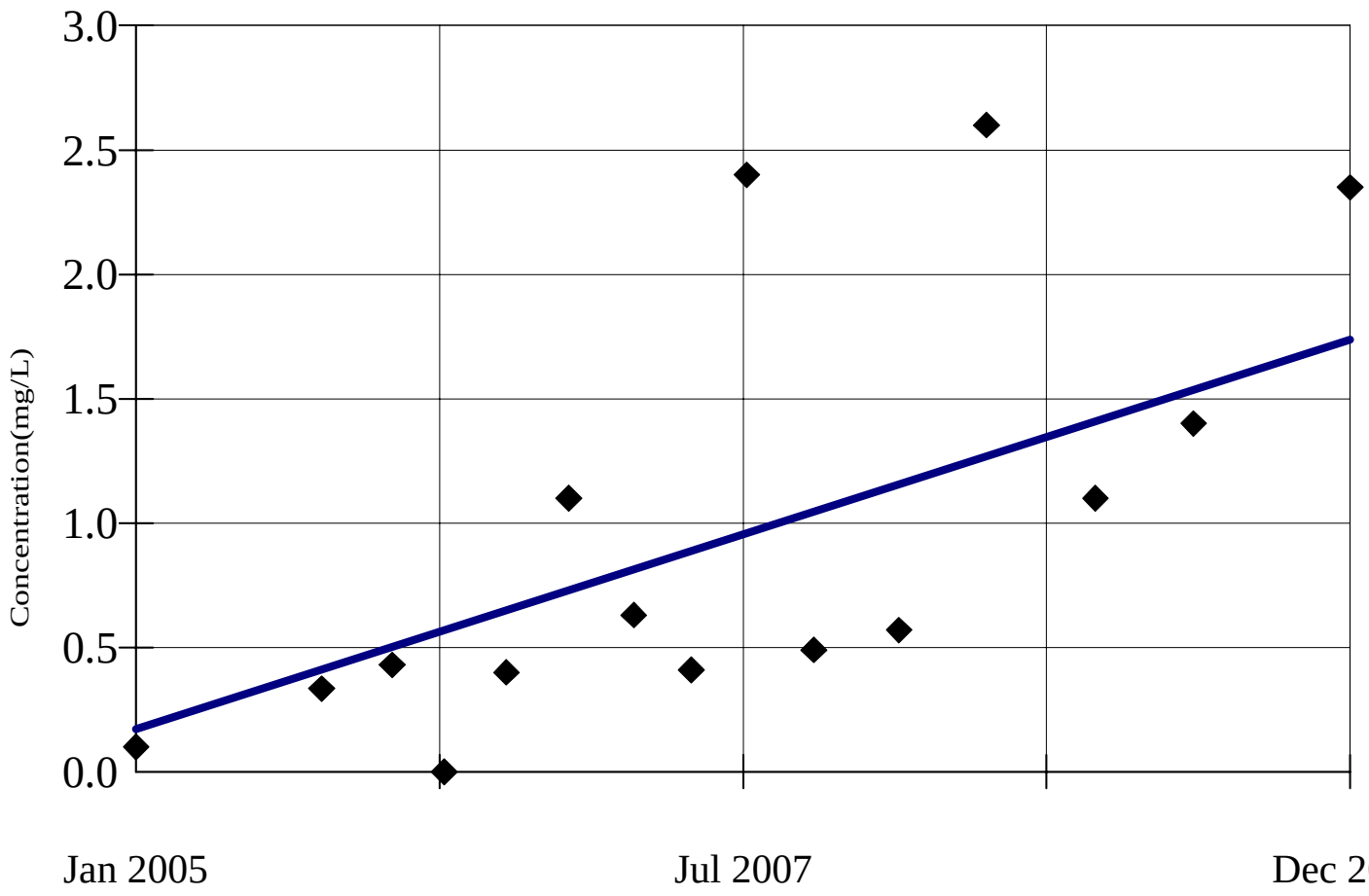
Data File: MLC2009

Date: 3/12/10

Time: 11:32 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW68



n = 15

Slope = 0.319 units per year.

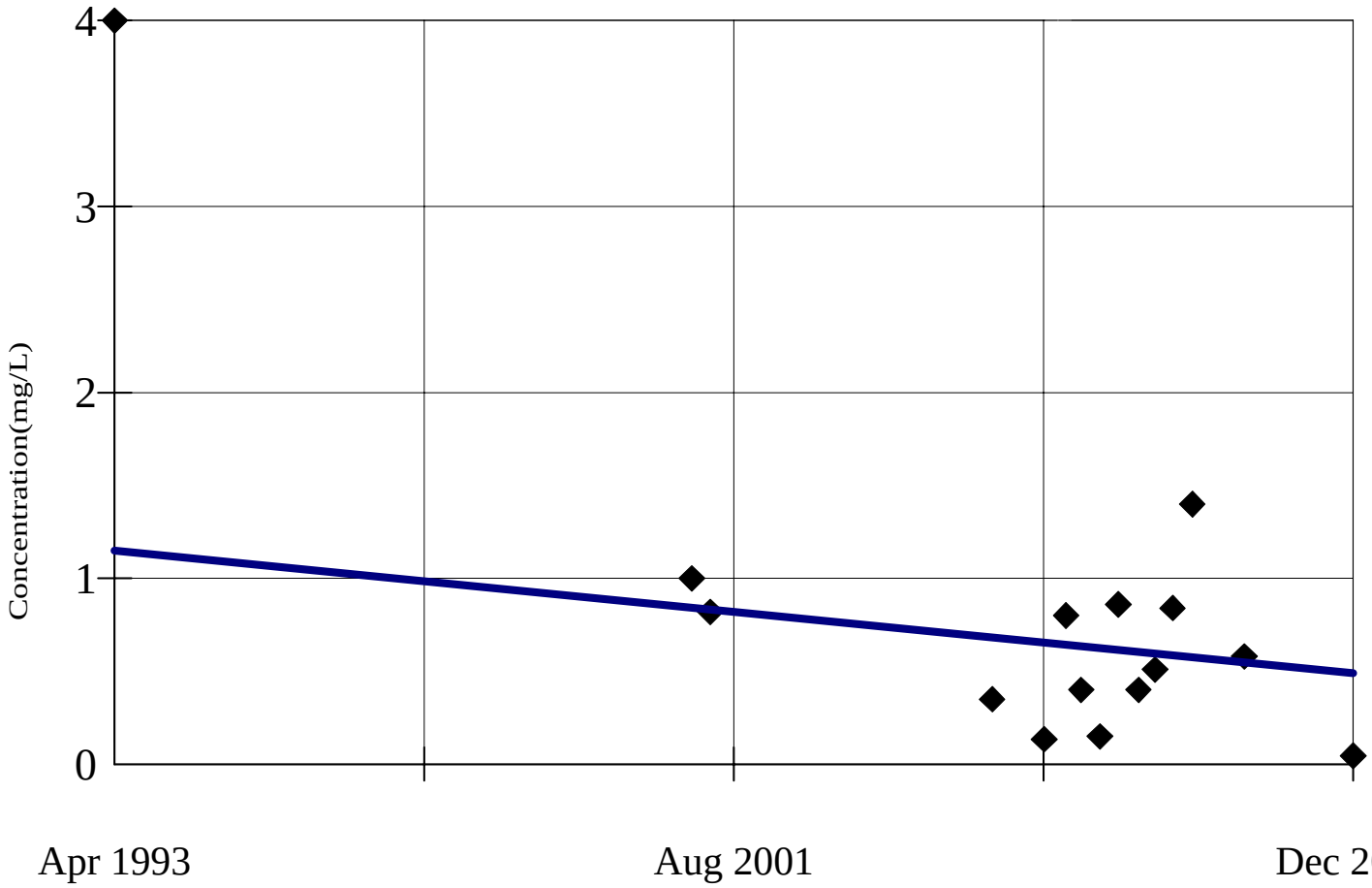
Mann Kendall statistic = 64

Alpha	Critical	Signif.
0.01	53	Up
0.05	41	Up
0.1	35	Up
0.2	28	Up

Constituent: TCE (mg/L) Facility: MLC MLK Data File: MLC2009

Date: 3/12/10 Time: 11:34 AM View: alldata

SEN'S SLOPE ESTIMATOR
MW8



n = 15

Slope = -0.04
units per year.

Mann Kendall
statistic = -16

Alpha	Critical	Signif.
0.01	-53	No
0.05	-41	No
0.1	-35	No
0.2	-28	No

Constituent: TCE (mg/L)

Facility: MLC MLK

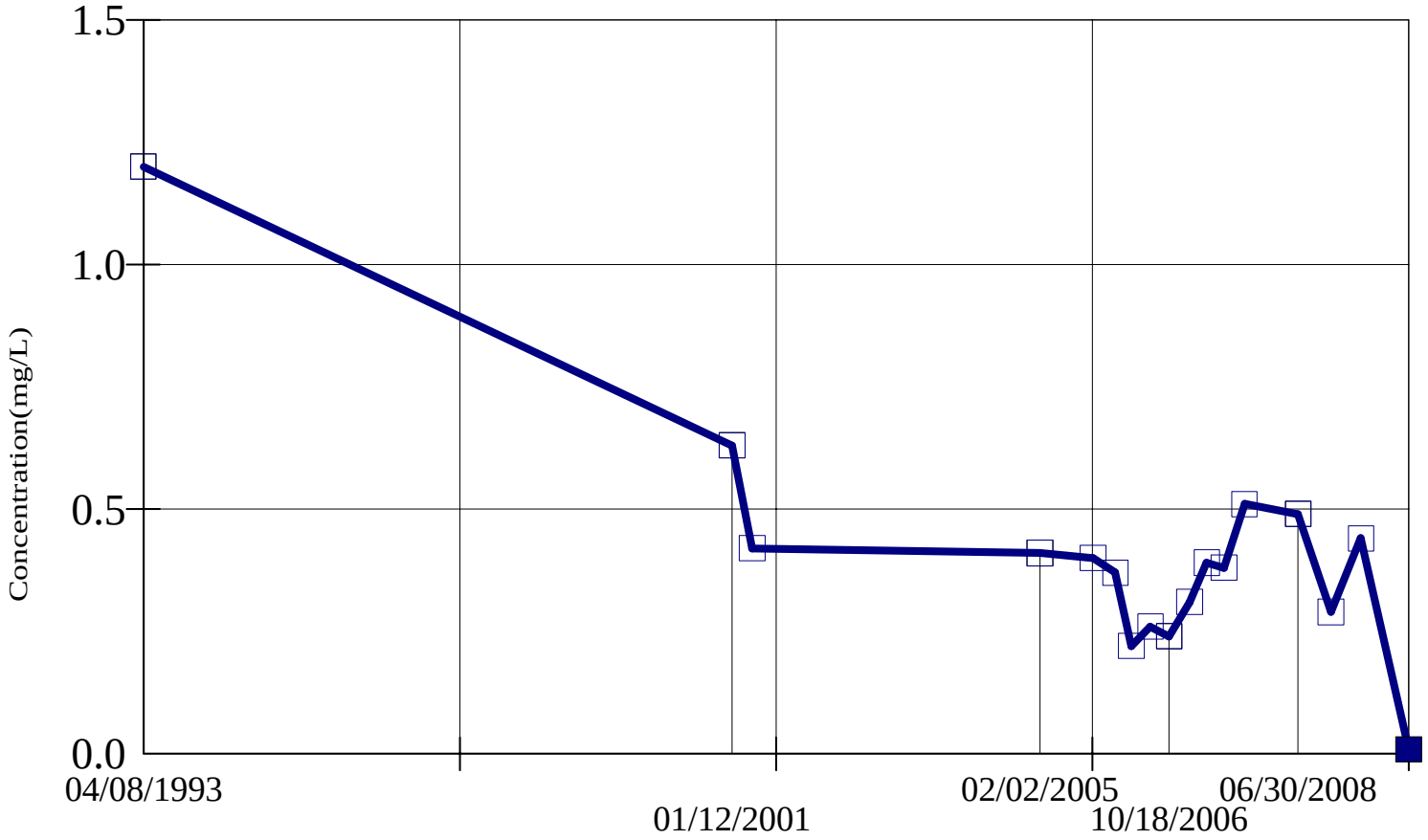
Data File: MLC2009

Date: 3/12/10

Time: 11:38 AM

View: alldata

OUTLIER ANALYSIS
MW14



Log-transformed:
Mean = -1.148
Std. Dev. = 1.008
Critical Tn = 2.475

Statistical outliers
are shown as solid squares.

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

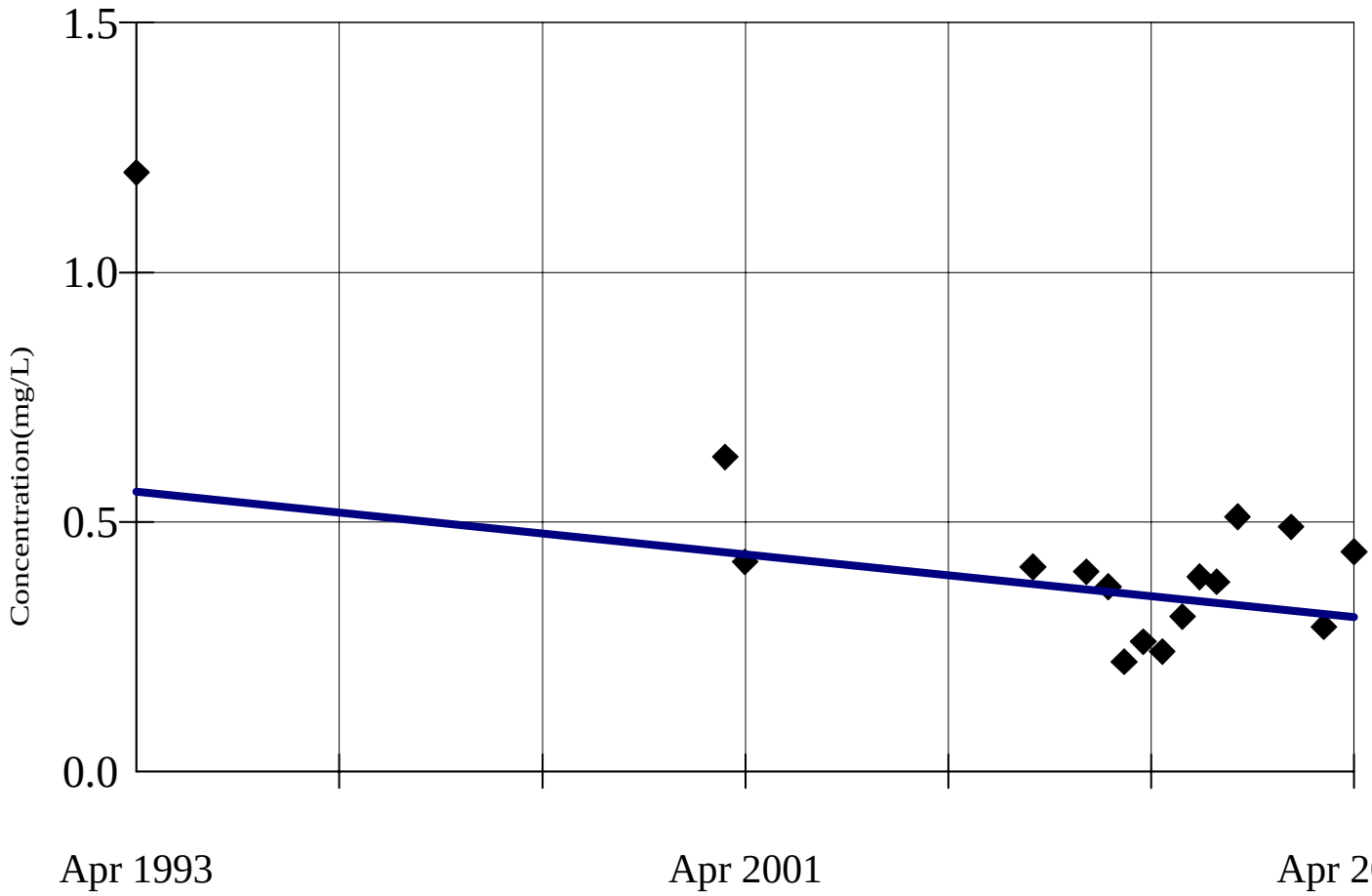
Data File: MLC2009

Date: 3/12/10

Time: 11:41 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW14



n = 16

Slope = -0.016 units per year.

Mann Kendall statistic = -22

Alpha	Critical	Signif.
0.01	-58	No
0.05	-45	No
0.1	-38	No
0.2	-30	No

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

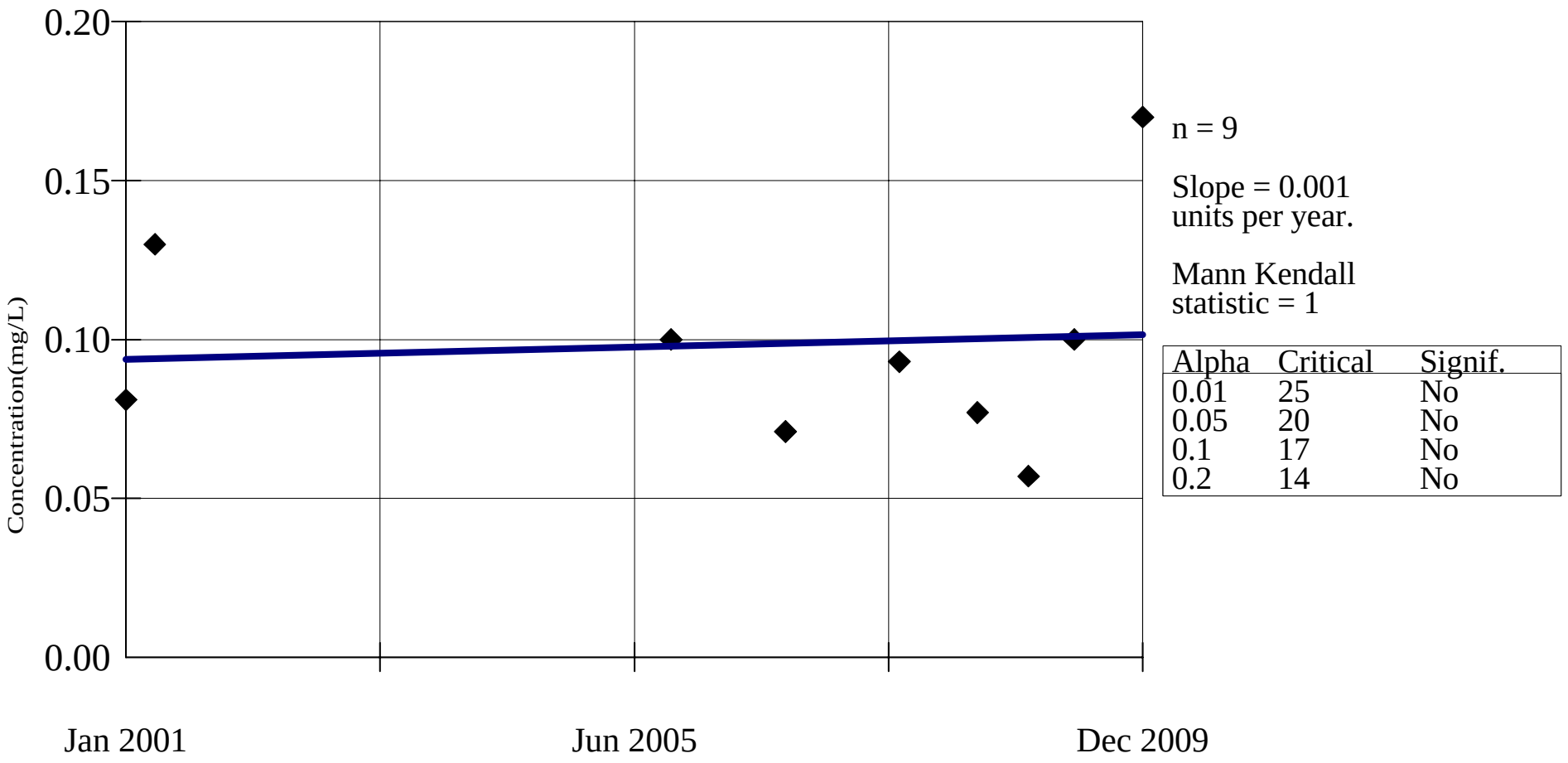
Data File: MLC2009

Date: 3/12/10

Time: 11:46 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW28



Alpha	Critical	Signif.
0.01	25	No
0.05	20	No
0.1	17	No
0.2	14	No

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

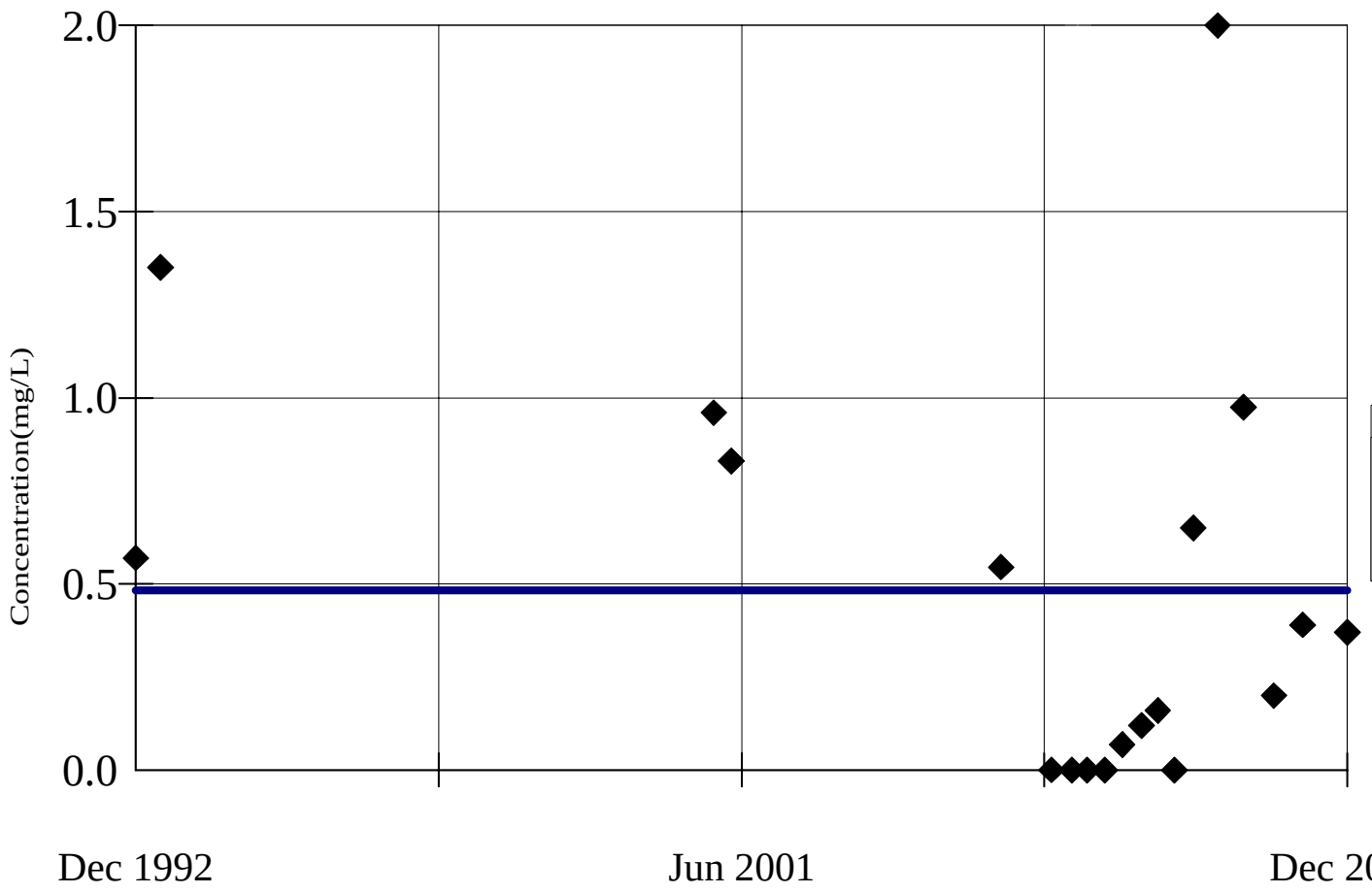
Data File: MLC2009

Date: 3/12/10

Time: 11:58 AM

View: alldata

SEN'S SLOPE ESTIMATOR
MW3



n = 19

Slope = 0
units per year.

Mann Kendall
statistic = -3

Alpha	Critical	Signif.
0.01	-74	No
0.05	-58	No
0.1	-49	No
0.2	-38	No

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

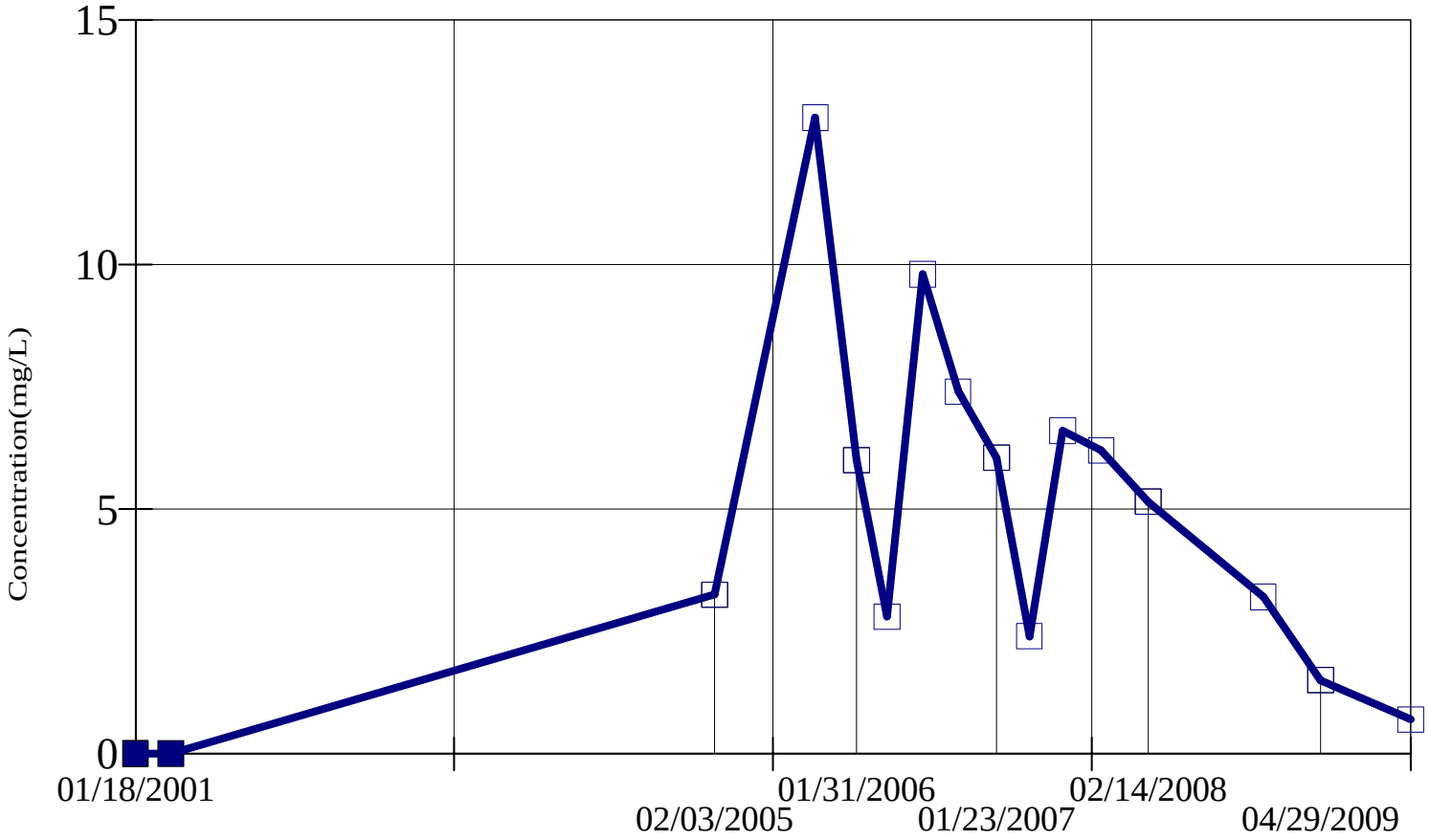
Data File: MLC2009

Date: 3/12/10

Time: 12:00 PM

View: alldata

OUTLIER ANALYSIS
MW31/31R



Log-transformed:
Mean = 0.104
Std. Dev. = 3.707
Critical Tn = 2.443

Statistical outliers
are shown as solid squares.

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

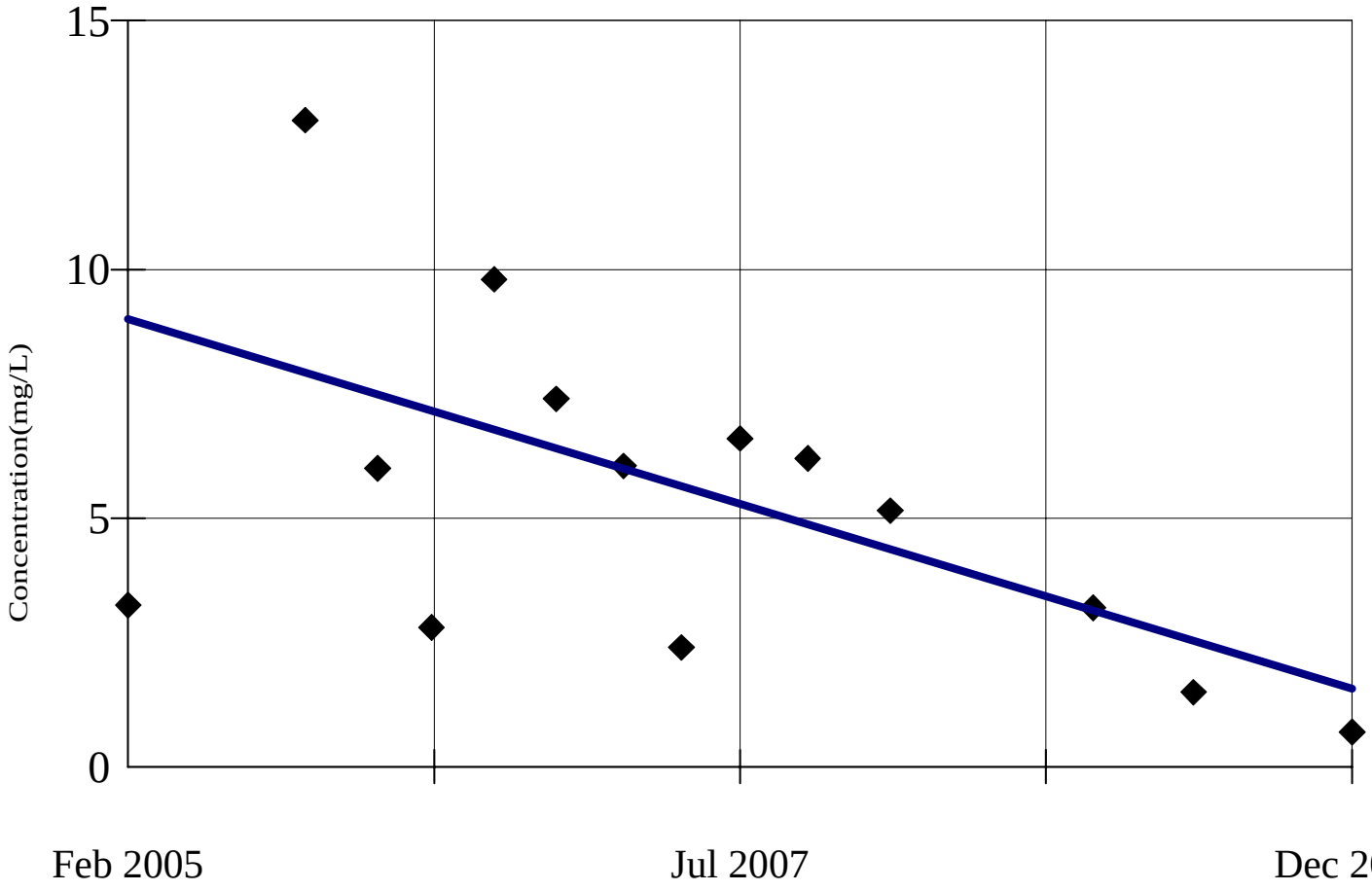
Data File: MLC2009

Date: 3/12/10

Time: 12:09 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW31/31R



n = 14

Slope = -1.528 units per year.

Mann Kendall statistic = -39

Alpha	Critical	Signif.
0.01	-48	No
0.05	-37	Down
0.1	-32	Down
0.2	-25	Down

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

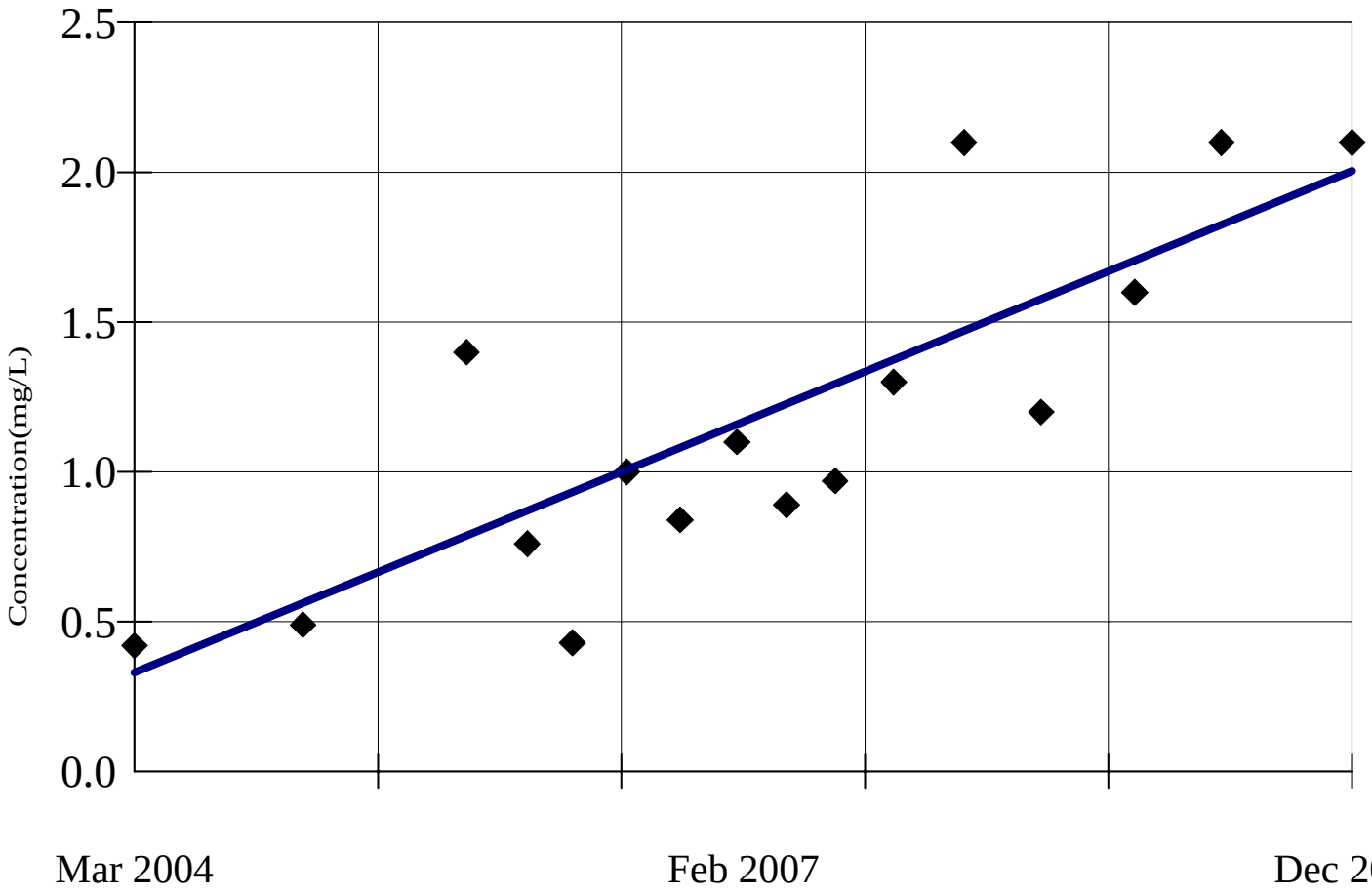
Data File: MLC2009

Date: 3/12/10

Time: 12:12 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW40



n = 16

Slope = 0.294 units per year.

Mann Kendall statistic = 79

Alpha	Critical	Signif.
0.01	58	Up
0.05	45	Up
0.1	38	Up
0.2	30	Up

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

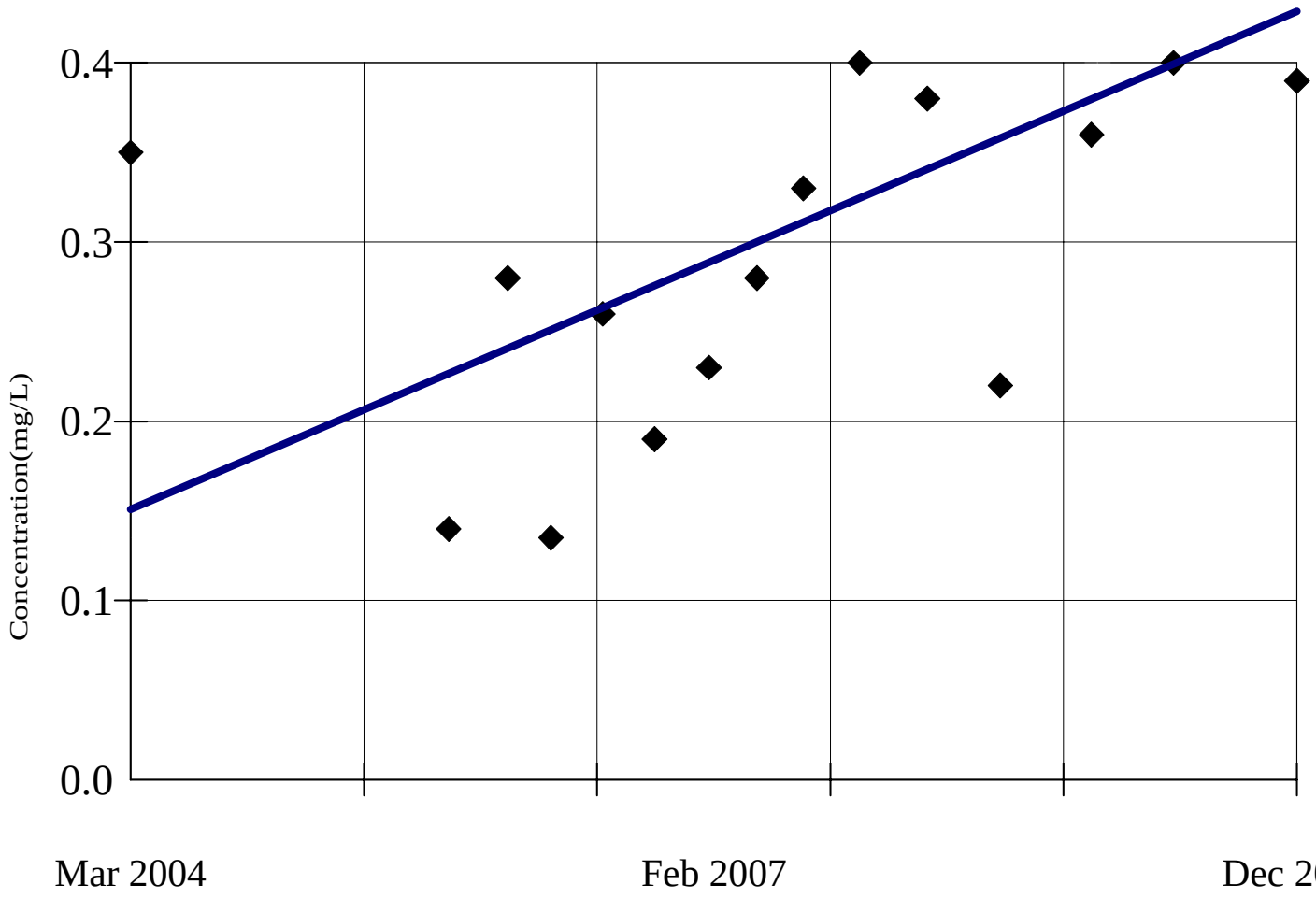
Data File: MLC2009

Date: 3/12/10

Time: 12:17 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW41



n = 15

Slope = 0.049 units per year.

Mann Kendall statistic = 47

Alpha	Critical	Signif.
0.01	53	No
0.05	41	Up
0.1	35	Up
0.2	28	Up

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

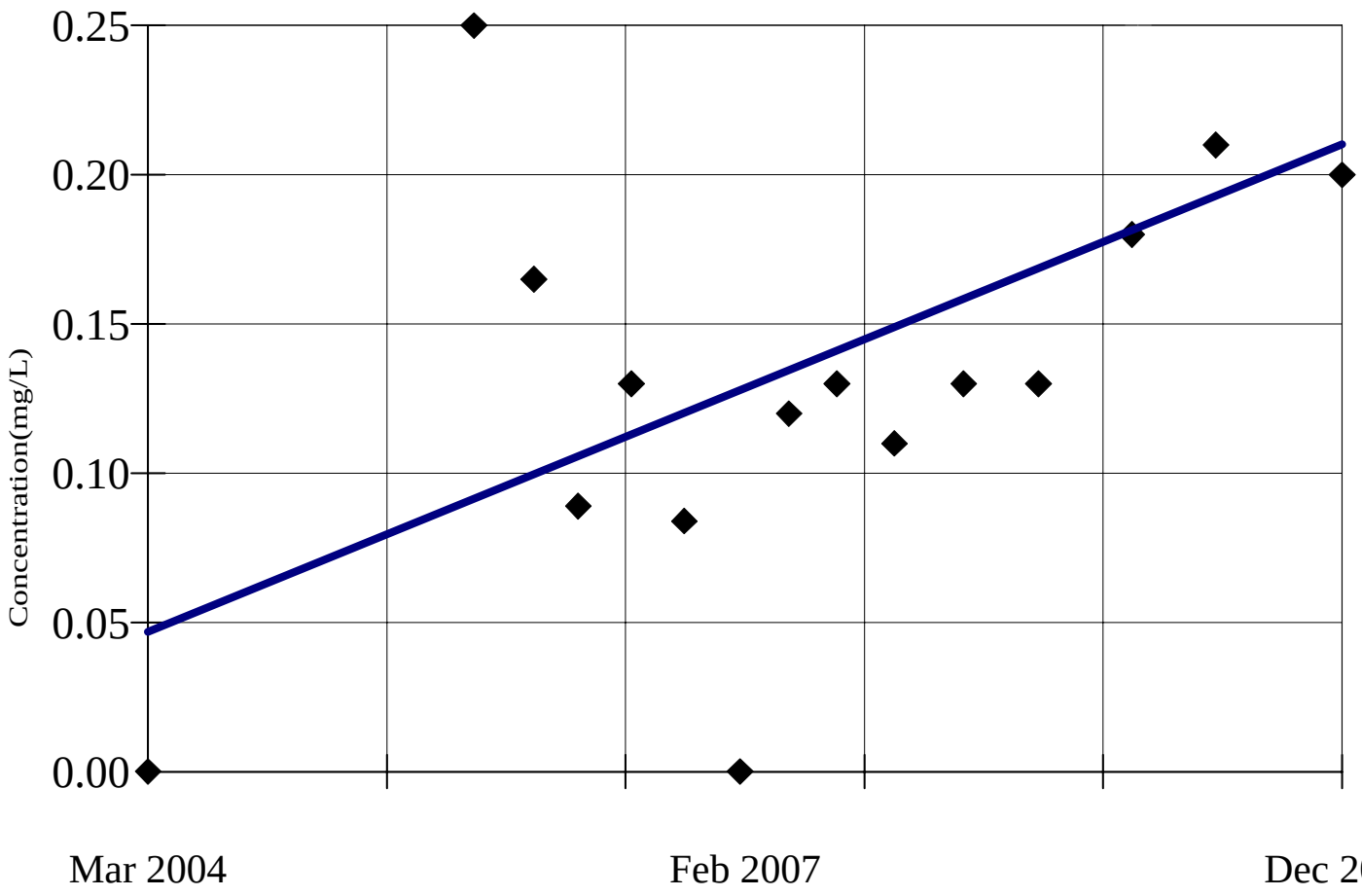
Data File: MLC2009

Date: 3/12/10

Time: 12:18 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW42



n = 15

Slope = 0.029 units per year.

Mann Kendall statistic = 34

Alpha	Critical	Signif.
0.01	53	No
0.05	41	No
0.1	35	No
0.2	28	Up

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

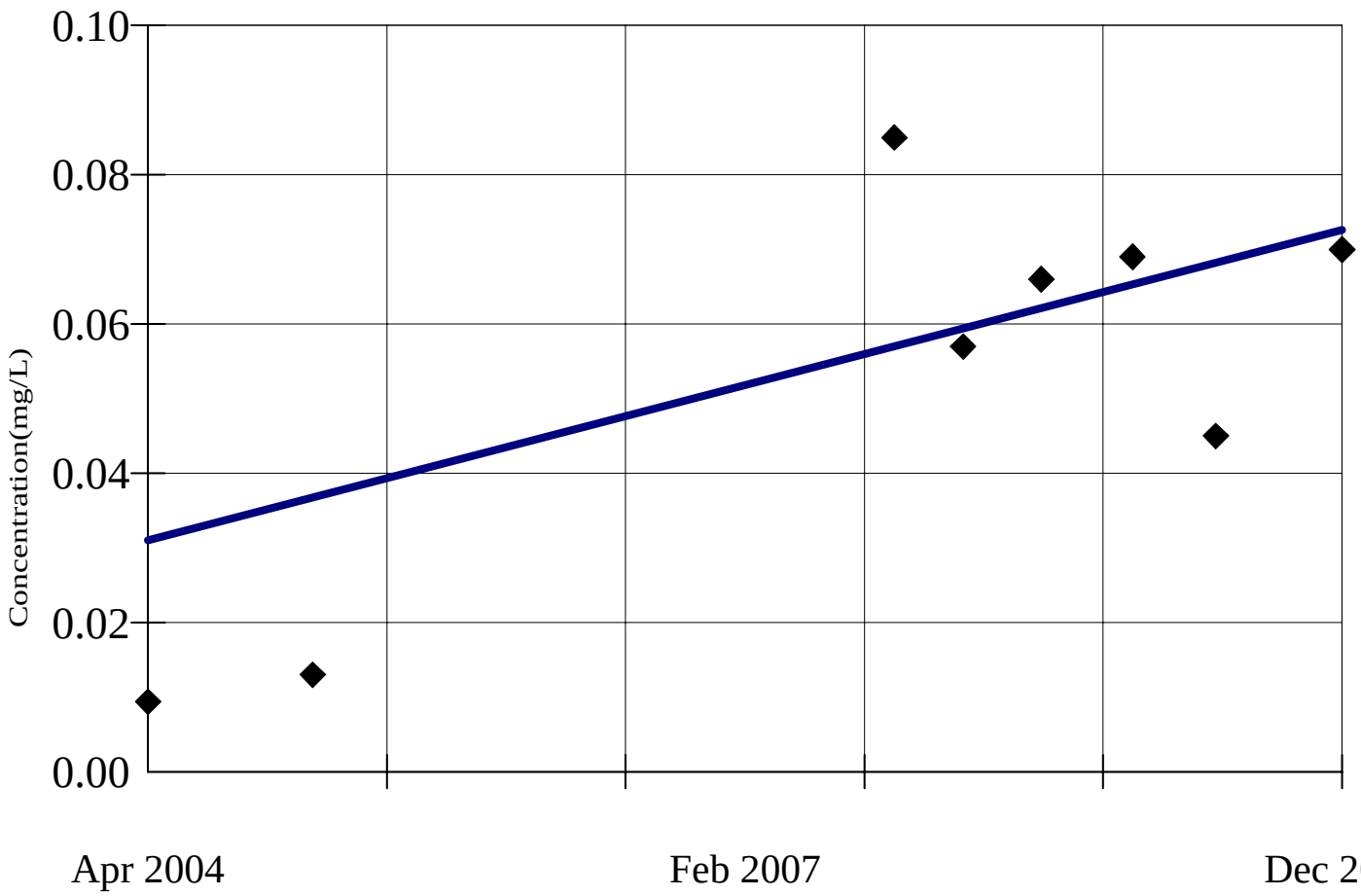
Data File: MLC2009

Date: 3/12/10

Time: 12:23 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW49



n = 8

Slope = 0.007 units per year.

Mann Kendall statistic = 12

Alpha	Critical	Signif.
0.01	21	No
0.05	17	No
0.1	15	No
0.2	12	Up

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

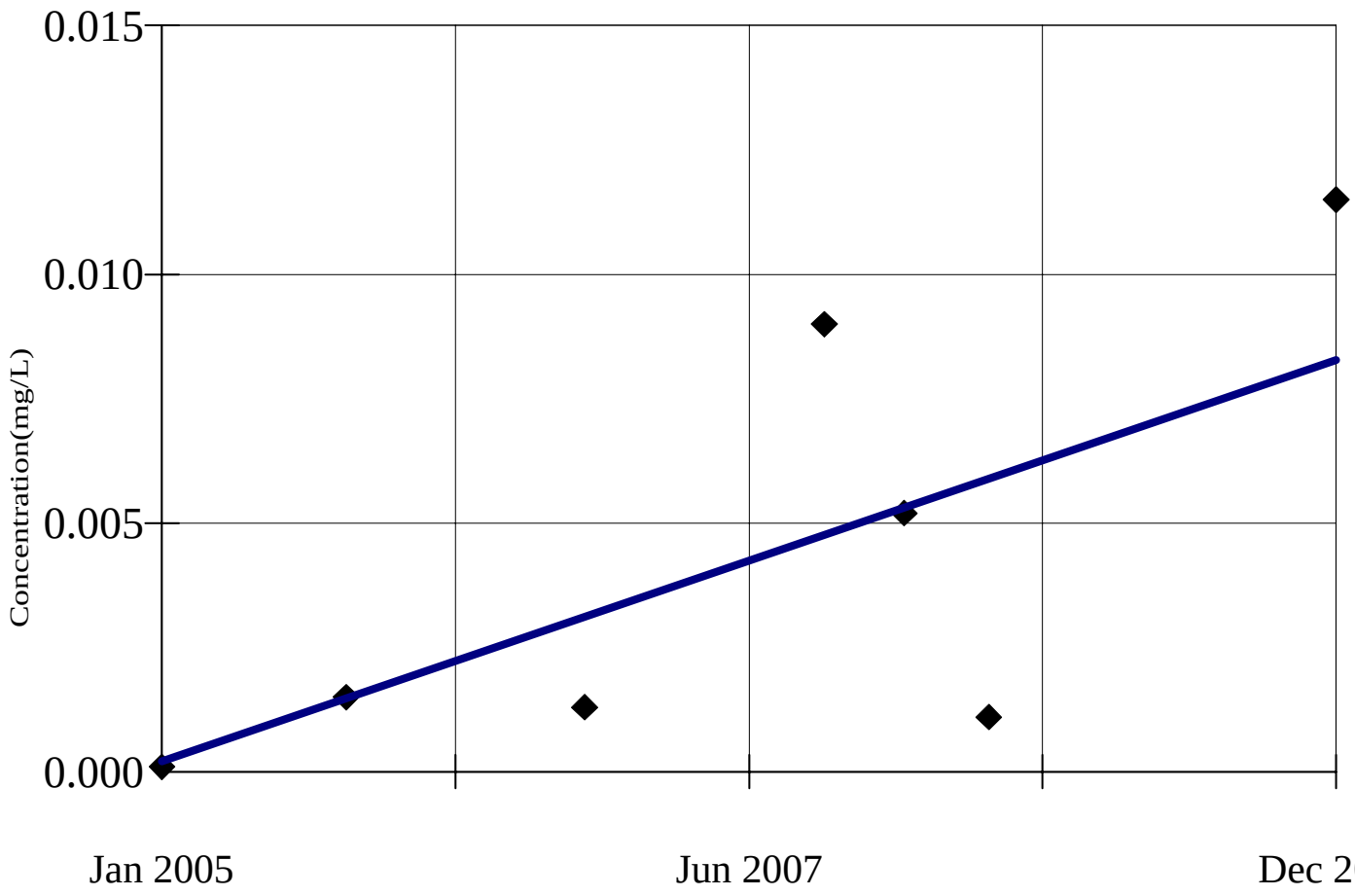
Data File: MLC2009

Date: 3/12/10

Time: 12:27 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW64



n = 7

Slope = 0.002 units per year.

Mann Kendall statistic = 9

Alpha	Critical	Signif.
0.01	18	No
0.05	15	No
0.1	13	No
0.2	10	No

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

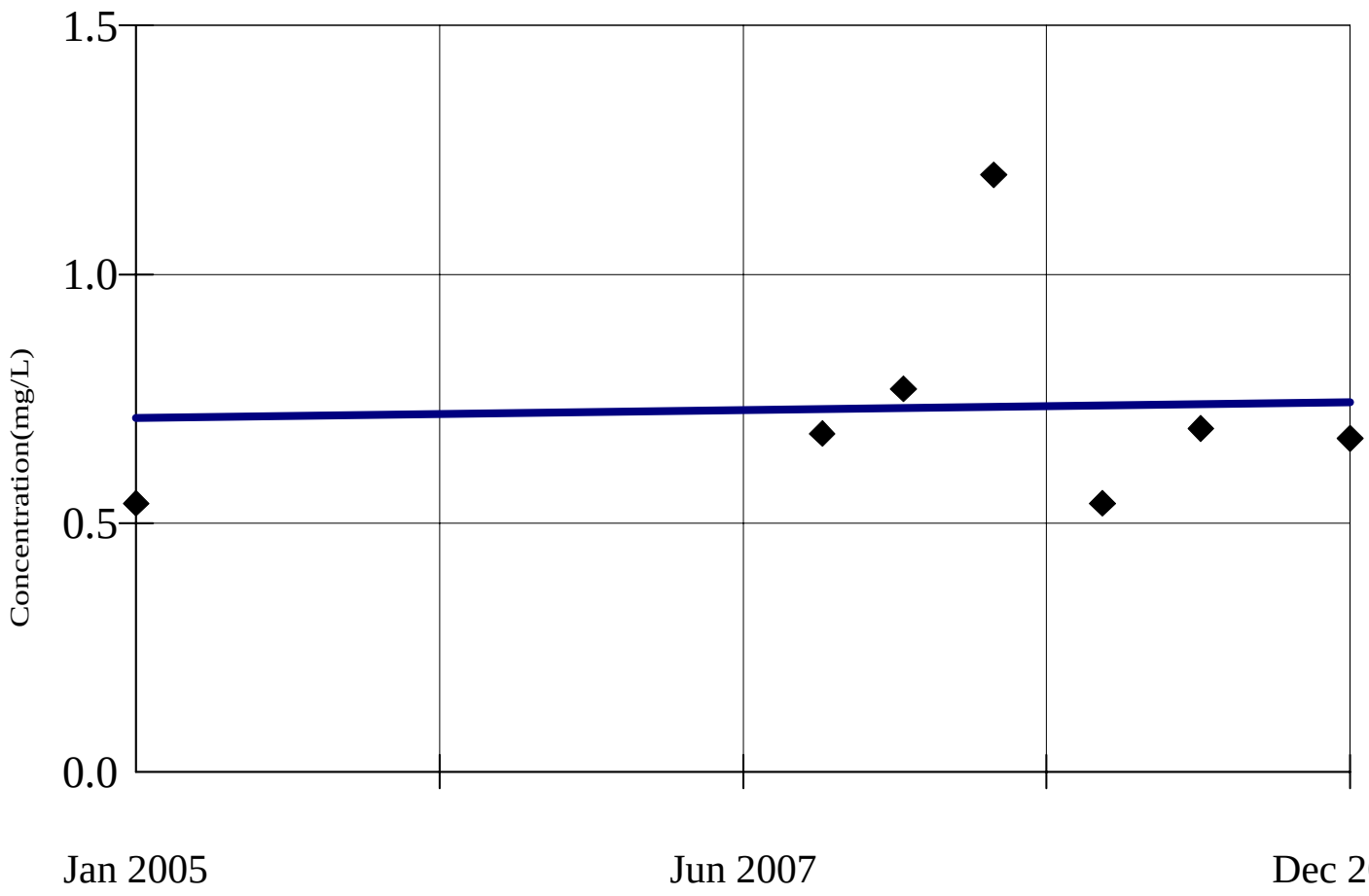
Data File: MLC2009

Date: 3/12/10

Time: 2:41 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW65



n = 7

Slope = 0.007
units per year.

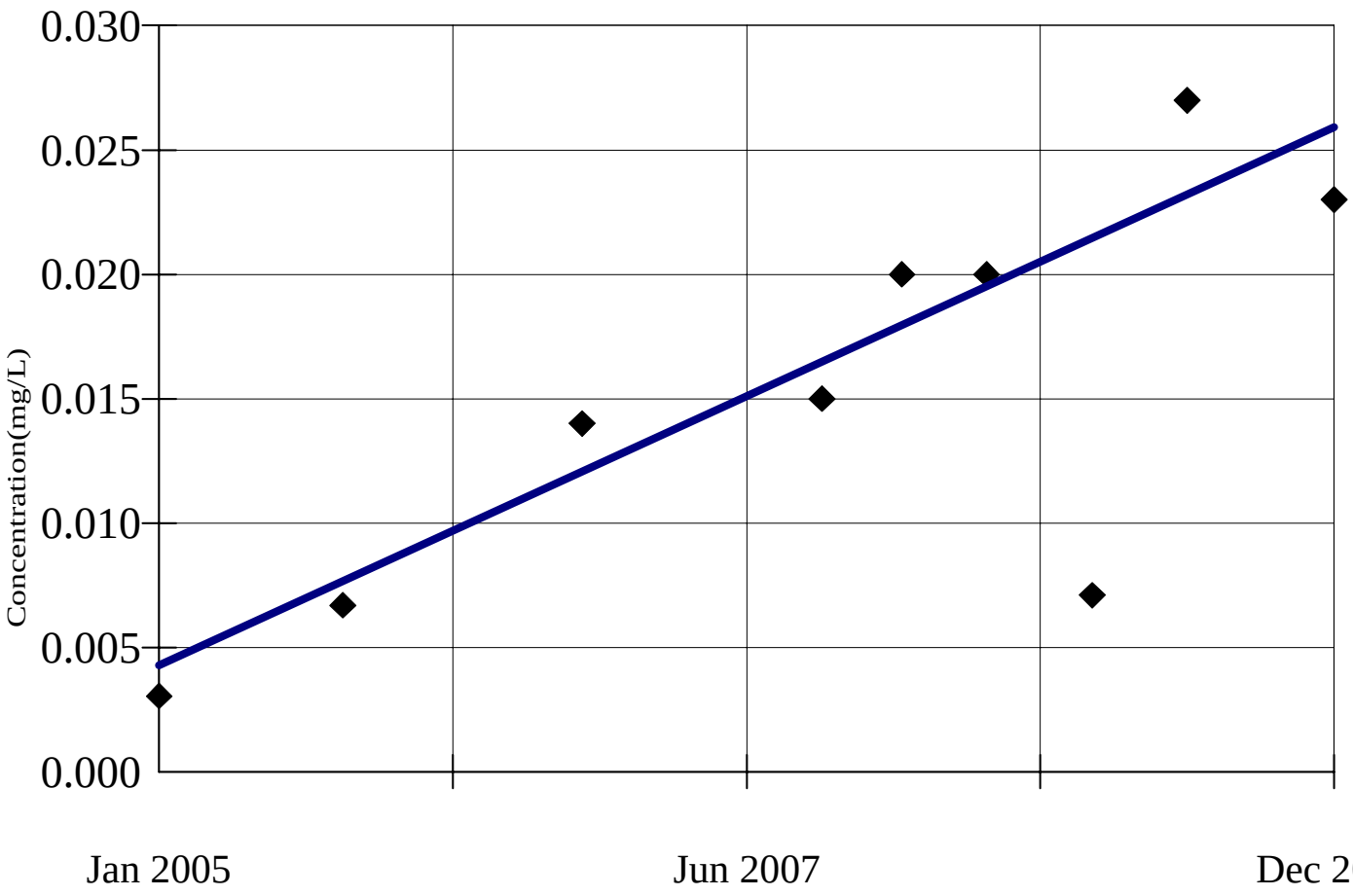
Mann Kendall
statistic = 2

Alpha	Critical	Signif.
0.01	18	No
0.05	15	No
0.1	13	No
0.2	10	No

Constituent: Vinyl chloride (mg/L) Facility: MLC MLK Data File: MLC2009

Date: 3/12/10 Time: 2:44 PM View: alldata

SEN'S SLOPE ESTIMATOR
MW66



n = 9

Slope = 0.004 units per year.

Mann Kendall statistic = 25

Alpha	Critical	Signif.
0.01	25	Up
0.05	20	Up
0.1	17	Up
0.2	14	Up

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

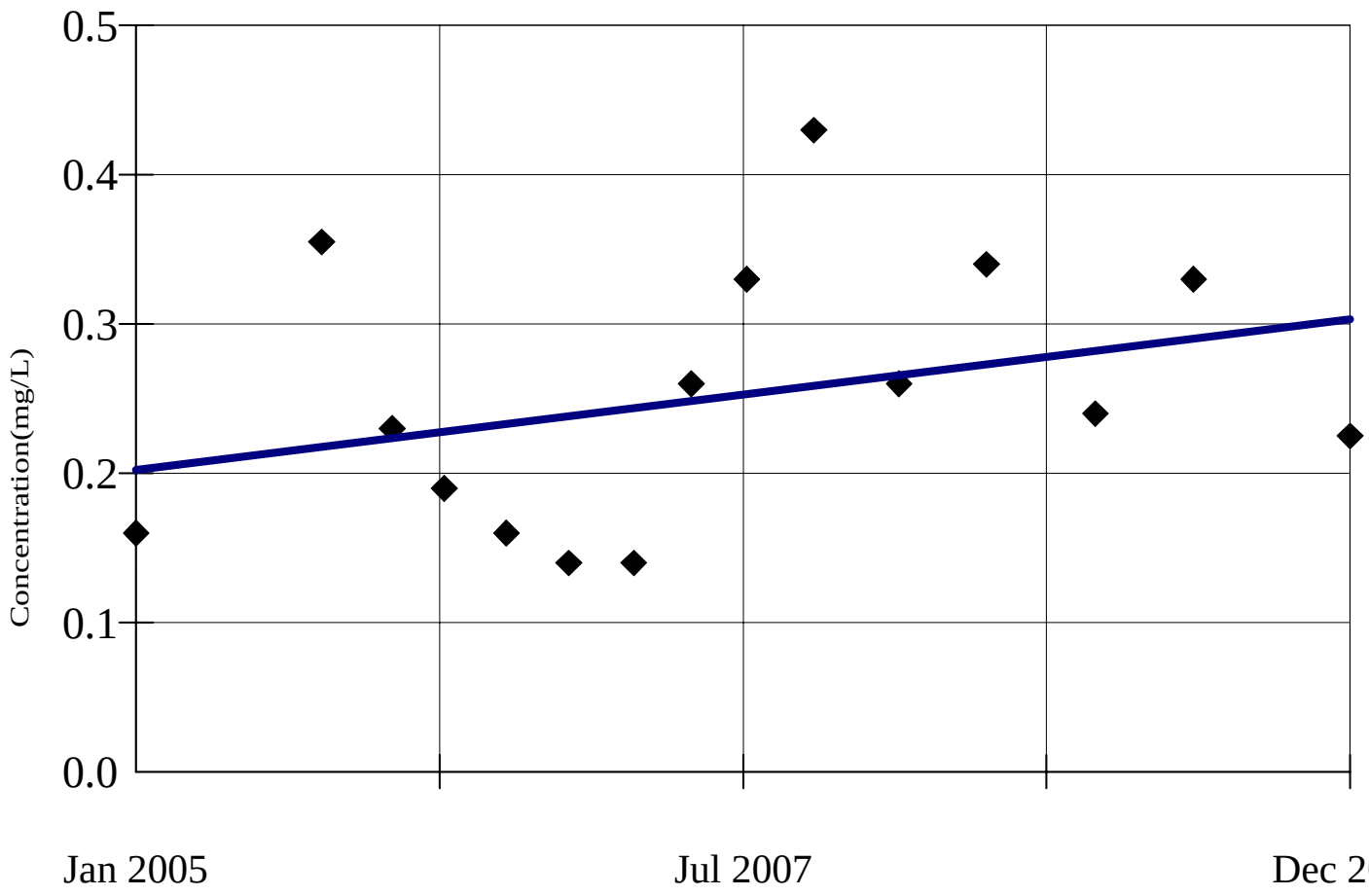
Data File: MLC2009

Date: 3/12/10

Time: 2:51 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW68



n = 15

Slope = 0.021 units per year.

Mann Kendall statistic = 19

Alpha	Critical	Signif.
0.01	53	No
0.05	41	No
0.1	35	No
0.2	28	No

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

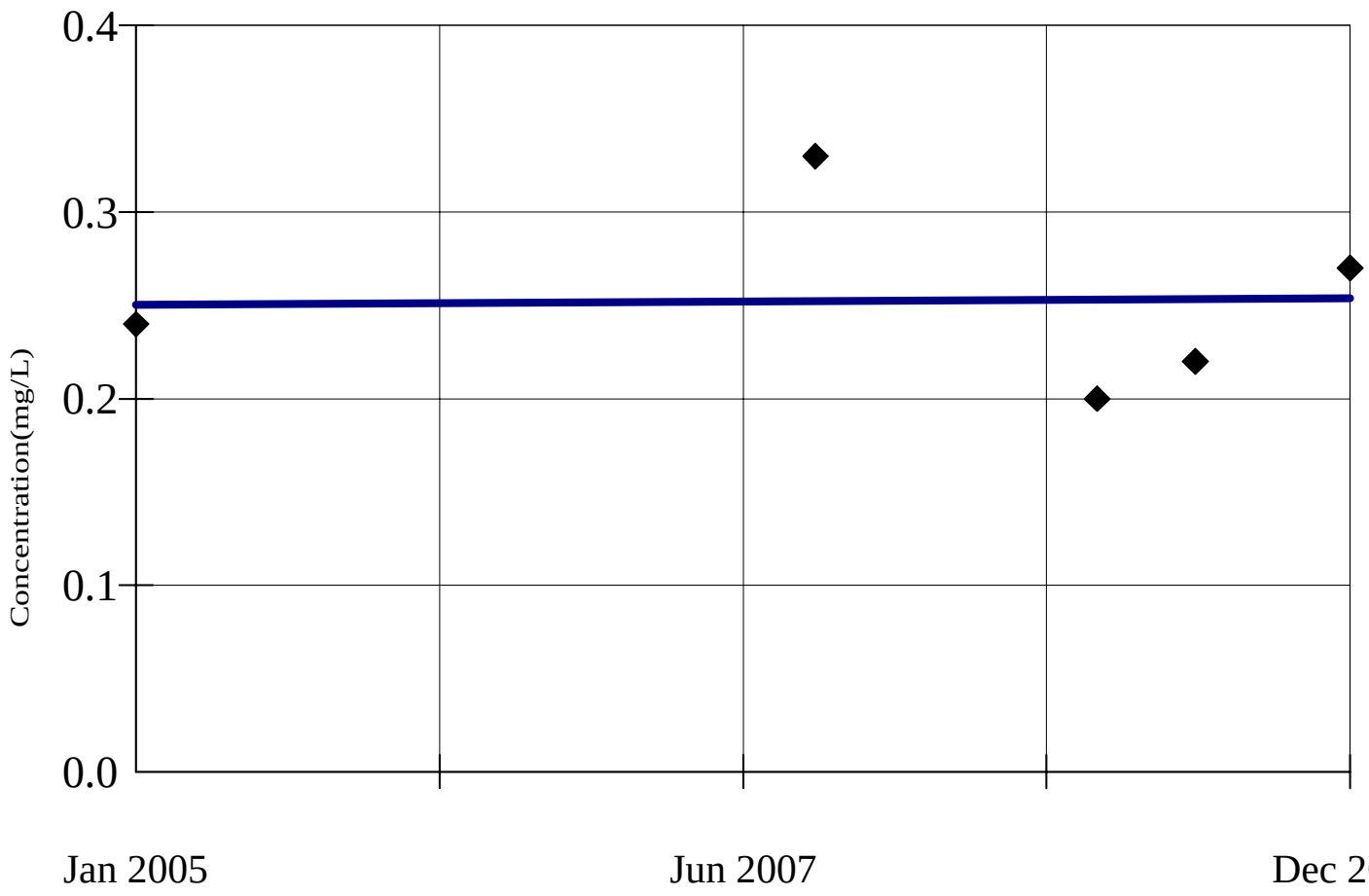
Data File: MLC2009

Date: 3/12/10

Time: 2:52 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW79



n = 5

Slope = 0.001 units per year.

Mann Kendall statistic = 0

Alpha	Critical	Signif.
0.01	12	No
0.05	10	No
0.1	8	No
0.2	7	No

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

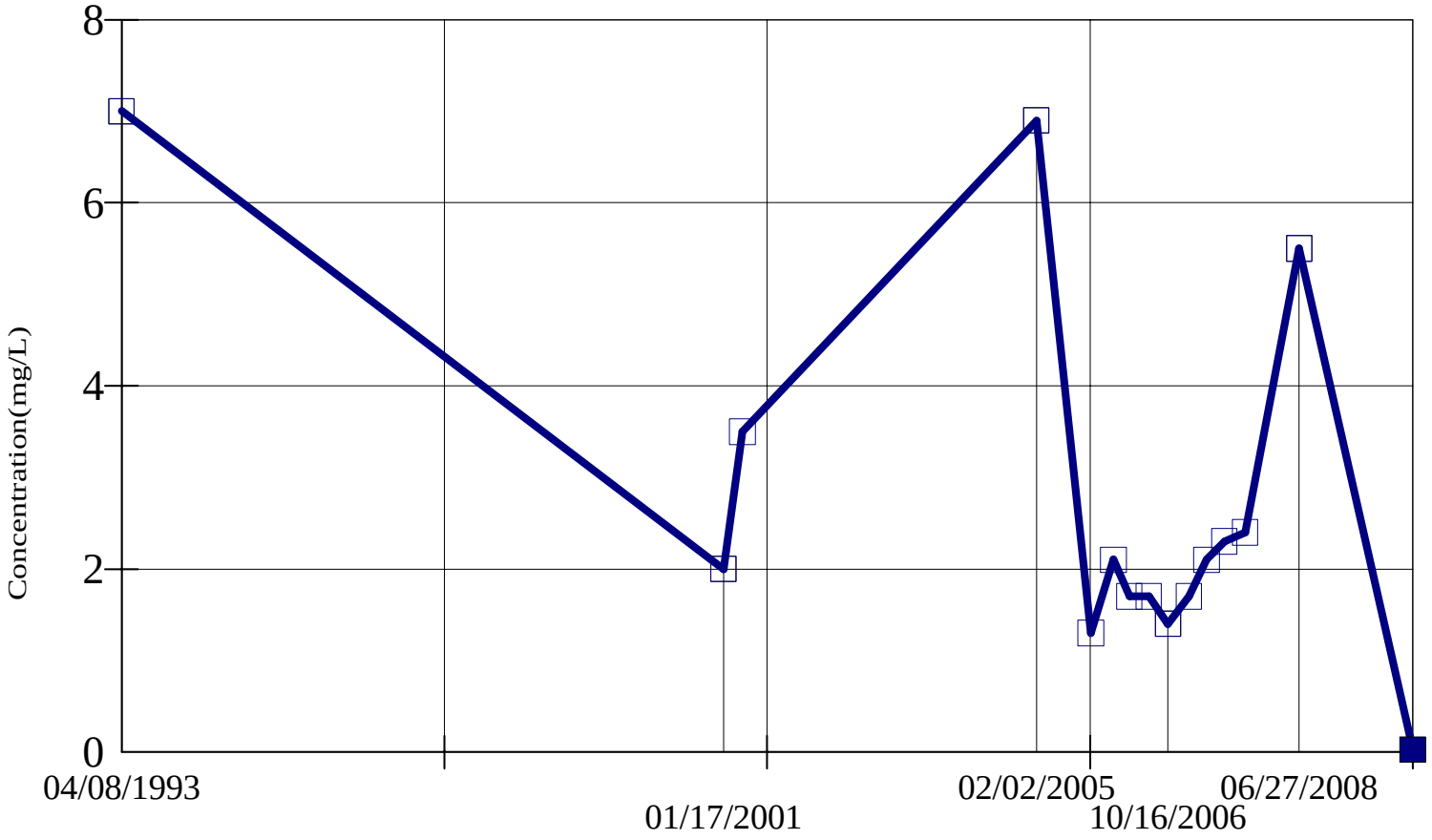
Data File: MLC2009

Date: 3/12/10

Time: 2:55 PM

View: alldata

OUTLIER ANALYSIS
MW8



Log-transformed:
Mean = 0.62
Std. Dev. = 1.291
Critical Tn = 2.409

Statistical outliers
are shown as solid squares.

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

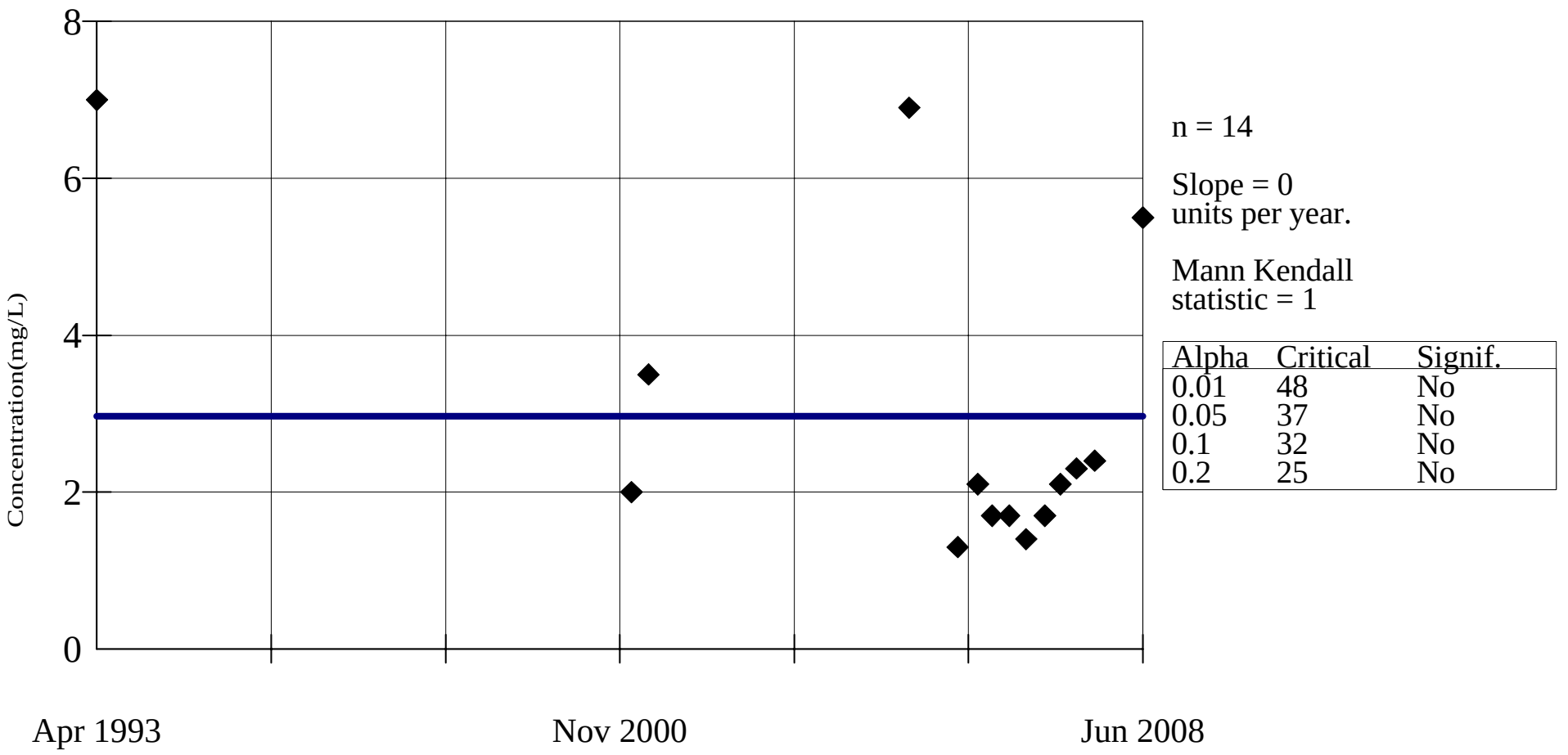
Data File: MLC2009

Date: 3/12/10

Time: 2:59 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW8



n = 14

Slope = 0
units per year.

Mann Kendall
statistic = 1

Alpha	Critical	Signif.
0.01	48	No
0.05	37	No
0.1	32	No
0.2	25	No

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

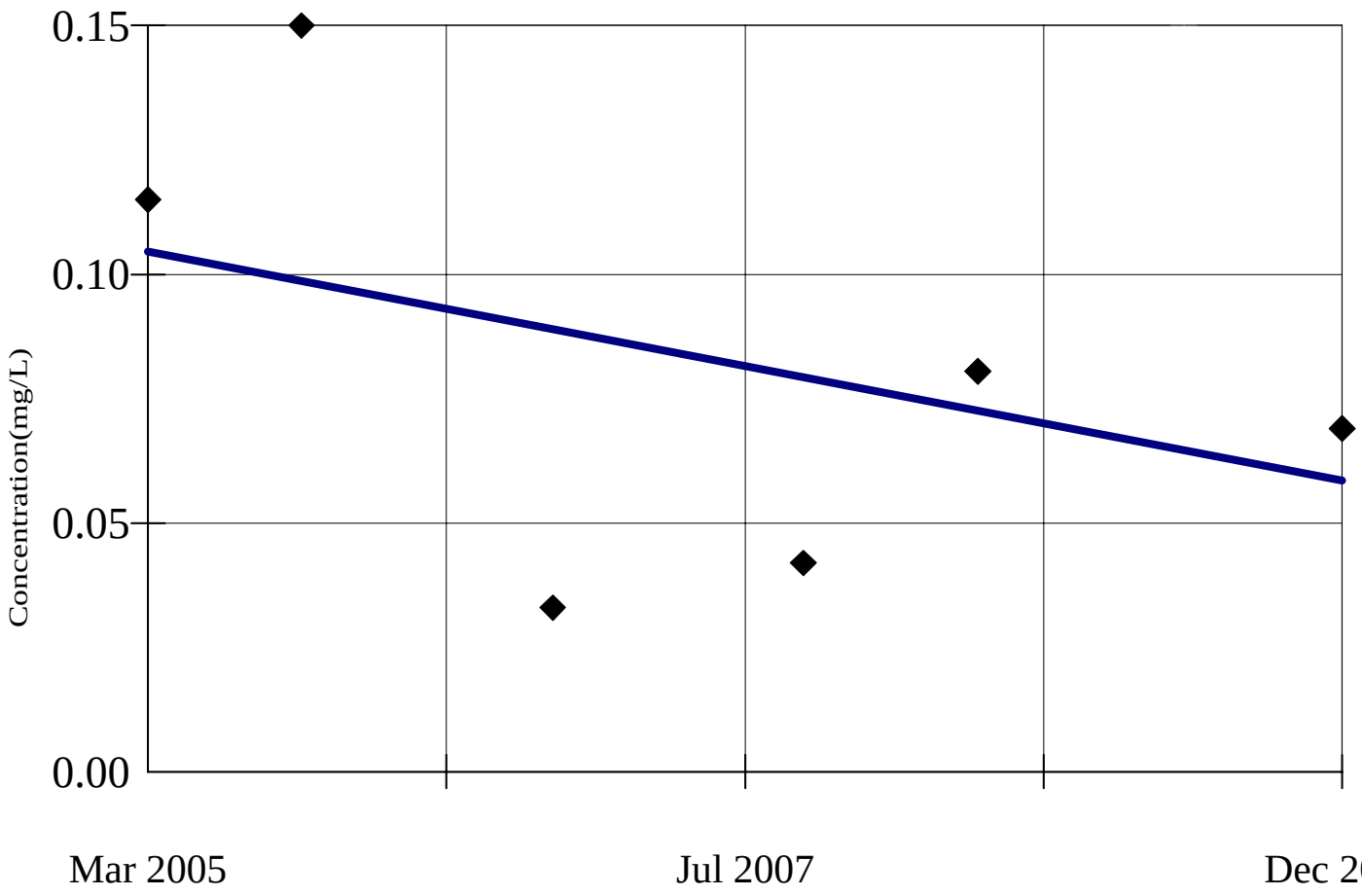
Data File: MLC2009

Date: 3/12/10

Time: 3:06 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW80



n = 6

Slope = -0.01
units per year.

Mann Kendall
statistic = -3

Alpha	Critical	Signif.
0.01	-14	No
0.05	-12	No
0.1	-10	No
0.2	-9	No

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

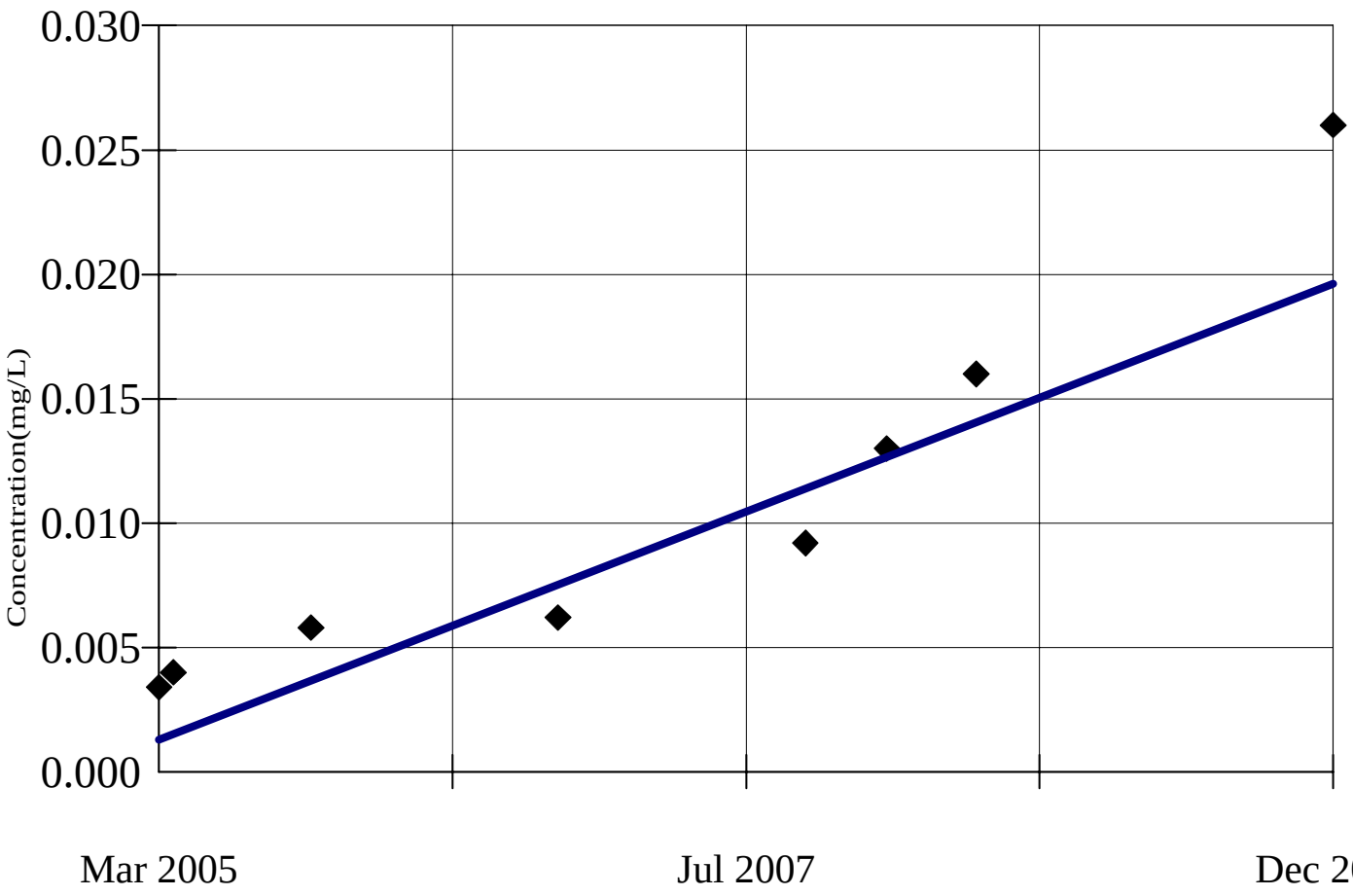
Data File: MLC2009

Date: 3/12/10

Time: 3:14 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW81



n = 8

Slope = 0.004
units per year.

Mann Kendall
statistic = 28

Alpha	Critical	Signif.
0.01	21	Up
0.05	17	Up
0.1	15	Up
0.2	12	Up

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

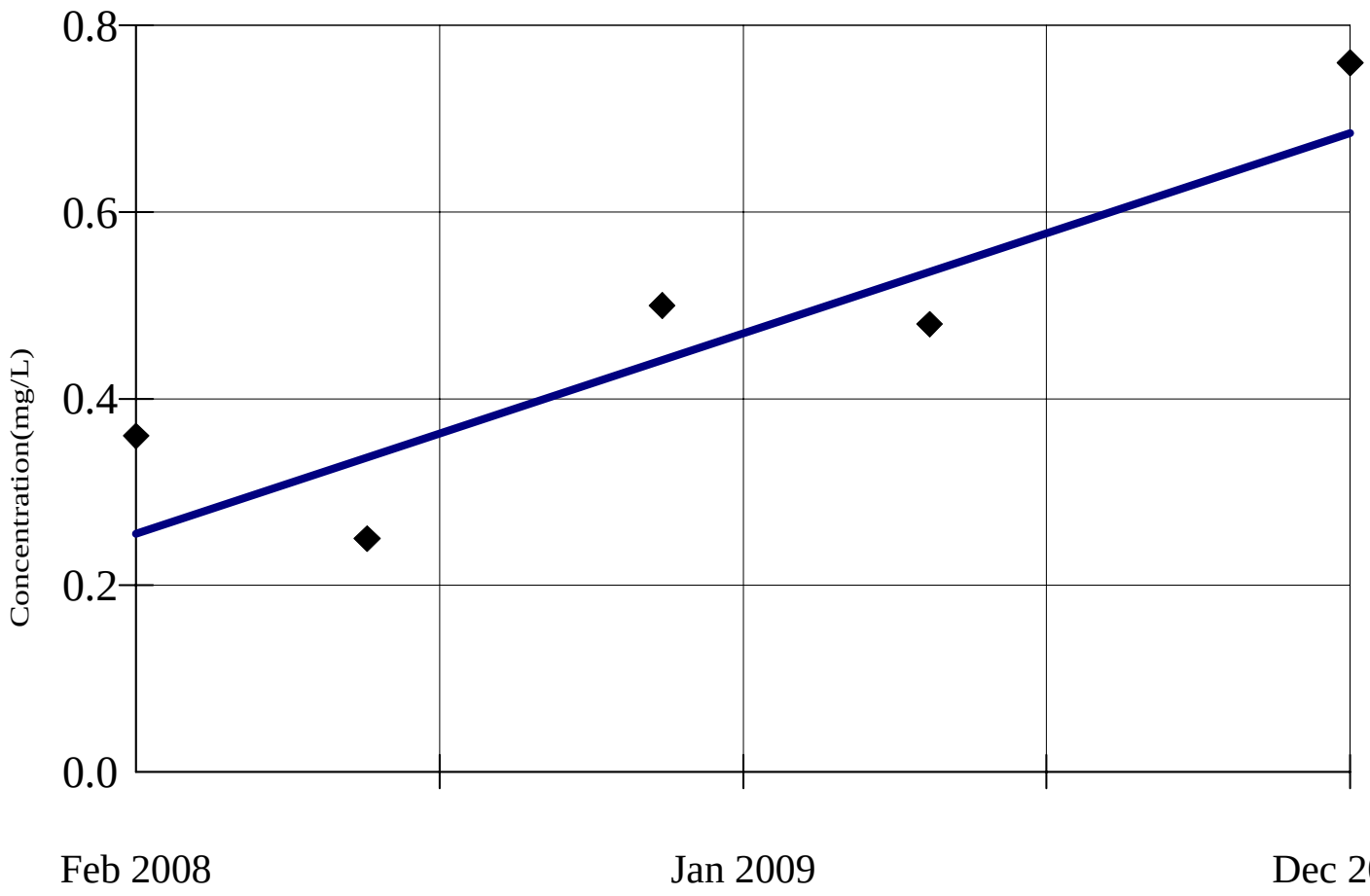
Data File: MLC2009

Date: 3/12/10

Time: 3:15 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW85



n = 5

Slope = 0.235 units per year.

Mann Kendall statistic = 6

Alpha	Critical	Signif.
0.01	12	No
0.05	10	No
0.1	8	No
0.2	7	No

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

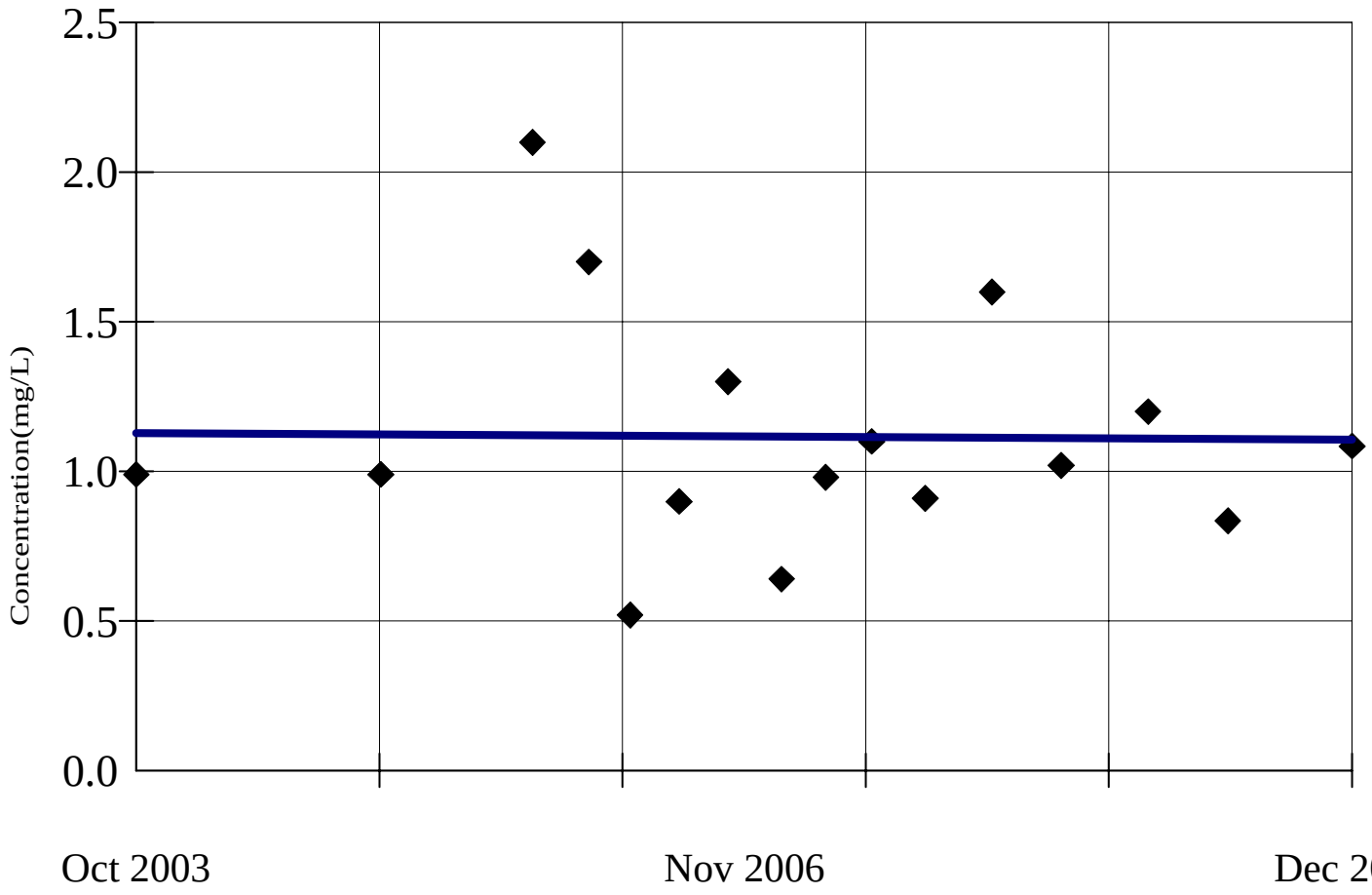
Data File: MLC2009

Date: 3/12/10

Time: 3:18 PM

View: alldata

SEN'S SLOPE ESTIMATOR
MW-4



n = 16

Slope = -0.004 units per year.

Mann Kendall statistic = -3

Alpha	Critical	Signif.
0.01	-58	No
0.05	-45	No
0.1	-38	No
0.2	-30	No

Constituent: Vinyl chloride (mg/L)

Facility: MLC MLK

Data File: MLC2009

Date: 3/12/10

Time: 3:21 PM

View: alldata